Intrend PTZ CAMERA

User Manual

Content

1. Precaution

●Electrical Safety

Confirm country and local electrical safety standard when using or installing the product. The product itself has no power switch. Please stop power supply or plug out power socket when it is not in good working. Video wire and control wire should be insulated and individual connected, can't mix-up with other wires.

●Transportation with Care

Product should be protected against extremes of stress, vibration and moisture in transport, storage and installation. It is transported by integrated packing style.

●Power Supply

Product supplies 12V DC power,and Power on Ethernet Function optional.

●Installation with Care

Don't turn camera head manually. Doing so may result in mechanical damage.
Product should be put on stable horizontal table, and does not be installed at a tilt, or else, which may cause tilted image.
Don't apply corrosive liquid, gas or solid, to avoid damaging the cover which is made up of plastic material.
Make sure there is no obstacle with the camera's rotational range when installing.
Never power on before installation has been completed.

●Prohibited Unauthorized Disassemble

There is no part for users to disassemble voluntarily. PUAS is not responsible for any unauthorized modification or dismantling.

2. Product Introduction

2.1 Camera Technical Parameters

PTZ Camera	Model	IPTZ-FHD10XB-MID	IPTZ-FHD20XB-MID	IPTZ-FHD10XB-MID
	Zoom	10X Optical	20X Optical	30X Optical
	Image Sensor	1/2.7" Exmor CMOS	1/2.8" Exmor CMOS	
	Effect Pixel	2.38 Megapixel	3.27 Megapixel	3.75 Megapixel
	Focus	f=5.1mm - 51mm	f=4.7mm - 94mm	f=5.2mm - 148.4mm
	Iris	F=1.6(W) - 3.5(T)	F=1.6(W) - 3.5(T)	F=1.3(W) - 4.8(T)
	HOV	6.43° (T) ~72° (W)	3.2° (T)~ 60.2° (W)	2.14° (T) ~ 65° (W)
	Shutter Speed	1 to 1/10000s		
	Min Illumination	0.5 lux / 0.095 lux		
	Digital Noise Reduce	2D&3D Digital Noise Reduce		
	Image / Flip	Support		
	Pan/Tilt Angle	Pan: ±178° Tilt: +90° /-30°		
	Pan/Tilt Speed	Pan: 0.01° to 180° /s Tilt: 0.01° to 120° /s		
	Max Preset	Max 255(9 Presets by Remote)		
	Frame Rate	1080P60/59.94/50/30/29.97/25; 1080I60/59.94/50/30/29.97/25; 720P60/59.94/50		
Input / Output	HD Video Output	3G-SDI ×1, HDMI ×1 , IP (streaming) ×1(RTSP/RTMP/RTMPS), USB 3.0×1		
	Audio Input	1-ch 3.5mm Audio Interface		
	Communication	RS232 IN/OUT、RJ45、RS485		
	Power Connector Type	DC 12V JEITA standard or POE(Power Over Ethernet)		
Generic	Dimensions (L*W*H)	220mm x 169mm x 162mm		
	G.W	Approx 1.6kg		
	Max Comsunption	12W DC12V @1A		
	Works Environments	Indoor		
	Works Temperature	-10℃ ~ 50℃		
	Storage Temperature	-10℃ ~ 60℃		
	Installation	Ceiling / Wall Mount / Tripod/ Desk		

2.2 Product Feature

➢ 1080P Full High-definition

1/2.8 inch high quality CMOS sensor, can reach maximum 1920 x 1080 resolutions and output frame rate up to 60fps.

➢ Low Noise

High SNR of CMOS sensor, combined with 2D and 3D noise reduction algorithm, effectively reduces the noise, even under low illumination conditions, to ensure that the picture can still remain clean and clear.

➢ Rich and Perfect Interface

Support to output High-definition HDMI, 3G-SDI and high-definition wired LAN, USB2.0 or USB3.0 could simultaneously output four ways video with.

➢ Quiet Pan and Tilt Movement

Using high-precision stepping motor and advance motor driven chip to make sure it rotates stably under different speed and without any noise and howling.

➢ Remote Control

Can remote control camera by RS232, RS485,LAM, Support Visca, PELCO-P/D, Onvif, Visca Over IP Protocol and Remote Controller.

➢ Presets Image Freezing

Support the function with only freezing preset images when transferring presets, which could shield the image during transferring.

➢ Multi-preset

Support as many as 255 presets. (Remote control can only set 9 presets.)

➢ Multi-application Scenario

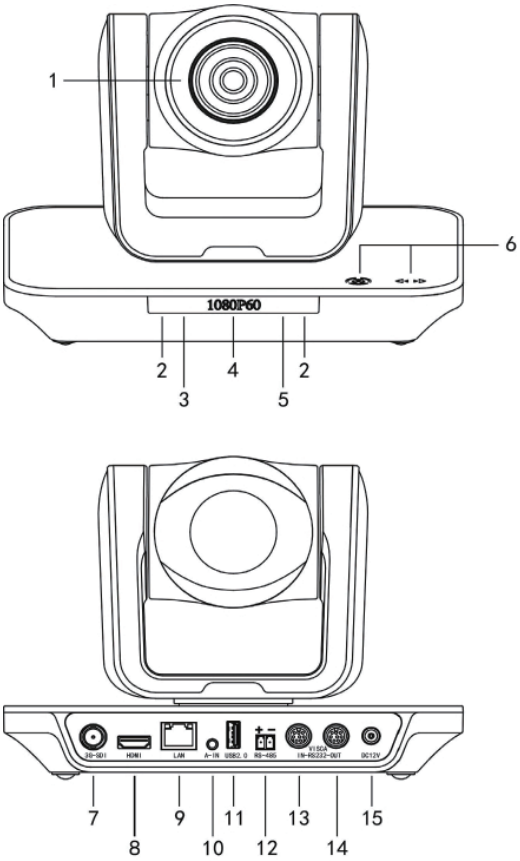
Education recorded, Remote conference, Remote medical treatment, Remote training, Trial system, Command system, Webcast, etc.

