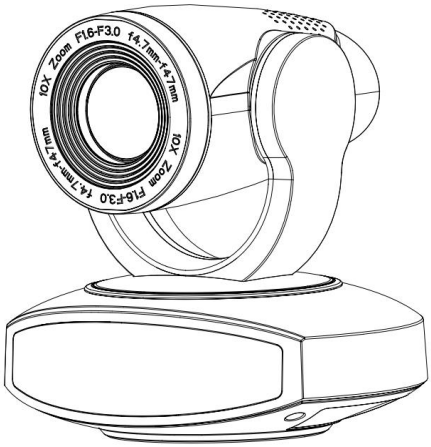
Model: AV-1082W
HD Video Conferencing Camera (USB 3.0)

Model: AV-1082G
HD Video Conferencing Camera (USB 2.0)



User Manual

V1.0

Please read this user manual

thoroughly before using.

www.avipas.com

Preface

Thanks for using this HD Video Conferencing Camera.

This manual introduces the functions, installation process and operation of the HD camera. Prior to installation and usage, please read the manual thoroughly.

Precautions

This product should only be used under the specified conditions in order to avoid any damage to the camera:

- Do not subject the camera to rain or moisture.
- Do not remove the cover. Otherwise, you may risk receiving an electric shock. In case of unintended equipment operation, contact an authorized engineer.
- Never operate under unspecified temperature, humidity or power supply.
- Please use soft dry cloth to clean the camera. If the camera is very dirty, clean it with diluted neuter detergent; do not use any type of solvents, which may damage the surface.

Note:

This is a class A production. Electromagnetic radiation at certain frequencies may affect the image quality of TV in home environment.

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Attentions

- **Electric Safety**

  Installation and operation must accord with electric safety standard.

- **Use caution to transport**

  Avoid stress, vibration or soakage in transport, storage and installation.

- **Polarity of power supply**

The power supply of this product is +12V, the max electrical current is 2A. Polarity of the power supply plug is shown in the drawing below.

- **Installation precautions**

Do not grasp the camera lens when carrying it. Do not touch camera lens by hand. Mechanical damage may result from doing so.

Do not use in corrosive liquid, gas or solid environment to avoid any cover (plastic material) damage.

Make sure there is no obstacle within rotation range.

Do not power on before installation is completed.

- **Do not dismantle the camera**

We are not responsible for any unauthorized modification or dismantling.

CAUTION!

Certain frequencies of electromagnetic field may affect the image of the camera!

Supplied Accessories

Camera 1PCS

AC power adaptor 1PCS

Power cord.....1PCS

RS232 cable.....1PCS

USB cable.....1PCS

Remote control.....1PCS

User manual.....1PCS

Quick Start

1. Camera Interface Illustration

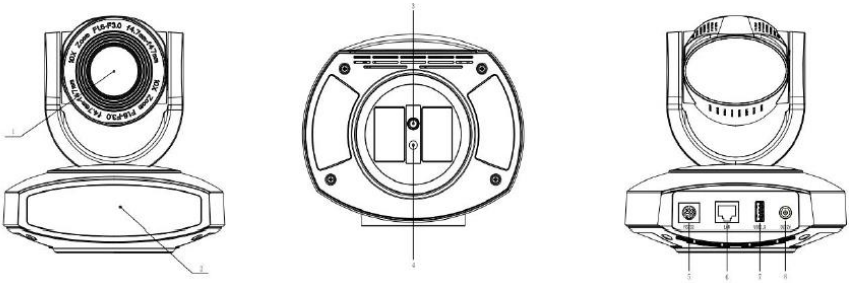


Fig 1.1 Interface of AV-1082

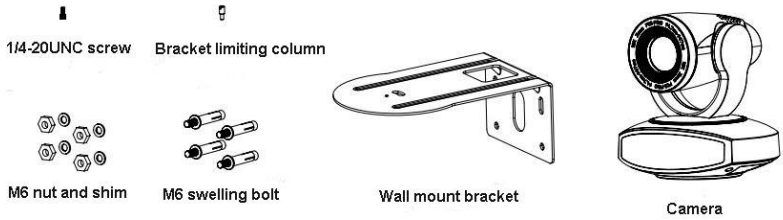
Interface of USB Model：

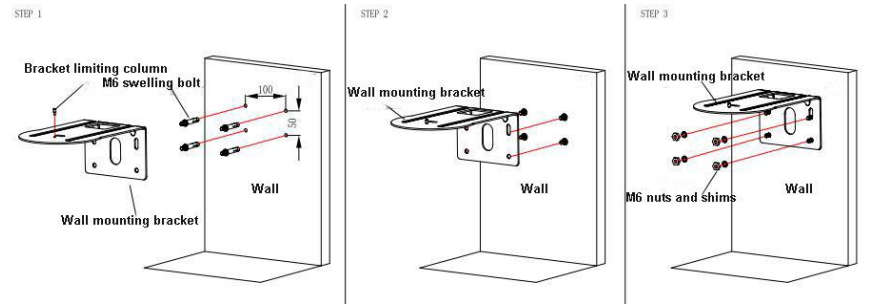
1. Camera Lens	4. Locating Hole	7. USB Interface
2. Remote Controller Receiver Light	5. RS232 Control Interface (input)	8. DC12V Power Supply Socket
3. Tripod Screw Hole	6. LAN Interface	

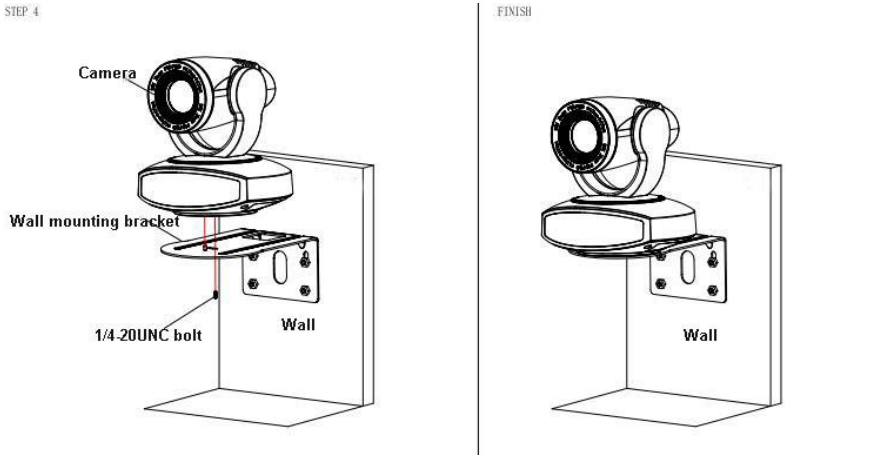
2. Bracket mount

Note: Bracket can only be wall mounted or ceiling mounted (upside down) on concrete wall. It cannot be installed on plasterboard.

