iCam PT40

AI VIOCE TRACKING CAMERA

User Manual V1.1

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SYMBOLS INSTRUCTION

Symbol	Instructions
Explanation	Explain in detail.
Note	Remind of some important operations or action need to be taken to prevent potential injury and damage.
Warning	Warning text, indicating that there are potential risks, if not avoided, may cause injury accidents, equipment damage or.
Dangerous	Dangerous text means that there is a high potential risk. If not avoided, it may cause major danger of casualties.

SAFETY NOTES

- During the installation of this camera, please read this manual carefully and operate strictly in accordance with the installation instructions. Keep this manual for future reference.
- Before powering on the camera, please check the power carefully. Make sure that you are using the right power source.
- Place the power cable in a place that is not easily accessible. Do not stack any objects on the power cable, protect the cable, especially the connection must be fully and securely contacted.
- Do not run the camera beyond the specified temperature and humidity. The working temperature range is between 0℃ ~ +40℃. The working humidity range is less than 90%RH.
- For safety, foreign matter is prevented from entering the device, do not splash the corrosive liquid onto the camera.
- When transporting, avoid violent shake or strong force to the camera.
- Avoid pointing the camera at objects with strong light, such as the sun etc.
- When cleaning the camera, please use soft cloth. If the camera is very dirty, wipe it off gently by a soft cloth moistened with a weak solution of water or a neutral kitchen detergent. Wring out all liquid from the cloth before wiping the camera, then wipe away all remaining dirt with a soft, dry cloth. Use lens cleaning paper to clean the lens.

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1. OVERVIEW OF CAMERA

1.1 QUICK GUIDE

The camera can be accessed and controlled in the following ways:

- **Software CameraCMS:** Set up camera, control camera, and change network parameters;
- **VLC access:** Previewing three streams of camera;
- **Onvif:** Camera supports Onvif 2.1 version, default username: admin, initial password:123456;

1.2 RTSP ACCESS

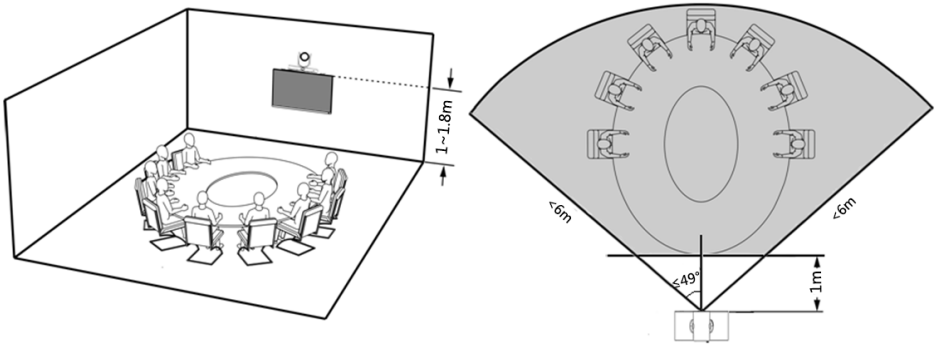
1. Make sure that the computer and equipment are in the same network segment;
2. Three stream url:rtsp://IP/chx, x=1, 2, 3, 1 is close-up stream, 2 is full-view stream, 3 is switch stream.
3. IP address is acquired through CameraCMS, the default port of rtsp is 554.

2. PRODUCT INTRODUCTION

2.1 PERFORMANCE CHARACTERISTICS

- Close-up camera: 1/2.8 inch 2.14 megapixel CMOS sensor,12x optical zoom, horizontal field of view up to 72.5°.
- Full view camera: 1/2.8 inch 2.14 megapixel CMOS sensor with 110° horizontal field of view.
- Accurately locate speakers by combining voice localization technology and human automatic detection and recognition AI algorithm.
- Automatically and quickly give the speaker the right size and angle of visual presentation.
- Close-up image and full view image could switch seamlessly.
- The close-up camera provides smooth and natural automatic framing of the active speaker.
- Advanced lecturer tracking capability with multi tracking options.
- There is no human participation in the whole work process, which greatly improves the meeting experience.
- HDMI and SDI support up to 1080P60.
- H.264 / H.265 video coding, maximum video resolution supported by internet is 1080P30.
- USB3.0 Type-B interface, supports H.264 / H.265 / MJPEG video encoding, UAC and UVC protocol, supports up to 1080P60 resolution.