➢ Multiple Network Protocol

Support ONVIF, GB/T28181, RTSP, RTMP, RTMPS protocol, and also can be extended according to users' requirement.

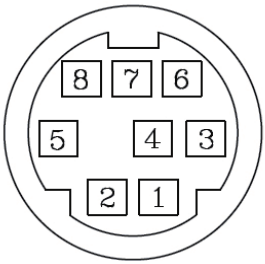
3. Using Instructions

3.1 Camera Interface

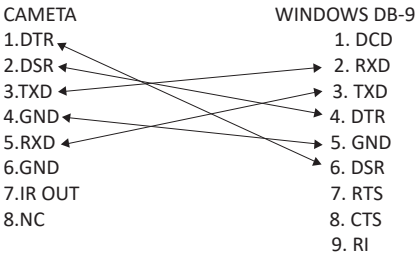


1. Lens
2. IR Receiver
3. Power Led
4. OLED
5. Standby Led
6. Touch Panel
7. 3G-SDI Output
8. HDMI Output
9. LAN Interface
10. Audio Interface
11. USB 2.0 or USB3.0
12. RS485 Interface
13. RS232 IN
14. RS232 OUT
15. DC12V Input

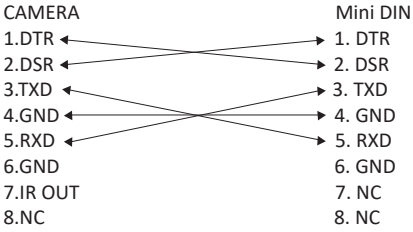
3.2 RS232 Interface Specifi cation

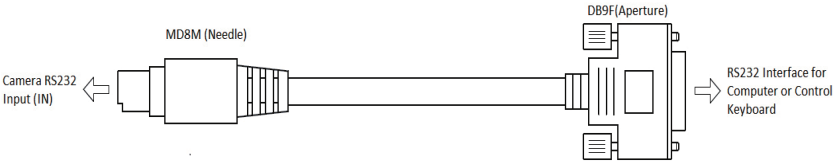


Connect Ways Between Computers Or Control Keyboard and Camera



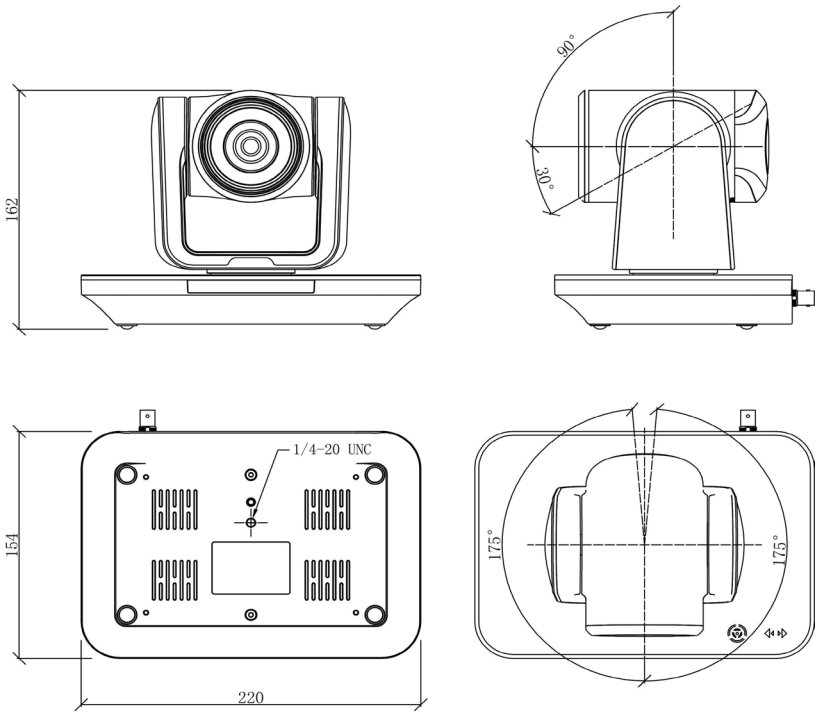
RS232 INPUT		
NO.	Function	Definition- specification
1	DTR	Data Set Ready
2	DSR	Data Set Ready
3	TXD	Transmit Data
4	GND	Ground
5	RXD	Receive Data
6	GND	Ground
7	IR OUT	IR Signal Output
8	NC	No Connec



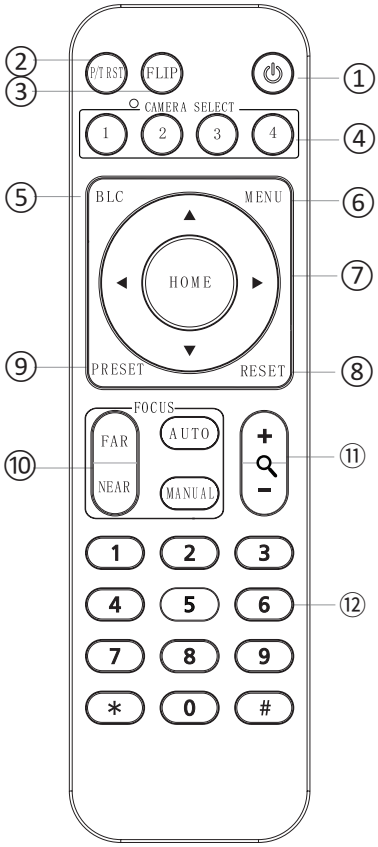


3.3 Camera Dimension

The Size for HD video conference camera is as below:



3.4 Remote Controller Specification



	Key	Function
1	Power Key	After pressing, the camera enters standby mode
2	P/T RST Key	After pressing, the camera enters self-check
3	Flip Key	Set the camera image to flip
4	Camera Select Key	Select the camera to be controlled
5	BLC Key	Turn on/off BLC
6	Menu Key	Enter/Exist Menu
7	Camera PTZ Control Key	Press HOME button, the camera returnto the middle position
8	Preset Setting Key	Press "Preset"+Number(1-9) to save the corresponding Preset
9	Preset Reset Key	Press "Reset"+Number(1-9) to reset the corresponding Preset
10	Focus Key	[AUTO]:Automatic focus [MANUAL]: Manual focus [FAR]: Manual focus, make the far object clearer [NEAR]: Manual focus, make the near object clearer
11	Zoom Key	+ increase, - decrease
12	Number Key	Cooperate with setting / calling Preset

Note:

1.If the remote control does not work properly, please replace the battery.

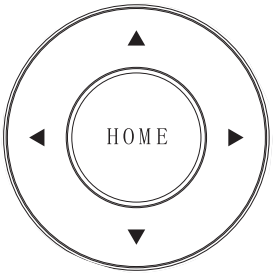
2.If there is object occlusion between the remote controller and the remote control special sensor on the camera, the camera will not work properly, so when using the remote controller, the remote controller will directly towards the remote sensor of the front part of the camera.

4. Operation Instructions

4.1 Camera ID Select

Select the target camera ID (from No.1 to No.4) When the camera ID is over 4, select No.1 will enable you to operate the camera.

4.2 Pan/Tilt Control



Turn up Press [▲] button

Turn down Press [▼] button

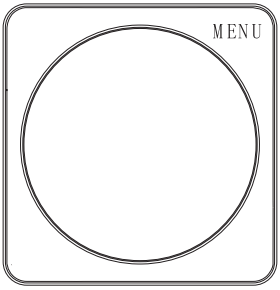
Turn left Press [◄] button

Turn right Press [►] button

Reposition Press [HOME] button

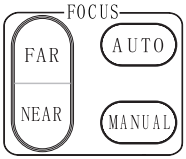
Press the corresponding buttons to adjust the angle of the lens. Tip: Click on the direction button will enable the camera rotating in a slow speed, while keep pressing the direction button in a period of time will enable the camera rotating in a fast speed.

4.3 Menu Display



Click the [MENU]Button, Display[PTZ]Camera menu, Once again then Turn OFF Menu

4.4 Focus



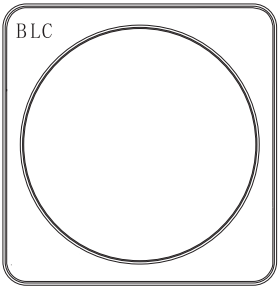
[AUTO]Enable camera automatically focus

[MANUAL] Switch to manually control mode

[FAR] Manually focus the distant object

[NEAR] Manually focus the nearby object

4.5 Back Light Compensation



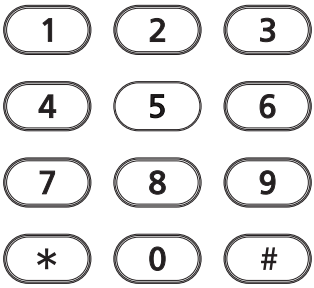
Click the [BLC] Button, it was turn ON/OFF Back light compensation

4.6 Zoom

Click the [+] Button, it was the camera Zoom in

Click the [-] Button, the camera will be Zoom Out

4.7 Presets Setting & Call and Reset



1. Save the preset press [PRESET] button first, then press any of the numbers you need (from1-9) to save the preset.

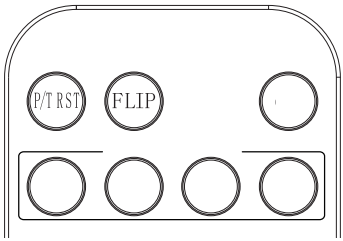
Note: You can save at most 9 presets through the remote controller.

2. Call the preset press the saved preset number from1-9 will activate the corresponding preset position.

Note: Call a preset number has not been saved will be invalid.

3. Reset the preset Press [RESET] button firstly, then press the number (from1-9) will clear the corresponding preset.

4.8 Image Flip & P/T Restart



Click the [FLIP] Button, the Image will be changed to flip, it was application for Ceiling installation.

Click the [P/T RST]Button, the camera will be restart and back to home position.

4.9 Function of Touch Button

1. Double click the breathing light on the camera touch panel, and wake up the touch button, the breathing light will keep lighting.

2. Click [◎]on the camera touch panel, select the parameters to modify, including: output format, protocol, baud rate, address code

3. Click [ ]to modify parameters, and click [◎] to confi rm the change, at last restart the camera to make settings take effect.

5. Menu Setting

1. Operate remote controller, press the [MENU] button to display the OSD menu.

2. Press the arrow keys to select the menu, press left and right button to set the camera.

MAIN MENU

EXPOSURE
COLOR
PICTURE
P/T/Z
NOISE REDUCE
VIDEO OUT
SYSTEM SETUP
DEFAULT SETUP
EXIT

5.1 EXPOSURE

Press the [MENU] button to display the OSD menu, press arrow keys to move to EXPOSURE and then press right button to enter sub menu, as the right picture.