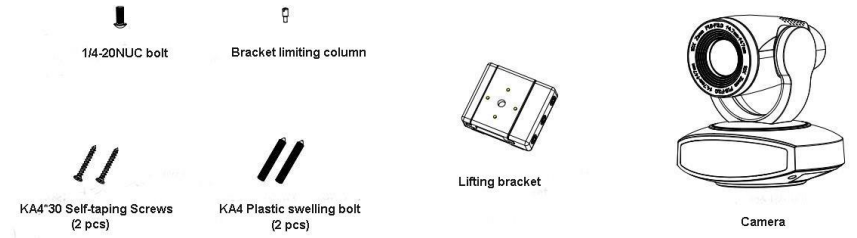
1) Wall mount

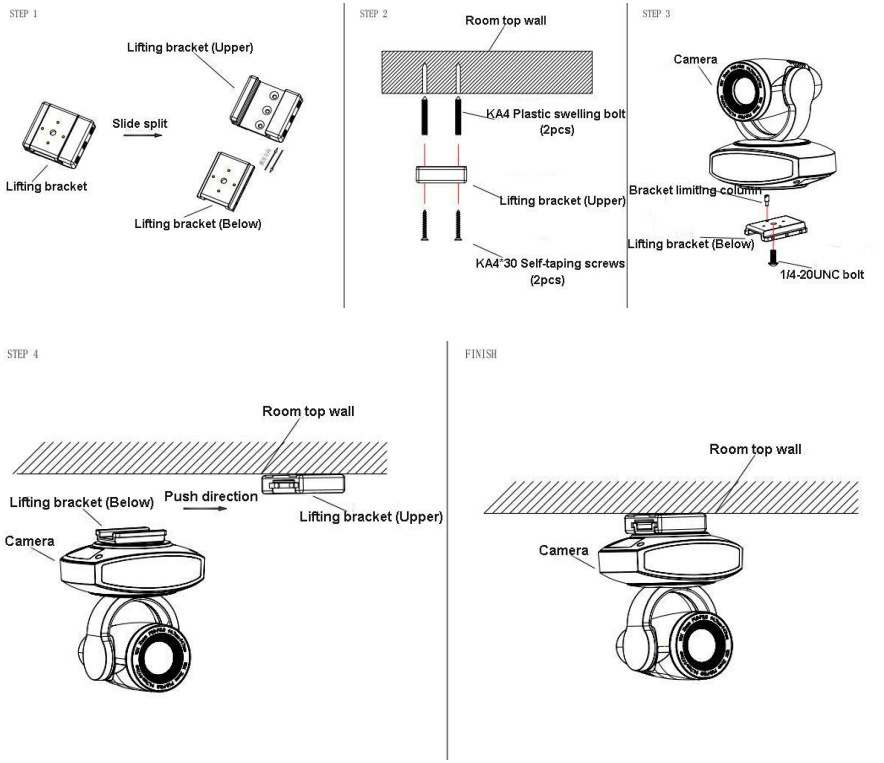






2) Ceiling mount




STEP 1
Lifting bracket (Upper)
Slide split
Lifting bracket
Lifting bracket (Below)
STEP 2
Room top wall
KA4 Plastic swelling bolt
(2pcs)
Lifting bracket (Upper)
KA4*30 Self-taping screws
(2pcs)
STEP 3
Camera
Bracket limiting column
Lifting bracket (Below)
1/4-20UNC bolt
STEP 4
Room top wall
Lifting bracket (Below)
Push direction
Lifting bracket (Upper)
Camera
FINISH
Room top wall
Camera

Features

AV-1080 series camera features advanced ISP processing algorithms to provide vivid images with a strong sense of depth, high resolution and fantastic color rendition. It supports H.265/H.264 encoding which makes motion video fluent and clear even under less than ideal bandwidth conditions.

- **Superb High-definition Image:** It employs 1/2.8" high-quality CMOS sensor. Resolution is up to 1920x1080 with frame rate up to 60 fps.
- **Optical Zoom Lens:** 10X zoom lens is with 60.9° wide view angle without distortion.
- **Leading Auto Focus Technology:** With innovative algorithm, auto-focusing is fast, accurate and stable.
- **Low Noise and High SNR:** Low-noise CMOS effectively ensures high SNR of video. Advanced 2D/3D noise reduction technology is also used to further reduce noise while ensuring image sharpness.
- **Quiet PTZ Mechanism**: By accurate step driving motor mechanism, the camera works extremely quiet and moves smoothly.
- **Multi-Format Video Outputs:** Support SDI, HDMI, USB3.0 and LAN interfaces.
- **Multiple Video compression:** Support H.265/H.264 video compression.
- **Multiple Network Protocol:** Support ONVIF, RTSP, RTMP protocols, and RTMP push mode, easy to link to streaming media server (Wowza, FMS…).
- **Low-power sleep function:** Support low-power sleep mode, and the consumption is lower than 400mW.
- **Multiple Communication Protocols:** Support VISCA, Pelco-D, Pelco-P protocols.
- **RS-232 Cascade Function:** Support RS-232 cascade function which is convenient for installing.
- **255 presets Positions:** Up to 255 presets (10 presets by IR remote).
- **Wide Application:** Tele-education, Lecture capture, Webcasting, Videoconferencing, Tele-training, Tele-medicine, Interrogation and Emergency command systems.

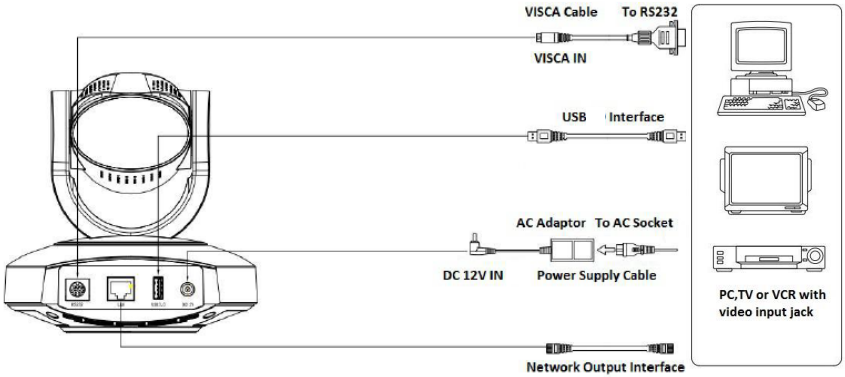
Product Specifications

Name	AV-1082 HD PTZ Camera (USB 2.0/3.0)
Camera	
Video Format	USB2.0: 1080P30/25, 1080I60/50, 720P60/50; USB3.0: Self-adaptive, up to 1920*1080
Sensor	1/2.8", CMOS, 16:9, Effective Pixel: 2.07MP
Scanning Mode	Progressive
Lens	10x, f＝4.7～47mm, F1.6 ~ F3.0
Digital Zoom	5x
Minimal Illumination	0.5 Lux @ (F1.8, AGC ON)
Focus	Auto/Manual/ One Push
Aperture	Auto/Manual
Electronic Shutter	Auto/Manual
White Balance	Auto / Manual/ One Push/ 3000K/ 4000K/5000K/6500K
Backlight Compensation	On/Off
Digital Noise Reduction	2D&3D Digital Noise Reduction
Video SNR	≥55dB
Video Adjustment	Brightness/ Color/ Saturation/ Contrast/ Sharpness/ BW mode/ Gamma curve
View Angle	6.43°(tele)--60.9°(wide)
Pan Rotation Range	±135°
Tilt Rotation Range	±30°
Pan Speed Range	0.1° ~ 60°/s
Tilt Speed Range	0.1° ~ 30°/s
Number of Preset	255
Preset Accuracy	0.1°
IPC Features	
Video coding standard	H.265/H.264
Video Stream	First stream, Second stream
Video Format	**USB 2.0:**