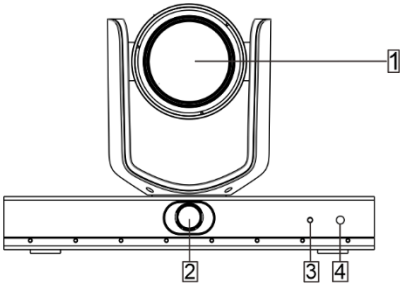
2.2 APPLICATION SCENARIOS



2.3 INTERFACE

Camera

Front View



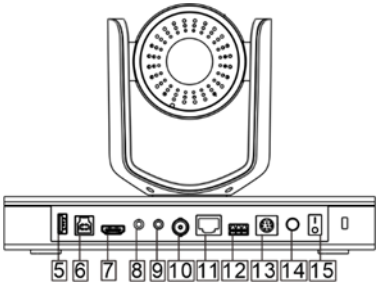
1 Camera Module

2 Full View Camera

3 Power Indicator

4 IR Indicator

Rear View



5 USB 2.0

6 USB 3.0

7 HDMI

8 REF IN

9 LINE IN

10 3G-SDI

11 LAN

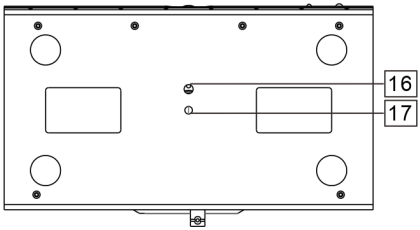
12 RS485

13 RS232-IN

14 Power（DC12V）

15 Power Switch

Bottom View



16 Mounting Hole

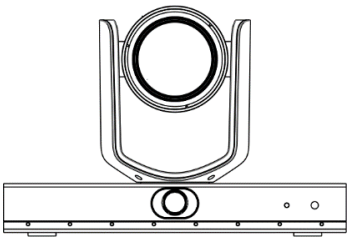
1/4" screw thread for fixing camera

17 Locating Hole

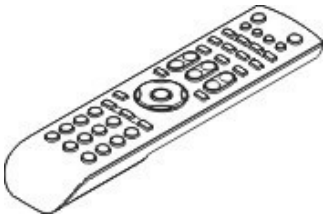
To define installation direction of camera

3. COMPONENTS

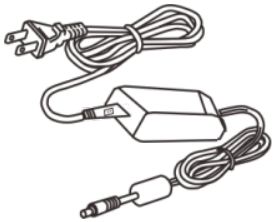
Camera (1)



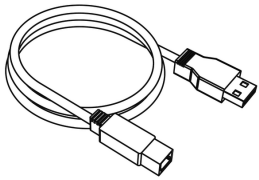
Remote Control (1)



Power adapter (1)



USB3.0 Cable (1)



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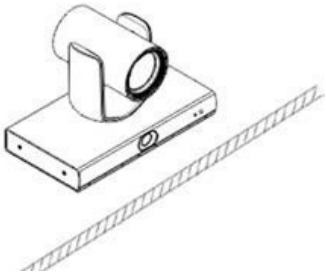
4. INSTALLATION

The camera has 2 installation types: desktop, wall installations.

> **Note**
>
> Before installing, make sure there is enough space to install the camera and its components.
> Make sure the installed place is strong and safe enough to hold the camera and relative parts, it is suggested that the installed place can withstand 4 times the weight of the camera and its relative parts.