- [AE MODE]: AUTO/SHUTTER/IRIS
- [EXPOSURE SETTING]: Press right,button, for optional as Follows
- [AUTO]:N/A
- [SHUTTER]: shutter priority mode: 1/1-1/10000
- [IRIS]: iris priority mode: F1.6-F24
- [EXPCOMP]: -3.5DB - 3.5DB, OFF
- [BACKLIGHT]: 1-7/OFF
- [FLICKER]: 50HZ, 60HZ, OFF
- [GAMMA]:0-9

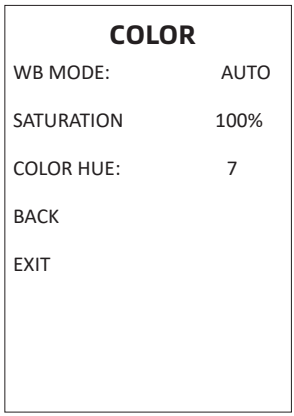
EXPOSURE

AE MODE:	AUTO
AE LEVEL:	N/A
EXPCOMP:	OFF
BACKLIGHT:	OFF
FLICKER:	50HZ
GAMMA:	5
BACK	
EXIT	

5.2 COLOR

Press the [MENU] button to display the OSD menu, press arrow keys to move to COLOR and then press right button to enter sub menu, as the right picture.

- [WB MODE]: AUTO/INDOOR/OUTDOOR/ONE-SHOT/ ATW/MUNUAL/3000K/4000K/5000K/6500K
- [SATURATION]: 60%-200%
- [COLOR HUE]: 0-14
- [RED GAIN]: 0-255(only under MANUAL)
- [BLUE GAIN]: 0-255(only under MANUAL)



5.3 PICTURE

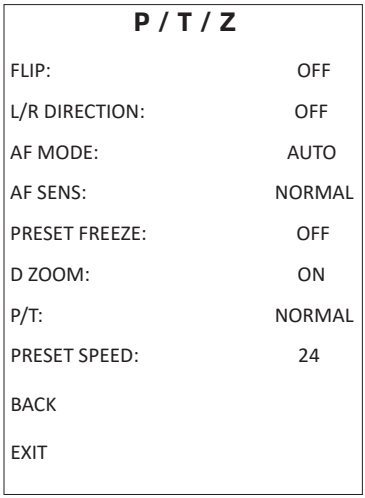
Press the [MENU] button to display the OSD menu, press arrow keys to move to [PICTURE] and then press right button to enter sub menu, as the right picture.

- [BRIGHT] : 0-14
- [CONTRAST] : 0-14
- [SHARPNESS] : 0-15
- [ICR] : COLOR/BLACK
- [STYLE]: STANDARD/CLEAR/BRIGHT/RTSP/GENTAL

5.4 P/T/Z

Press the [MENU] button to display the OSD menu, press the arrow keys to move to [P/T/Z], press right button to the sub menu, as the right picture shown.

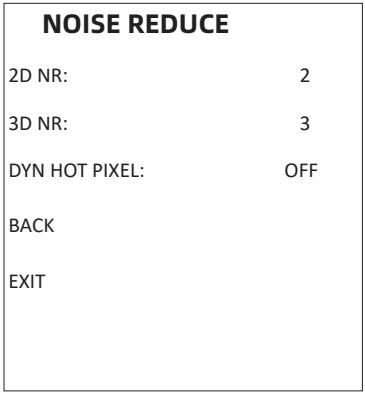
- [FILP]: ON/OFF
- [L/R DIRECTION]: ON/OF
- [AF MODE]: AUTO/MANUAL/ZOOM
- [AF SENS]: NORMAL/LOW
- [PRESET FREEZE]: ON/OFF
- [D ZOOM]: ON/OFF
- [P/T]:NORMAL/TRACING
- [PRESET SPEED]:1-24



5.5 Noise Reduction

Press the [MENU] button to display the OSD menu, press the arrow keys to move to [NOISE REDUCTION], press right button to the sub menu, as the right picture shown.

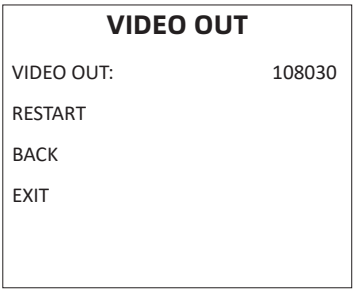
- [2D NR]: 0-5 / OFF
- [3D NR]: 0-5 / OFF
- [DYN HOT PIXEL]: ON/OFF



5.6 Video Format

Press the [MENU] button to display the OSD menu, press the arrow keys to move to [VIDEOOUT], press right button to the sub menu, as the right picture shown.

- [VIDEO OUT]:1080P60/59.94/50/30/29.94/25; 1080I60/59.94/50;720P60/59.94/50/30/25



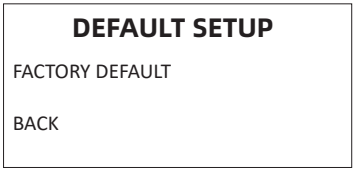
5.7 System Setting

Press the [MENU] button to display the OSD menu, press the arrow keys to move to [SYSTEM SETTING], press right button to the sub menu, as the right picture shown.

- [SYSTEM INFO]: press right button to the sub menu, as the right picture shown
- [LANGUAGE]: CHINESE/ENGLISH
- [ZOOM LEVEL]: ON/OFF
- [PROTOCOL]: VISCA/PELCO-D/PELCO-P
- [ADDRESS]: 1-255
- [BAUDRATE]:2400/4800/9600/19200/38400

5.8 Restore Default

Press the [MENU] button to display the OSD menu, press the arrow keys to move to [DEFAULT], press right button to make the OSD parameter return to the default.



6.Network Environment

6.1 Operating Environment

Operation System: Windows 7、Windows 10、Windows 11、MacOS 10.12、Chrome OS 16.