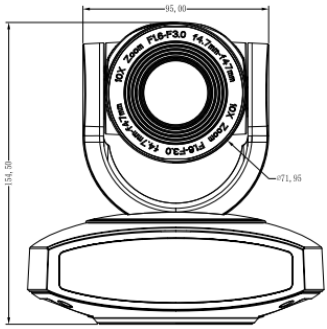
	• Main Stream: 1920x1080, 1280x720 • Sub stream: 640x360, 320x180, 320x240, 1280x720 **USB 3.0:** • Main stream: 1920x1080, 1280x720, 640x480 • Sub stream: 640x360, 640x480, 320x180, 320x240, 1280x720, 1920x1080
Frame Rate	5fps ~ 30fps
Sampling Rate	16000/ 32000/ 44100/ 48000
Network Protocols	RTMP/RTSP, ONVIF, GBT28181
Input/Output Interface	
Communication Interface	1xRS232: 8pin Min DIN; Max Distance: 30m
Protocol	Pelco-D/ Pelco-P/ VISCA
Baud Rate	115200/9600/4800/2400
Video Output Interface	USB, LAN, RS232
Network interface	1xRJ45: 10/100/1000M Adaptive Ethernet ports
Power Jack	JEITA type (DC IN 12V)
Generic Specification	
Input Voltage	DC 12V
Current Consumption	1.0A (Max)
Operating Temperature	20°F~80°F (-10°C~50°C)
Storage Temperature	20°F~95°F (-10°C~60°C)
Power Consumption	12W (Max)
Size	6”x6”x5” (151.2mmX152.5mmX126.7mm)
Net Weight	3lb (1.4kg)

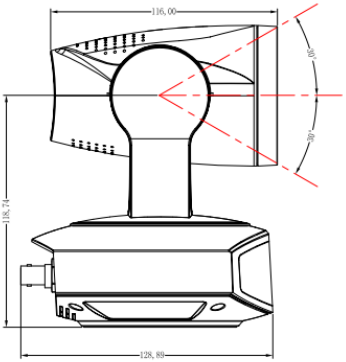
Main Units

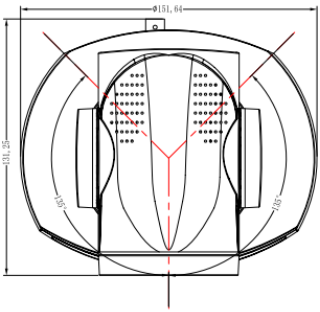
External interface of USB model: USB Output, RS232, LAN, DC12V Power Interface.

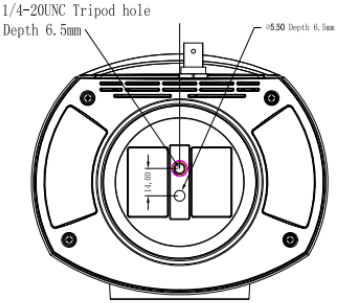


Dimensions









IR Remote Control Menu

1. Standby Button

Press this button and hold it for 3 secs to enter standby mode. The camera will do self-testing and return back to 【HOME】position. (Note: If Preset 0 is set, and with no operation for 12s, the camera will automatically turn to Preset position 0.

2. Camera Address Selection

Press the camera address number to control the particular camera with the address setting.

3. Number Keys

To set or call 0-9 presets.

4. *, #, Key Combination

To use as combination with 【F1-F4】 to set camera address.

【*】+【#】+【F1】: Camera Address No.1

【*】+【#】+【F2】: Camera Address No. 2

【*】+【#】+【F3】: Camera Address No. 3

【*】+【#】+【F4】: Camera Address No. 4

5. Focus Control

【AUTO】: to enter auto focus mode.

【MANUAL】: to enter manual focus mode.

Switch the camera focus mode to manual by pressing FOCUS【+】 or FOCUS【-】to adjust.

6. Zoom Control

ZOOM【+】: Lens near; ZOOM【-】: Lens far

7. Set/ Clear Presets

【SET PRESET】+【0-9】 number key: To set presets

【CLEAR PRESET】+【0-9】number key: To clear presets

8. Pan-Tilt Control Buttons

Press the ▲Up, ▼down, ◀left and ▼right buttons to adjust the camera position. Press【HOME】to return to the center position.

9. BLC Control

【BLC ON/OFF】: To turn on/off the back light.

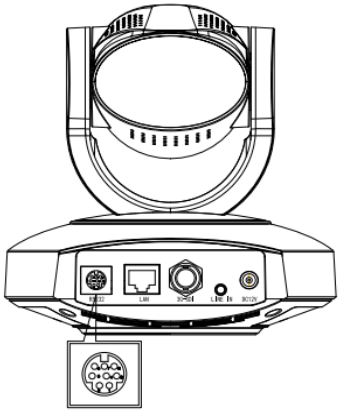
10. Menu Settings

【MENU】: to open/ close the OSD menu; to enter/ exit the OSD menu, or to return to the previous submenu.

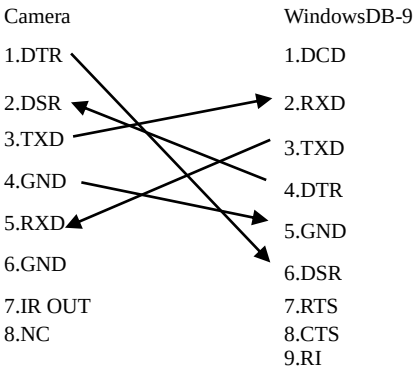
11. Key Combination Functions

1) 【#】+【#】+【#】: Clear all presets
2) 【*】+【#】+【6】: Restore factory defaults
3) 【*】+【#】+【9】: Flip switch
4) 【*】+【#】+【AUTO】: Enter the auto mode
5) 【*】+【#】+【3】: Set language to Chinese
6) 【*】+【#】+【4】: Set language to English
7) 【*】+【#】+【MANUAL】: Restore the default user name, PSW and IP address
8) 【#】+【#】+【0】: Switch the video format to 1080P60
9) 【#】+【#】+【1】: Switch the video format to 1080P50
10) 【#】+【#】+【2】: Switch the video format to 1080I60
11) 【#】+【#】+【3】: Switch the video format to 1080I50
12) 【#】+【#】+【4】: Switch the video format to 720P60
13) 【#】+【#】+【5】: Switch the video format to 720P50
14) 【#】+【#】+【6】: Switch the video format to 1080P30
15) 【#】+【#】+【7】: Switch the video format to 1080P25
16) 【#】+【#】+【8】: Switch the video format to 720P30
17) 【#】+【#】+【9】: Switch the video format to 720P25

RS-232 Interface



Computer or keyboard o camera connection



Serial Communication Control

Under normal working condition, the camera could be controlled through RS232 interface. RS232 serial parameters are as below:

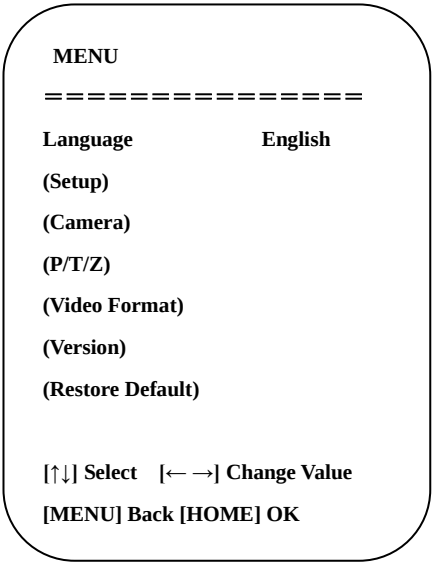
- Baud rate: 2400/4800/9600/115200bps;
- Start bit: 1; data bits: 8; Stop bit: 1; Parity: None.