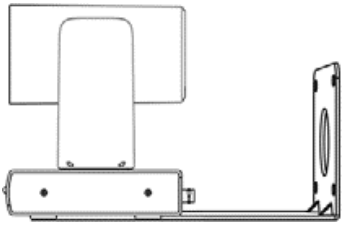
Desktop Mount Installation

1.Put the camera on a flat surface. In case the camera has to be placed on an inclined surface make sure the inclined angle is less than 15 degrees to ensure proper pan / tilt operation.



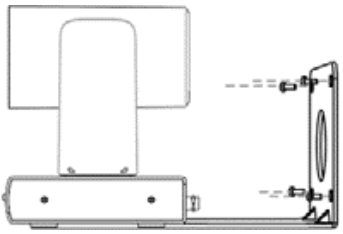
> **Note**
>
> - Take effective measure to avoid camera from dropping.
> - Do not grab the camera head when carrying.
> - Do not rotate the camera head with hand. It may cause malfunction to the camera.

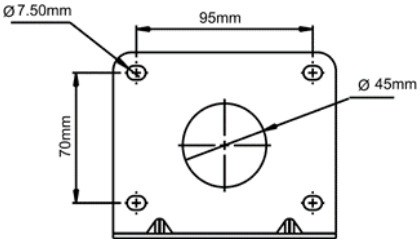
Wall Mount Installation (bracket supplied separately)



1.According to diameter and position of the 4 installation holes (As shown below) on the bracket, drill 4 holes on the wall and fix the bracket onto the wall by using 4 screws according your own needs.

2.Use inch screws to fix the camera on the bracket, fix the limit screw according to actual requirement, and make sure the camera is tightly fixed onto the bracket before you release your hand.




Ø7.50mm
95mm
Ø 45mm
70mm

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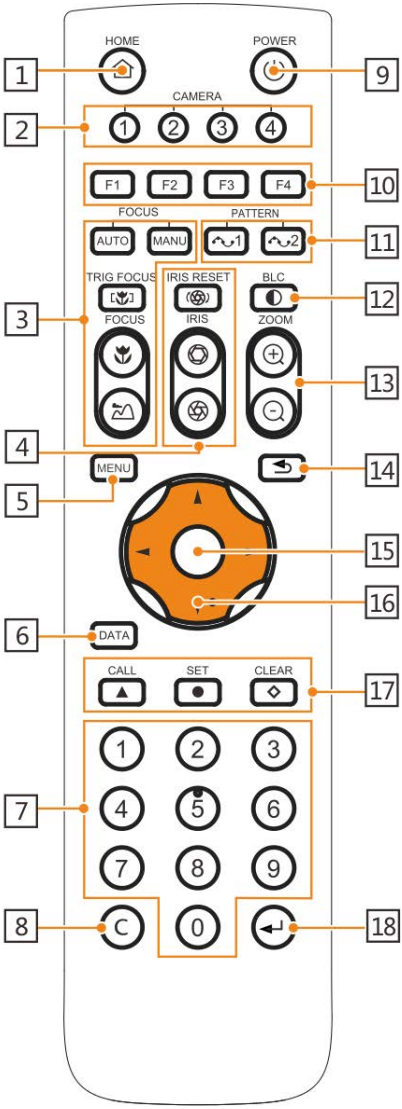
5. IR REMOTE



1 HOME

Press “HOME” button, camera moves to initial position.

2 Camera Selection Button

Press the button of the camera that needs to be operated by the remote control, the cameras can be switched and controlled according to relative address, camera with address 1 corresponds to “CAMERA 1” on the remote controller”, camera with address 2 corresponds to “CAMERA2” on the remote controller etc.

3 Focus

Press “AUTO” button to switch to Auto Focus, press “MANU” button to switch to Manual Focus mode.

“” button to Focus Near;

“” button to Focus Far;

“” button to Auto Focus once every time it is pressed, then switch back to Manual Focus mode.