Network Protocol :TCP/IP

Client PC: 128MRAM, graphics card that supports scaling, Direct X 8.0 or above

6.2 Connection Mode

【Direct Connection Mode】: Connect camera with computer through network cable directly.

【LAN Connecting Mode】: Connect the camera to the Internet, which can be connected to the network through a router or a switch, and users can log in to the device through a browser

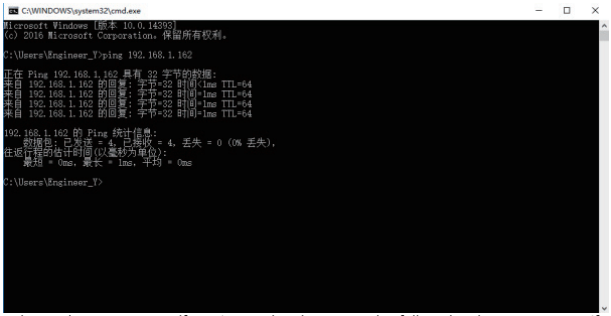
【Note】

• Do not place wires and network cables in places that are easy to be touched by humans, so as to avoid line contact Defects cause unstable signal transmission and affect video quality.

• The computer must be works with the same network segment where the camera IP is located. If the network segment is not added or modified, it will fail to log in For example, the default IP address of the camera is 192.168.1.162, and a network segment needs to be added to the computer The specific process is as follows.

• First, open [Properties] at computer's local network, then select "Internet Protocol Version 4(TCP/IPv4)" and double click or click its [Properties] and enter. And then click [Advanced] to enter into Advanced TCP/IP Settings. Input IP and subnet mask and click [Add] to finish. Users could change the camera IP address with relevant net segment.**(Don't clash the IP with other computers or IP device when adding IP address. Please make sure whether the IP you need is available or not before adding)**

• To verify whether the addition of the network segment is successful, open "Start" in the computer, select "Run", enter cmd, click "OK", open the computer DOS command window, enter ping 192.168.1.162, and press the Enter key to display the information as shown in the figure: Description Added successfully.



Note: After the product power-on self-test is completed, you can also follow the above steps to verify whether the network connection is normal.

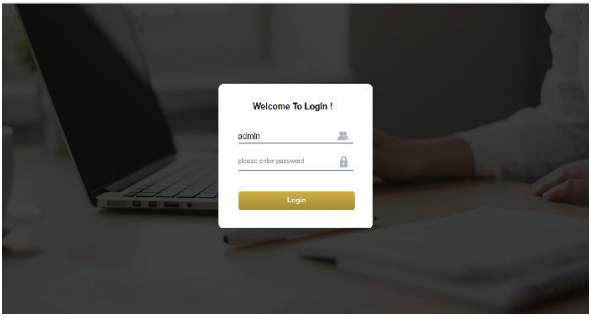
6.3 CGI /GUI Operation

◆ Environment Support

Mainstream Chrome, Firefox, 360 Safe Browser, Edge, Safari, (the above dual-core browsers do not support IE mode).

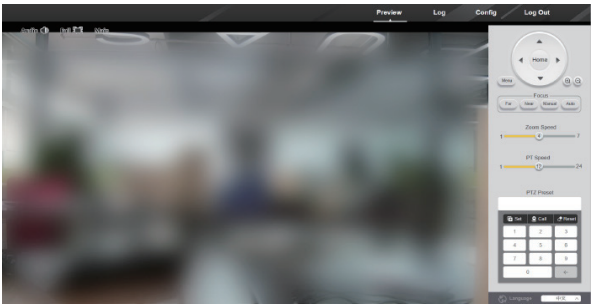
◆ Login

Enter the IP address of the device in the address bar of the browser (the default is 192.168.1.162), press Enter to enter the web client login interface/Web GUI, and enter the user name and password (admin/admin) to log in.



◆ Preview

After the login is successful, The default is to enter the preview interface. In the preview interface, you can perform operations such as PTZ control, zoom, focus, language switching, and full-screen images as shown in the following pictures



【Audio】: The default is off. Click the audio icon to choose to turn on/off . When the audio output is turned on, the audio iconis highlighted.

【Full Screen】： Click this icon to enter full screen mode.

【HOME】: The image returns to the predetermined origin, that is, the HOME position.

【Menu】: Click to enter the camera OSD menu, use the up and down arrows to select the PTZ menu item, and the left and right arrows to modify the parameter value.

【Focus】: Click the manual button, and the camera will switch to manual focus mode. At this time, you can manually adjust the focus position of the lens by clicking the far and near buttons. Click the automatic button, and the camera will switch to automatic focus mode.

【Zoom button】: Click the + button to control the lens for TELE zoom, click the- button to control the lens for WIDE zoom.

【Zoom Speed】: User can move the progress bar to adjust the speed(default 4, optional 1~7).

【PTZ Preset】

Setting: Enter the number of the preset position to be set, and click Set to save the current Position,ZOOM and other parameters to corresponding preset position.

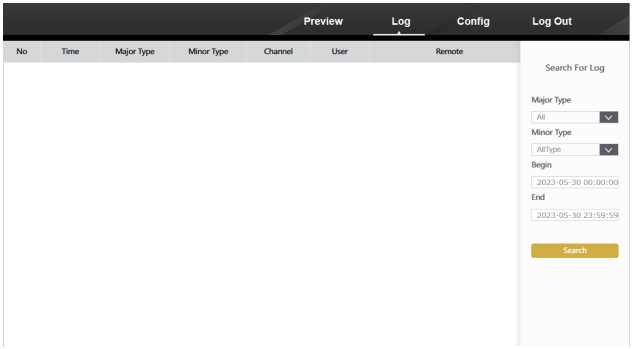
Call: Enter the preset number that needs to be called, and click to call Presets.