Pan-Tilt function rotates the camera to its maximum position of top left upon startup, then it returns to the center, and the process of initialization is finished. (Note: if there is an entry for position preset 0, the corresponding position preset 0 will be called up after initialization.) Then user can control the camera with commands in the command list (See Appendix).

Menu Settings

1. Maun Menu

Press [MENU] to display the main menu on the screen. Use the arrow buttons to move the cursor. Press [HOME] to enter the corresponding sub-menu.



LANGUAGE: Language setting, Chinese/English

SETUP: System settings

CAMERA: Camera settings

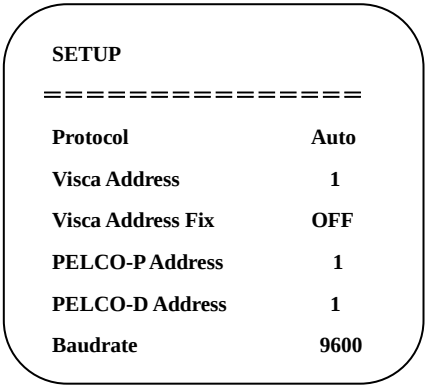
PTZ OPTION: Pan tilt settings

VERSON: View camera version

Restore Default: Reset settings

2. SETUP- System Settings

Move the cursor to [SETUP] in the main menu and press [HOME], [SETUP] menu is shown below.



PROTOCOL: VISCA/ Pelco-P/ Pelco-D/ Auto

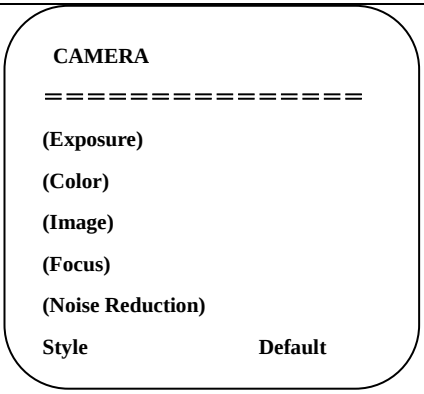
Visca Addr: VISCA:1~7/ Pelco-P: 1~255/ Pelco-D: 1~255

Visca Address Fix: On/ Off

Baud rate: 2400/ 4800/ 9600/ 115200

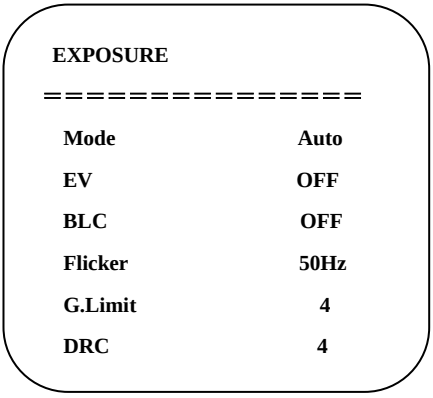
3. CAMERA- Camera Settings

Move the cursor to [Camera] in the main menu and press [HOME], [Camera] menu is shown below.



EXPOSURE: Enter Exposure settings

Move the cursor to [EXPOSURE] and press [HOME], [EXPOSURE] menu is shown below.



Mode: Auto/ Manual/ Shutter priority/ Iris priority/ Brightness priority

EV: On/ Off (only available in auto mode)

Compensation Level: -7~7 (only available in auto mode & when EV is ON)

BLC: On/ Off (only available in auto mode)

Flicker: anti-flicker: OFF/ 50Hz/ 60Hz (only available in Auto/ Iris priority/ Brightness priority modes)

Gain Limit: 0~15 (only available in Auto/ Iris priority /Brightness priority mode)

WDR: Off/ 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 or 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 or Iris priority mode)

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

COLOR: Enter color settings

Move the cursor to [COLOR] and press [HOME], [COLOR] menu is shown below.

COLOR	
WB Mode	Auto
RG Tuning	0
BG Tuning	0
Saturation	100%
Hue	7
AWB Sensitivity	High

WB Mode: Auto/ 3000K/ 3500K/ 4000K/ 4500K/ 5000K/ 5500K/ 6000K/ 6500K/ 7000K/ Manual/ One Push

RG Tuning: -10~10 (only available in Manual mode)

BG Tuning: -10~10 (only available in Manual mode)

Red Gain: 0~255 (only available in Manual mode)

Blue Gain: 0~255 (only available in Manual mode)

Saturation: 60%, 70%, 80%, 90%, 100%, 110%, 120%, 130%, 140%, 150%, 160%, 170%, 180%, 190%, 200%

Hue: 0~14

AWB Sensitivity: high/ middle/ low

IMAGE: Enter image settings

Move the cursor to [IMAGE] and press [HOME], [IMAGE] menu is shown below.

IMAGE	
Brightness	7
Contrast	7
Sharpness	6
Flip-H	OFF
Flip-V	OFF
B&W-Mode	Color
Gamma	Default
DZoom	OFF
DCI	Close

Brightness: 0~14

Contrast: 0~14

Sharpness: 0~15

Flip-H: On/ Off

Flip-V: On/ Off

B&W Mode: color, black/white

Gamma: default/ 0.45/ 0.50/ 0.55/ 0.63

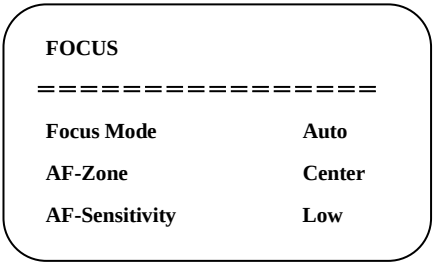
DZoom: digital zoom options: On/ Off

DCI: Dynamic Contrast: Off/ 1～8

FOCUS: Enter focus settings

Move the cursor to [FOCUS] and press [HOME],

[FOCUS] menu is shown below.



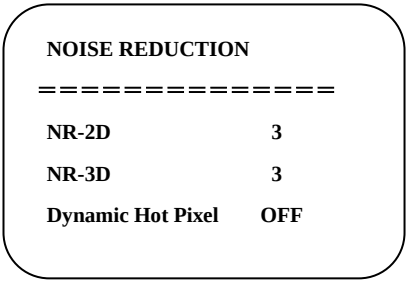
Focus Mode: Auto/ manual/ one-push

AF-Zone: Up, middle, down, overall

AF-Sensitivity: High, middle, low

Noise Reduction: Enter noise reduction settings

Move the cursor to [NOISE REDUCTION] and press [HOME], [NOISE REDUCTION] menu is shown below.



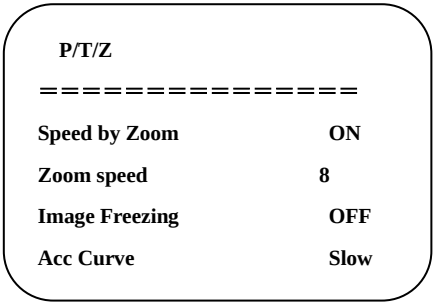
2D Noise Reduction: Auto/ close/ 1~7

3D Noise Reduction: Close/ 1~8

Dynamic Hot Pixel: Close/ 1~5

4. P/T/Z

Move the cursor to [P/T/Z] in the main menu and press [HOME], [P/T/Z] menu is shown below.



Speed by Zoom: Only effective for remote controller. On/ Off (When zoom in, the P/T control speed by remoter will become slow)

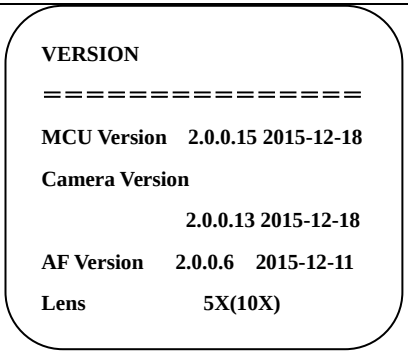
Zoom Speed: Set the zoom speed for remote controller. 1~8

Image Freezing: On/ Off

Accelerating Curve: Fast/ Slow

5. VERSION

Move the cursor to [VERSION] in the main menu and press [HOME], [VERSION] menu is shown below.



2/ 3/ 4, the corresponding camera address will be restored to 1 when all parameters or system parameters are restored.

MCU Version: Display MCU version

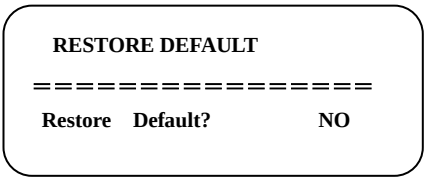
Camera Version: Display camera version

AF Version: Display the focus version

Lens: Display the lens zoom

6. RESTORE DEFAULT

Move the cursor to [RESTORE DEFAULT] in the main menu and press [HOME], [RESTORE DEFAULT] menu is shown below.



Restore Default: Yes/ No

Note:

1. After selecting restore default, the video format won't be restored.
2. If the IR address of the camera is not 1 but

Network Connection

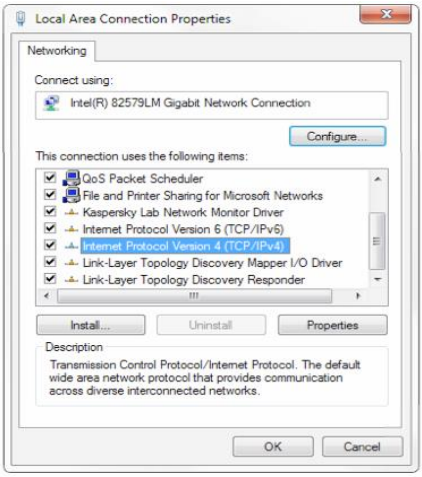
1. Connecting Mode

Direct connection: Connect the camera and computer directly via Ethernet cable.

IP connection mode: Connect the camera to a Router or Switcher. The user can log in to access the device using browser.

Note: Please do not put the power cable and Ethernet cable in places where can be easily touched to prevent video quality loss caused by unstable signal transmission.

Please make sure that your computer is in the same network segment as the camera IP address. The device will not be accessible if the segment is not consistent. For example, AV-1082's default IP address is 192.168.5.163, then segment 5 must be added to your computer. Specific steps are as below:

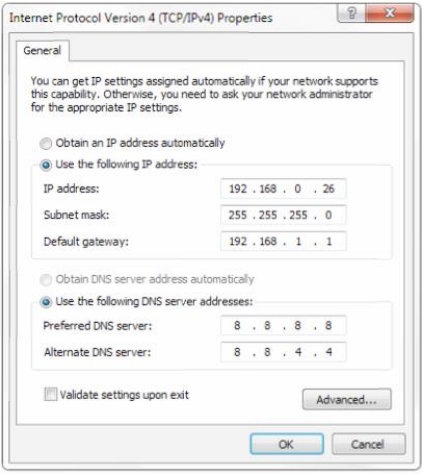


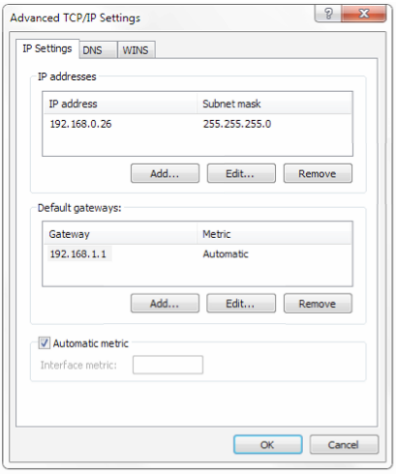
- Open "Local Area Connection Properties" on computer, select the "Internet protocol version 4(TCP/IPv4)" as shown in the picture on the left.

- Double click or click the property of Internet protocol version 4 (TCP/IPv4) to enter the Internet Protocol Version 4(TCP/IPv4) Properties window.

- Select "Advanced" to enter the Advanced TCP/IP Setting. Add IP and subnet mask in the IP browser as shown in the picture below. Click "Confirm" to finish the adding IP segment.

- User can add the corresponding network segment according to the revised IP address of the camera.

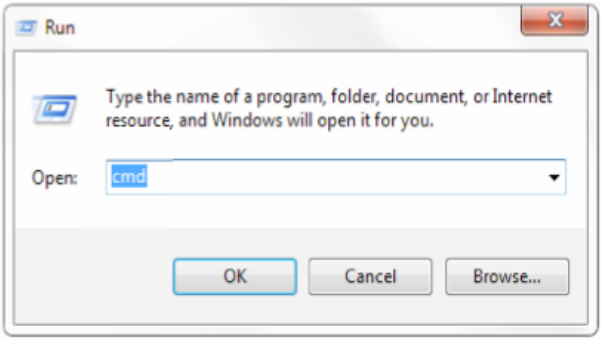




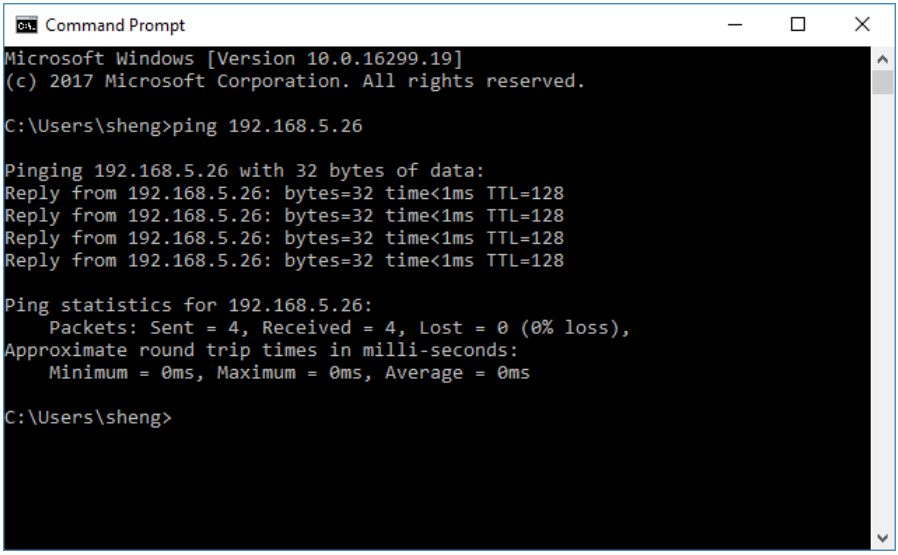
Note: The IP address to be added cannot be same as that of other computers or devices. The existence of this IP address needs to be verified before adding.