Clear: Enter the preset number to be cleared, and click Clear Presets

Language: Used to modify the language and text display of the web page. Chinese and English are optional.

◆ Log

Click “Log” to enter the Log interface, choose the appropriate time and type to find log information as shown in the following pictures.



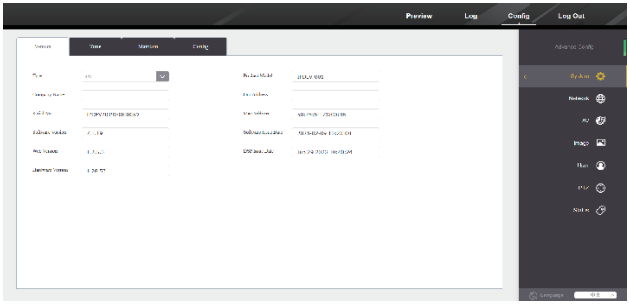
◆ Config

Click “Config “to enter the Config interface. By default, the three basic information and configurations of "Version ", "Time" and "Maintenance" are displayed.

The “Version” is used to show the unmodified information.

The “Time” is used to use NTP in different regions or manually update the internal time of the device.

The “Maintenance” is used to reboot,Restore and upgrade the device.

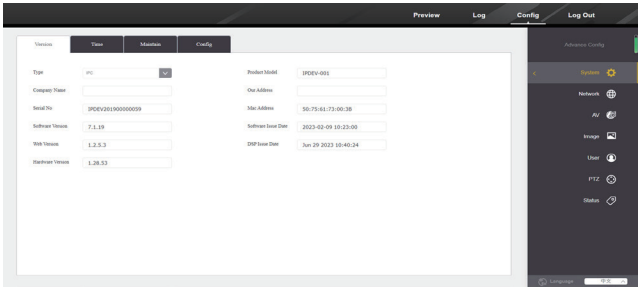


【 System】

Click the “System” to enter the system interface, the “Config” was added.

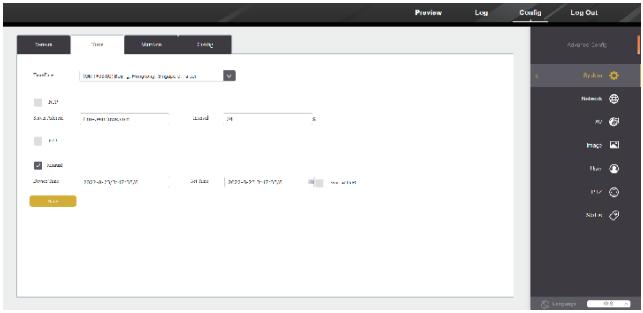
◆ Version

For display only, not modifiable. The displayed content includes device type, Device model, Manufacturer name, Manufacturer address, network Mac address, Software version, Software compilation date, Web GUI software version, DSP software compilation date, Hardware version, etc



◆ Time

Used to use NTP in different regions or manually update the internal time of the device,



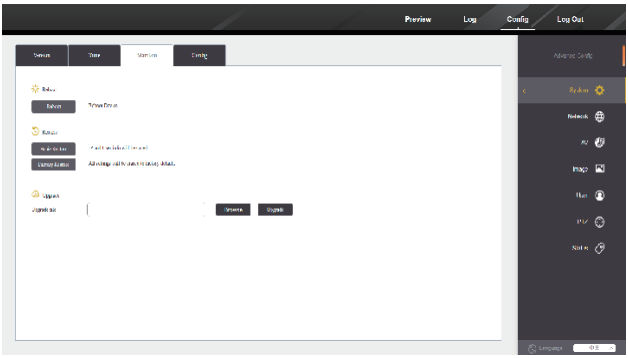
【TimeZone】：to choose a different time zone.

【NTP】：Calibrate the device time through an external server.

【Manual】：Manually modify or synchronize the local computer time to calibrate the device time.

◆ Maintenance

Used to reboot,Restore and upgrade the device.



【**Reboot**】**:** After clicking the button, the device will restart.

【**Basic Restore**】**:** After clicking the button , most of the data will be restored to factory default and the camera will automatically restart.

【**Factory Restore**】**:** All settings will be erased to factory default and the camera will automatically restart.(note that the IP address will also be restored, the default IP address is 192.168.1.162).

【**Upgrade**】: When the camera need the upgrade, to choose the upgrade firmware (bin file format) provided by the manufacture and click upgrade.The camera will automatically start updating and show a progress bar. and the camera will automatically restart when the update is complete.

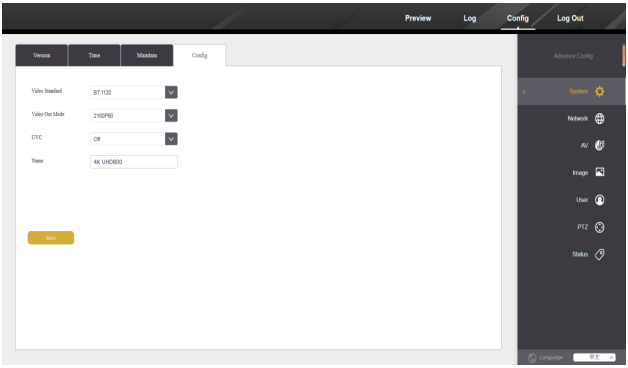
◆ Config

【**Video Standard**】: to choose different signal output format(Default BT.1120)

【**Video Output Mode**】: to select the resolution and frame rate (the default options are different according to different devices, generally you can choose 720P50、720P60/59、1080P25、1080P30/29、1080P50、 1080P60/59、1080I50、1080I60/59)

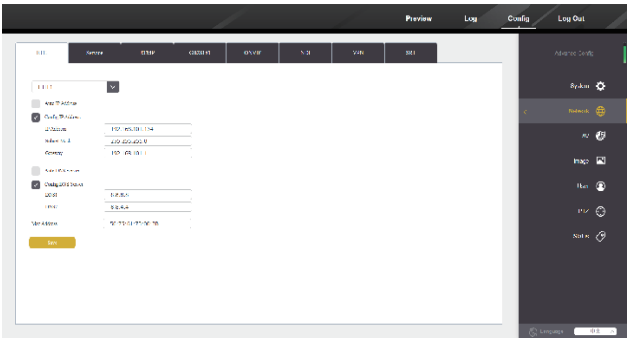
【**UVC**】: Select whether to output UVC signal or UVC+UAC signal through the USB port of the camera, the default is off.