2. Confirm Access

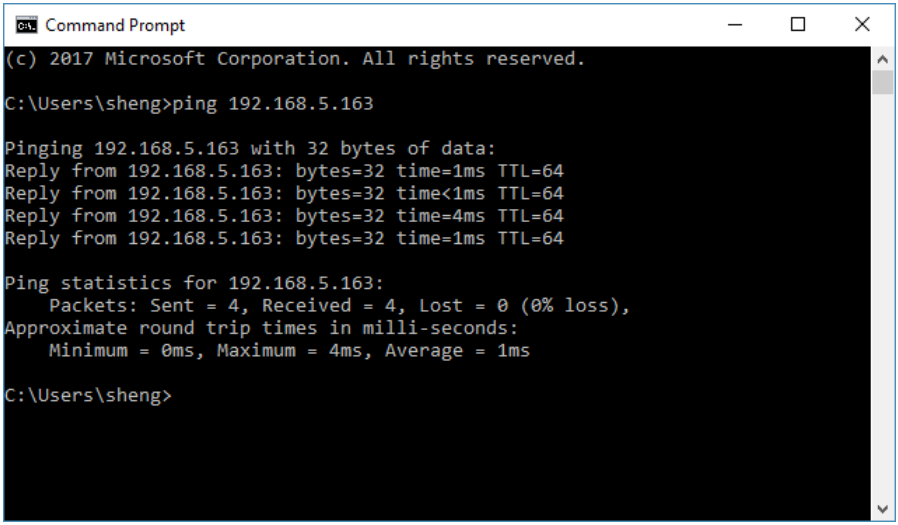
Click “Start” and select “Operation”. Input “cmd” as shown in the picture below to verify whether the network segment has been successfully added.



Click “OK” and open the DOS command window. Input ping: 192.168.5.26, and press “Enter”. If the message below shows, it means that network segment is added successfully.



User can also 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. IE Log In

1) Web client Log In

Input the default IP address 192.168.5.163 of the camera in the address bar of browser and click “Enter” to enter Web Client login page as shown in the picture below. User can login as administrator and normal user.

- If login as administrator (default user name/password: admin), users can do preview, playback, and configuration in the web interface;
- If login in as normal user (default user name/password:user1 or user2), users can only do preview or playback, no option for configuration.
- Note: Web access supported browsers: IE (recommended), 360 browser and other conventional browsers.

2) Download/Install Plug in

When using IE browser to access the AV-1082 for the first time, a message will show at the login page: “Playback plug-in is not installed, please download and install!”. Click on this message, download and install MRWebXinstall.exe according to instruction prompts.

After installing the plug-in, enter user name and password (default user name and password: "admin", users can change the user name and password after first login).

3) Preview

After logging in successfully, the video preview interface will show. In the preview interface, users can control pan, tilt, zoom, focus, video capture, sound, focus, full screen, set/ run/ delete preset positions.

- Login as administrator

Default user name & password: admin

Operation options: PT control; zoom, focus, video capture, sound, zoom, full screen, set/ run/ delete the preset positions. Also, the user can perform preview, playback and configuration of the captured video.

- Login as normal user

Default user name & password: user1 or user2

Operation options: PT control; zoom, focus, video capture, sound, zoom, full screen, set/ run/ delete the preset positions. The user you can only perform preview or playback of the captures video. No configuration operation is allowed for normal user.

4) Playback

- Playback video files

Before Playback, please make sure that you have recorded, snapshot and saved the file. Click "Playback" tag to enter the page, then select "Video File" and click "Search". Choose the video file you want to play.

- Playback picture (snapshot) files

Before Playback, please make sure that you have recorded, snapshot and saved the file. Click "Playback" tag to enter the page, then select "Picture File" and click "Search". Choose the image file you want to display.

5) Configuration

Click "Configuration" tag to enter the configuration page for parameter settings.

Operation options are as follows: Local configuration, video configuration, network configuration, PTZ configuration, internet access configuration, system configuration. For detailed description, please see below.

Menu Illustration

Local configuration includes video preview mode, record video packing time, record video storage route settings etc.

Video configuration includes video encoding, video parameters, character-overlapping, character size, video output setting etc.

Network configuration includes Ethernet, DNS, wireless network settings, GB28181 etc.

System configuration includes equipment properties, system time, user management, version update, Reset, Reboot device etc.

1) Local configuration

Video Preview Mode: user can choose real-time priority or fluency priority mode. The delay is shorter under real time priority mode; while fluency will be optimized under fluency priority mode. All parameter settings are based on specific user environment (Default: real time Generally (2), other options: real time best (1), normal fluency (3), relatively fluency (4) and very fluency (5)).

Recording packing time (minute): To set recording video packing time (default is 10, range from 1~120 minutes).

Recording/Snapshot file type: To set the recording file type (default MP4, other option: TS).

Recording/Snapshot file storage route: To set local recording video/snapshot file storage route (default D:\MyIPCam\).

Click “Save” to save the settings, and reboot to make settings effective.

4.2.5 Video configuration

1) Video Encode

Stream: To choose from Main/Sub video stream output.

Compressed Format: To set the video compression format (Default: H.264, other option: H.265).

Image Size: To set the video resolution (Main stream default: 1920*1080, other options: 1280*720, 640*480; Sub stream default: 320*180, other options: 640*360, 320*240, 640*480, 1280*720, 1920*1080).

Rate Control: To set the rate control mode (Default CBR- constant bitrate, other option: VBR-variable bitrate).

Image Quality: To set the image quality (Main stream default: Best; Sub stream default: Better).

Bit Rate (Kb/S): To set the video bit rate (Main stream default 4096, ranges from: 64~12288; sub stream default 512, ranges from 64-10240).

Frame Rate (F/S): To set the video frame rate (Default: 25, other options: main stream ranges from 5~60; sub stream ranges from 5~30).

I Frame Interval: To set the key frame interval (Default: 75, other options: main stream ranges from 1~300; sub stream ranges from 1~150).

I Frame Min QP: To set the minimum QP of the key frame (Default 10, ranges from 10~51).

Stream Name: To set the stream name (Main stream default: live/av0; Sub stream default: live/av1). Note: when modifying the Stream Name, please always reserve “live/”, and only modify the latter part.

Click “SAVE”, and a message will show: “Save successfully!” Please reboot the camera to bring new settings into effect.

2) Stream Publish

Stream: To choose from Main/Sub video stream output.

Enable: Check to enable the stream publish.

Protocol Type: RTMP

Host Address: To set the server IP address (Default 192.168.5.11).

Host Port: To set the server port number (Default 1935, ranges from 0~65535).

Stream Name: To set the stream name (Default: live/av0, live/av1).

User Name: To set the user name.

Password: To set the password.

Click “SAVE”, and a message will show: “Save successfully!” Please reboot the camera to bring new settings into effect.

Note: to obtain RTSP: rtsp://device IP address: 554/live/av0 (av0 main stream; av1 sub stream).

3) RTP Multicast

Stream: To choose from Main/Sub video stream output.

Enable: Check to enable the RTP Multicast.

Protocol Type: To choose the multicast protocol (Default: RTP, TS for option).

Multicast Address: To set the multicast address (Default: 224.1.2.3).

Multicast Port: To set the multicast port (Main stream port default: 4000; sub stream port default 4002).

Note: Access Method: rtp://224.1.2.3:4000; udp://@224.1.2.3:4000;

4) Video Parameters

a. Focus:

Focus Mode: To set the focus mode (Default: Auto, other options: Manual, OnePush).

AF-Zone: To set the focus range (Default: Center, other options: Top, Bottom, All).

AF-Sensitivity: To set the focus sensitivity (Default: low, other options: high, middle).

b. Exposure:

Exposure Mode: To set the exposure mode (Default: Auto, other options: manual, SAE, AAE, Bright).

EV: To set the exposure compensation (Default: OFF, ranges from -7~7).

BLC: To set the backlight compensation (Default: OFF).

Flicker: To set the anti-flicker setting (Default: 50Hz, other options: OFF, 60Hz).

G.Limit: To set the gain limit, active when under aperture or brightness priority (Default 4, ranges from 0~15).

DRC: To set the dynamic range (Default 4, ranges from 0~8).

c. Color:

WB Mode: To set the white balance mode (Default: Auto, other options: 3000K, 3500K, 4000K, 4500K, 5000K, 5500K, 6000K, 6500K, 7000K, Manual, OnePush). Note: Click the “Adjust” button when selected the One-push mode.

RG Tuning: To set the red gain, active when under Manual (Default 0, ranges from -10~10).

BG Tuning: To set the blue gain, active when under Manual (Default 0, ranges from -10~10).

Saturation: To set the saturation value (Default: 100%, other options: 60%, 70%, 80%, 90%, 110%, 120%, 130%, 140%, 150%, 160%, 170%, 180%, 190%, 200%).

Hue: To set the hue value (Default: 7, ranges from 0~14).

AWB Sensitivity: To set the sensitivity of auto white balance (Default High, other options: low, medium).

d. Image:

Brightness: To set the brightness (Default 7, ranges from 0~14).

Contrast: To set the contrast (Default 7, ranges from 0~14).

Sharpness: To set the sharpness (Default 7, ranges from 0~15).

Gamma: To set the Gamma value (Default, 0.45, 0.50, 0.55, 0.63).

DCI: To set the DCI value (Default: OFF, other options: 1~8).

B&W Mode: To set black and white mode (Default: color, other option: black/white).

Flip-H: To flip the image horizontally (Default: OFF).

Flip-H: To flip the image vertically (Default: OFF).

DZoom: Default: OFF

e. NR: Noise Reduction:

NR-2D: To set the 2D noise reduction level (Default 3, other options: 1-7, OFF, Auto)

NR-3D: To set the 3D noise reduction level (Default 3, other options: 1-8, OFF)

Dynamic Hot Pixel: To set the dynamic hot pixel correction (Default OFF, other options: 1-5)

f. Style: To set the image style. (Default, Normal, Clarity, Bright, Soft)

5) Video OSD

Show Time: Check to display date and time.

Show Title: Check to display the title.

Time Font Color: To set the font color of time and date display (Default: white, other options: black, yellow, red, blue).

Title Font Color: To set the font color of title (Default: white, other options: black, yellow, red, blue).

OSD Offset: Choose “Title” or “Time” to move the characters. Click the "up, down, left, right" buttons to move the corresponding characters to the desired position.

6) OSD Font Size

According to the resolution Scale size automatically: Check to automatically increase/decrease font size according to the resolution.

Main Stream OSD Font Size: To set the character size of main stream (Default: 48, ranges from 28-200).

Sub Stream OSD Font Size: To set the character size of the sub stream (Default: 48, ranges from 28-200).

4.2.6 Network Configure

1) Network Port

Port Data: To set the data port (Default 3000, ranges from 0-65535).

Port Web: To set the web port (Default 80, ranges from 0-65535).

Port Onvif: To set the Onvif port (Default 2000, ranges from 0-65535).

Port Soap: To set the soap port (Default 1936, ranges from 0-65535).

Port RTMP: To set the RTMP port (Default 1935, ranges from 0-65535).

Port RTSP: To set the RTSP port (Default 554, ranges from 0-65535).

Port Visca: To set Visca port (Default 3001, ranges from 0-65535).

To access RTSP: RTSP://equipment IP address: 554/live/av0 (av0 main stream; av1 sub stream)

To access RTMP: RTMP://equipment IP address: 1935 / live/av0 (av0 main stream; av1 sub stream)

2) Ethernet

DHCP: Check to enable obtaining IP automatically.

IP Address: To set the IP address (Default 192.168.5.163). Note: This IP address is the same with the one used to login Web page.

Subnet Mask: To set the subnet mask (Default 255.255.255.0).

Default Gateway: To set the default gateway (Default 0.0.0.0).

MAC Address: To set the physical address (this parameter is read-only, modifying is not recommended).

3) DNS parameters

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

Alternate DNS server: To set the alternate DNS server. (Default 0.0.0.0).

4) GB28181

Enable: Check to enable GB28181.

ClockSync: Check to set time synchronization.

Video Type: To choose the stream (Default: main stream).

Registration Valid Time(s): To set the sign-in effective time (in seconds): Default: 3600, ranges from 5-65535.

Heartbeat time (s): Default 60, ranges from 1-65535.

Register ID: 34020000001320000001

Register Name: IPC

Register Password: 12345678

Equipment ownership: Users can add their own

Administrative regions: Users can add their own

Alarm Zone: Users can add their own

Equipment installation address: Users can add their own

Local SIP Port: 5060, ranges from 0-65535.

Server IP: G28181 IP address of the computer

Server SIP Port: Default 5060, ranges from 0-65535.

Server ID: 34020000002000000001

4.2.7 System configuration

1) SystAttr: Device Properties

Device Name: To set the device name (Default Camera1, user can add their own).

Device ID: To set the device ID (Default 1, Read-Only).

Language: To set the system language (Default English, other option: Simplified Chinese).

2) SysTime: System Time

Date Format: To set the date format (Default YYYY-MM-DD, other options: MM-DD-YYYY, DD-MM-YYYY).

Date separator: To set the date separator (default '/', other options: '.', '-').

Zone: To set the time zone (Default East eight districts, other time zones available).

Hour Type: To set the time types (Default 24 hours, other option: 12 hours).

Update Interval: To set the automatic update time interval of NTP server. Valid after NTP server synchronization is on (Default: one day, ranges from 2-10).

Host Url: To set NTP server address or domain name (Default time.nits.gov). Valid after NTP server synchronization is on.

Host Port: To set the NTP server port (Default 123). Valid after NTP server synchronization is on

Time Settings: To choose time settings (Default Synchronize with computer time, other options: Synchronize with NTP Server, Set manually).

3) SysUser: User Management

Authority: To select users (Default: admin, other options: user 1, user 2).

User Name: To set the user name (Default: admin for Admin User; user1 for common user1; user2 for common user 2; users can add their own).

Password: To set the password (Default: admin for Admin User; user1 for common user1; user2 for common user 2; users can add their own).

Password confirmation: To confirm the input password.

Note: Please note that User Name and Password are case-sensitive.

If login as common user with user1/user2, then one does not have configuration privileges and can only operate on preview, playback and logoff.