【**Name**】: You can customize the name of the device.

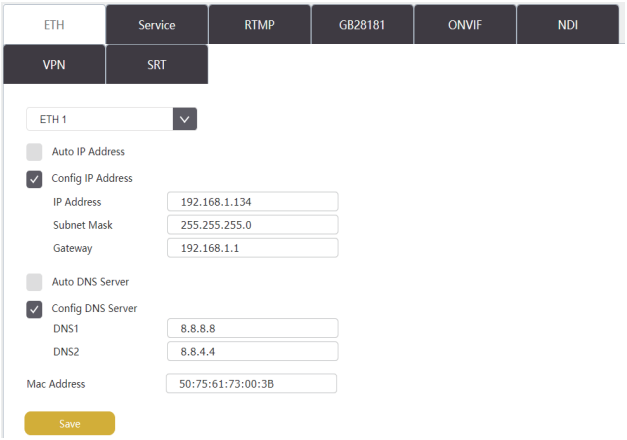


◆ Network

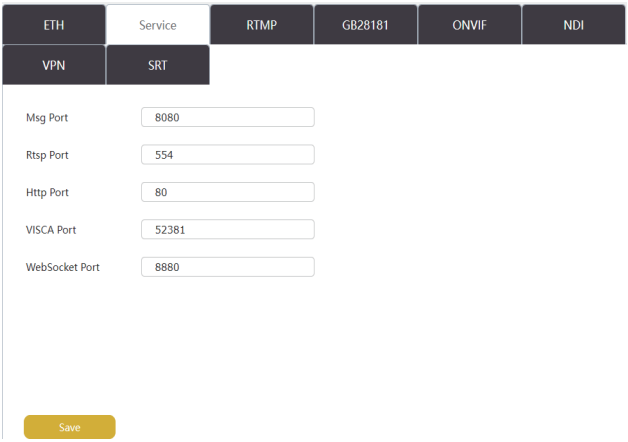
Click the “Network”on the right to enter the Network interface.



【EHP】: Set the IP address and its DNS Server of the device. Note that the IP address is consistent with the gateway, and the Mac address cannot be modified.



◆ Service



【Msg Port】：Message Port for private protocol (default 8080).

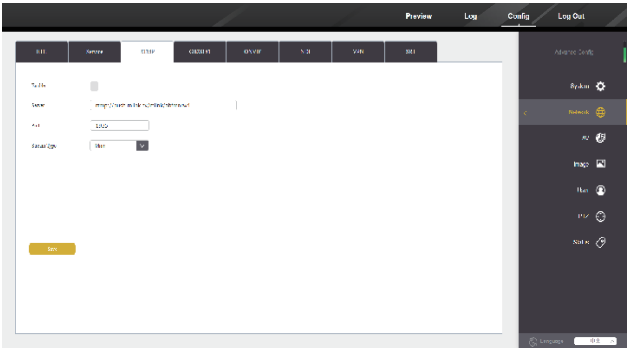
【RTSP port】：The port was used when previewing video with the Rtsp protocol (default 554, 0~65535 optional).

【Http Port】：The port was used to set the browser. Since the default port of commonly used browsers is 80, you can directly enter the IP address of the camera in the browser address bar to open the web page. If the user manually changes the port from 80 to others, you need to enter Add the modified http port Browser address bar and then to open the web page, for example: 192.168.1.162:81. When this port is repeated with other port , the camera will automatically change the port to 81 (default 80, 0~65535 optional).

【VISCA Port】：The port was used when controlling the camera through the VISC Over IP protocol (default 52381, 0~65535 optional). Also named UDP Port.

【WebSocket port】：The port number used when previewing video using the WebSocket protocol,Such as web video. (default 8880, 0~65535 optional)

◆ RTMP Streaming



【**Server**】**:** RTMP server address, generally used for webcasting, obtain the RTMP streaming server address (usually rtmp://IP address: port /platform live segment/platform live code) on its live broadcast platform, and copy it Go to "Server Address", turn on the streaming switch, and click Save to preview the screen on the platform.

【**Port**】**:** The port was used to streaming.

【**Stream Type**】**:** The stream type used when streaming (default main stream, optional main stream,second stream).

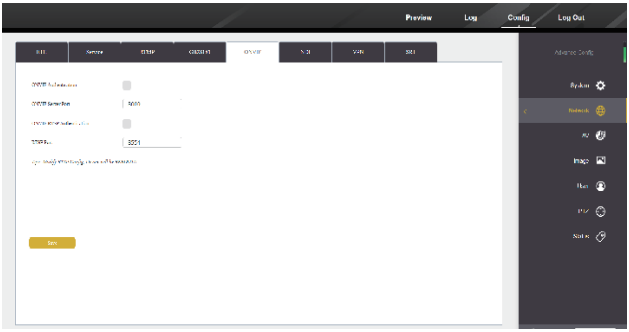
◆ ONVIF Config

【**ONVIF Authentication**】**:** It is used to select whether a password is required for ONVIF connection.

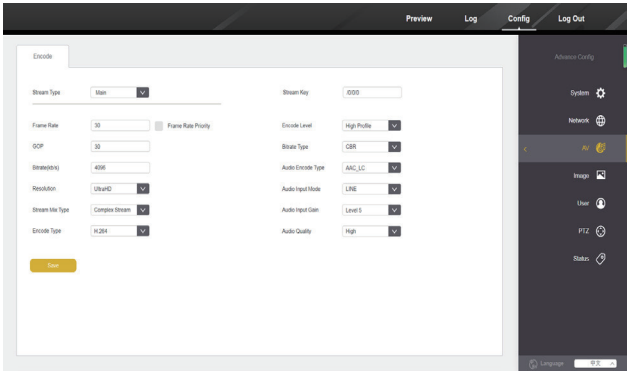
【**ONVIF Server Port**】**:** ONVIF Port Number, can be setting according to User. Default PORT 8000.

【**ONVIF RTSP Authentication**】**:** It is used to select whether a password is required for ONVIF preview.

【**ONVIF RTSP port**】: The port used when use ONVIF RTSP to streaming.

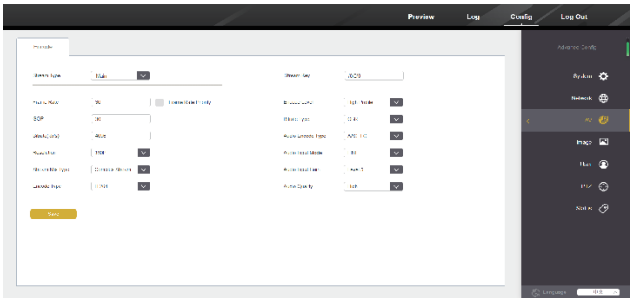


If you want to modify the video parameters, you can operate on the web interface in AV Setting



◆ AV

Click the “AV”on the right to enter the AV interface.



【Stream Type】：You can choose the main and second streams. and The user configures the parameters of the corresponding stream according to the needs (the web page generally uses the main stream and cannot be changed)

【Frame Rate】：Set the number of frames per second for video transmission. it can be set up to 60fps depending on the device, beyond 60fps which it will not take effect.

【GOP】：Set its key frame (I frame) according to the standard encoding, that is, how many frames are included in an I frame.Different from B and P frames, I frame contains all the information of the screen, so its volume is also the largest.All the B and P frames that appear before the next I frame are based on the I frame, therefore, the interval between I frames should not be set too large, so that when the I frame is damaged, all the B and P frames (GOP) behind it cannot be parsed normally. The I frame interval should not be set too small to avoid network transmission pressure, the default is 30.

【**Bitrate (kb/s)**】**:** You can set the bitrate of the video. The higher the bitrate, the higher the quality and the richer the picture details, but the larger the transmission bandwidth occupied. The default is 4096.

【**Resolution**】**:** You can set the resolution of the video, the higher the resolution, the richer the picture details (the default is 1080P ,1080P and 720P are optional)

【**Stream Mix Type**】**:** Composite stream means audio and video mixed, video stream means only video without audio, the default is composite stream.

【**Encode type**】**:** You can set the video encoding method, supporting mainstream standards such as H264/AVC, H265/HEVC, MJPEG,etc.

【**Encode Level** 】**:** Set the audio and video encoding level . Base Line is generally used for low-level or applications that require additional fault tolerance. Main Profile is generally used for mainstream consumer electronics product specifications. High Profile is generally used for broadcasting and video discs. Storage (Blu-ray movies), etc., HDTV applications.

【**Bitrate Type**】**:** Set the Bitrate type (default CBR, optional CBR, VBR and FIX QP).

【**Audio Encode Type**】**:** Set the type of input audio. Default LINE input (with gain), optional MIC input (without gain)

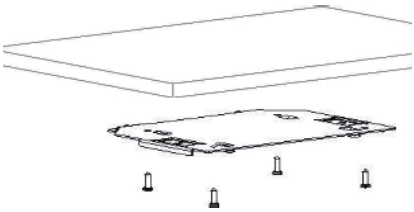
【**Audio Input Mode**】**:** Set the type of input audio. Default LINE input (with gain), optional MIC input (without gain).

【**Audio Input Gain**】**:** Set the gain of the audio input (default Level8, optional mute,Level1~Level10).

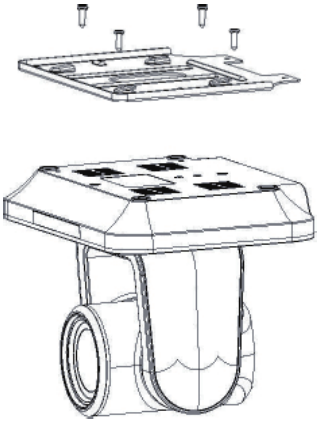
【**Audio Quality**】**:** Set the audio sampling frequency, optional low (8Khz), high (48Khz for AAC encoding, 24Khz for G711 encoding).`

7. Installation Instruction (Ceiling / Wall Mount / Tripod)

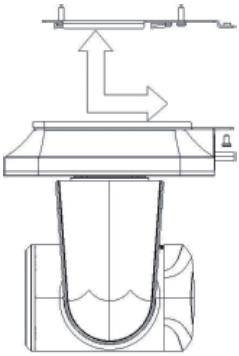
1. To drill 4 M4 screw hole inceiling (see below sketch), use 4 pcs STP4x16 cross screws to fix the upside-down installation board of video conference camera on ceiling.



2. Use 4 pcs M3x4 cross screws to fi x the video conference camera on the connection board, showed as the below sketch.



3. Hang the discreteness made in step2 on the installation board, showed as the below sketch.



4. Use 3 pcs M3x4 cross screws to fix the connection board and installation board, showed as the below sketch.