4) Update: Release Upgrade

MCU version V2.3.2 2017-5-25

Camera version V2.4.0 2017-4-20

AF(Focus) version V2.4.8 2017-4-21

Note: Version information above is read-only by users.

Update File:

Click "Browse" and choose the upgrade file in the pop-up window.

Click "Upgrade" button, and an upgrade dialog will show. The device will reboot automatically after update successfully. (Note: make sure to keep the power and network connected during the process. or the upgrade will fail.)

Note: After the version upgrade is complete, users need to restore factory defaults, and there are 2 ways: a) through web login and restore the factory default; b) through the recovery menu; c) using remote control key combination: * # 6. After restoring factory defaults, IP address, user name and password will be restored to the default.

5) Default: Restore factory settings

Click "Restore Factory Defaults" button and choose "yes". The device will restart automatically and restore factory settings.

6) Reboot

Click "Reboot" button and choose "yes". The device will restart automatically and restore factory settings.

4.2.8 Logout

Click "Logout" tag, and a "Confirm" dialog window will pop-up; select "Yes" to exit the current page and return to the user login interface again.

Maintenance and Troubleshooting

Camera Maintenance

- If camera will be idle for a long time, please turn off the power switch and disconnect AC power cord from the outlet.
- Use soft cloth or tissue to clean the camera (lens cleaning not recommended).
- Use soft dry cloth to clean the lens. If the camera is very dirty, clean it with diluted neuter detergent. Do not use any type of solvents, which may damage the surface.

Unqualified Application

- Avoid exposure to light of extremely high intensity or for extended periods of time, such as sunlight or other special light sources, etc.
- Do not operate under unstable lighting conditions, otherwise image will flicker.
- Do not operate close to powerful electromagnetic radiation, such as TV or radio transmitters, etc.

Troubleshooting

Image

- No image
  1. Check if the power cord is connected, or voltage is right, or POWER light is on.
  2. Check if the camera can self-test upon start-up.
  3. Check if video cable is connected correctly.
- Abnormal display of image

  Check if video cable is connected correctly.
- Image dithering even at widest zoom position
  1. Check if camera is set correctly.
  2. Make sure there is no vibration machine or other disturbing devices nearby.
- No video/ image in IE browser

When IPC is accessed by Internet Explorer (or another web browser) for the first time, a plug-in must be installed.

Installation: visit IP Camera address, click “Download”. A dialog box will pop up. Select “Run” or “Save” to download. If no dialog box pops up, please go to VLC (player software) website http://www.videolan.org/vlc,download and install VLC. After the download is completed, install as instructed. After successful installation, login again, and the video/ image will show.

- Unable to access IP Camera by IE browser.

1. Access network with PC, check if network works. In this way, the user can get rid of any cable failure or network failure.

2. Disconnect IP Camera from network. Connect IP Camera to PC, and re-set the IP address following the proper operations.

3. Check the server's IP address, subnet mask and gateway address.

4. Check if MAC addresses conflict.

5. Check if web port is occupied by other devices.

- When modifying the IP address incorrectly (causing the wrong IP address), or if the web password is forgotten, press "[*]+[＃]+[Manual]" on the IR remote control to restore the default settings (Default IP: 192.168.100.88; Default username: admin; Default password: admin).

Sound

- No sound

1. Check the audio connection to the host PC.

Control

- IR remote control cannot control the camera

1. Change the battery
2. Check if the camera is in working mode.
3. Check if IR address of the remote control is the same as that of the camera.

- Serial communication cannot control the camera

1. Check if the camera is in working mode.
2. Check if the control cable is connected correctly.

Appendix

1) VISCA protocol list

- 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.

- Camera control command

Command	Function	Command packet	Note
AddressSet	Broadcast	88 30 0p FF	p：Address setting
IF_Clear	Broadcast	88 01 00 01 FF	I/F Clear
CommandCancel		8x 21 FF	
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)

Command	Function	Command packet	Note
	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	
	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	8x 01 04 35 00 FF	
	3000K	8x 01 04 35 01 FF	
	4000k	8x 01 04 35 02 FF	
	One Push mode	8x 01 04 35 03 FF	
	5000k	8x 01 04 35 04 FF	
	Manual	8x 01 04 35 05 FF	
	6500k	8x 01 04 35 06 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

Command	Function	Command packet	Note
	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：Default 1：0.47 2：0.50 3：0.52 4：0.55
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_Aperture	Reset	8x 01 04 02 00 FF	Aperture Control
	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: Aperture Gain

Command	Function	Command packet	Note
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=0-7 0:60% 1:70% 2:80% 3:90% 4:100% 5:110% 6:120% 7:130%
CAM_IDWrite		8x 01 04 22 0p 0q 0r 0s FF	pqrs: Camera ID (=0000 to FFFF)
SYS_Menu	ON	8x 01 04 06 06 02 FF	Turn on the menu screen
	OFF	8x 01 04 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	
IR_ReceiveReturn	On	8x 01 7D 01 03 00 00 FF	IR(remote commander)receive message via the VISCA communication ON/OFF
	Off	8x 01 7D 01 13 00 00 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~E Video format 0:1080P60 8:720P30 1:1080P50 9:720P25 2:1080i60 A：1080P59.94

Command	Function	Command packet	Note
			3:1080i50 B：1080i59.94 4:720P60 C：720P59.94 5:720P50 D：1080P29.97 6:1080P30 E：720P29.97 7:1080P25
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(TBD) ZZZZ: Tilt Limit Position(TBD)
	Clear	8x 01 06 07 01 0W 07 0F 0F 0F 07 0F 0F 0F FF	

- 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

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 00 FF	6500K
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_ApertureInq	8x 09 04 42 FF	y0 50 00 00 0p 0q FF	pq: Aperture Gain
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 (130%)
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
IR_ReceiveReturn		y0 07 7D 01 04 00 FF	Power ON/OFF
		y0 07 7D 01 04 07 FF	Zoom tele/wide
		y0 07 7D 01 04 38 FF	AF ON/OFF
		y0 07 7D 01 04 33 FF	Camera _Backlight

		y0 07 7D 01 04 3F FF	Camera _Memery
		y0 07 7D 01 06 01 FF	Pan_titleDriver
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) U3 （3950） rs tu : ARM Version vw : reserve
VideoSystemInq	8x 09 06 23 FF	y0 50 0p FF	P: 0~E Video format 0:1080P60 8:720P30 1:1080P50 9:720P25 2:1080i60 A：1080P59.94 3:1080i50 B：1080i59.94 4:720P60 C：720P59.94 5:720P50 D：1080P29.97 6:1080P30 E：720P29.97 7:1080P25
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】.

1) 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	Address	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

2) 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 Position Response	0xA0	Address	0x00	0x5B	Value High Byte	Value Low Byte	0xAF	XOR
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

Warranty

Thank you for your interest in the products of AVIPAS Inc.

This Limited Warranty applies to HD Conference Camera purchased from AVIPAS Inc.

This Limited Warranty covers any defect in material and workmanship under normal use within the Warranty Period. AVIPAS Inc. will repair or replace the qualified products at no charge.

AVIPAS Inc. provides a one (1)-year warranty (from the date of purchase) for this HD Conference Camera.

This Limited Warranty does not cover problems including but not limited to: improper handling, malfunction or damage not resulting from defects in material.

To receive warranty service, please contact AVIPAS Inc. first. We will decide whether a repair or replacement is needed and will advise you of the cost of such repair or replacement.

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