4 Iris

Press “” button to reset iris (image brightness) value to default. “” button to Iris Open.

“” button to Iris Close.

5 Menu

Press “MENU” button to enter / exit menu.

6 Data

Reserved.

7 Number Keys

Used to input numbers, for example, preset number.

8 Delete

Reserved.

9 Power

After the camera has been connected to power source, press this button to turn on / off the camera.

10 Function Buttons (F1, F2, F3, F4)

F1, turn on tracking;

F2, turn off tracking;

F3, switch from different views (when tracking is turned off);

F4, reserved.

11 Scan Key

Reserved.

12 BLC

Used to open / close back light compensation.

13 Zoom

Used to adjust zooming in;

"⊕" button to zoom in;

"⊖" button to zoom out.

14 Back

Press "⮌" button to go back to previous menu.

15 OK

In None-menu status: press this button to switch among pan / tilt control speeds.

In Menu status: get into relative menu option after it has been selected.

16 Direction / Menu Operation

In None-menu status, press these four buttons to pan left / right and tilt up / down.

In Menu status: ▲ or ▼ button to select among menu options, ◄ or ► to change option / value.

17 Preset Setting

"▲" button to call a preset.

Input number key(s), and then press this button to call a preset.

"●" button to set a preset.

Move the camera to a specific position, adjust focus value etc. Then press this button to set a preset.

"◇" button to clear a preset.

Input number key (s), and then press this button to clear a preset.

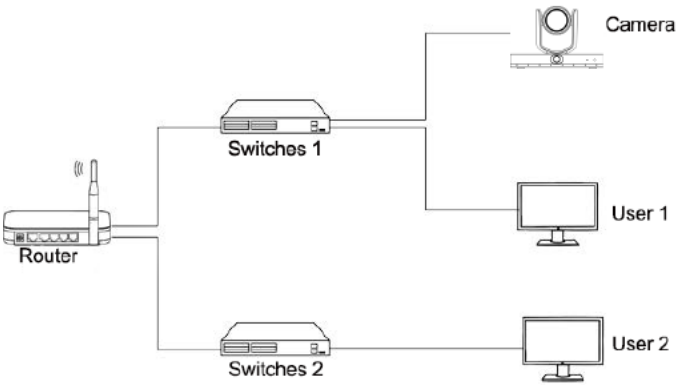
18 Enter

Reserved.

6. NETWORK CONNECTION

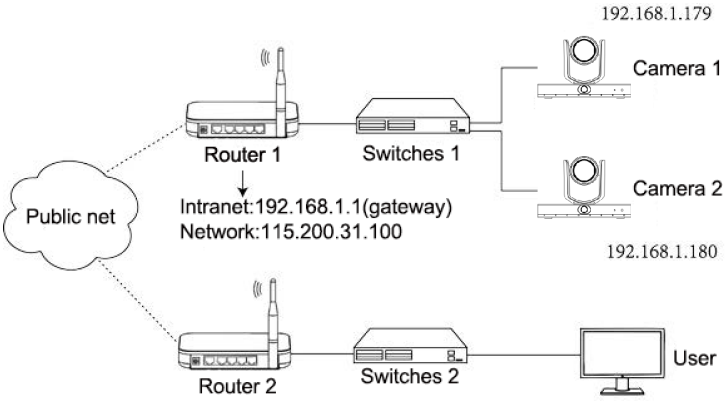
Connect the camera to network through an Ethernet cable, then power on the camera.

LAN Connection



As shown in the above diagram, user1 and user2 are in the same router, which means in the same LAN. Connecting the camera to the same LAN where the PC is, and referring to the below CameraCMS software instructions, then all the cameras can be found and connected by searching for the online device list.

WAN Connection



As shown in the above diagram, user and the camera are in different routers, which means in a WAN. In this case, the CameraCMS software cannot automatically search for the camera as it does on a LAN. However, if the following three conditions are satisfied, the CameraCMS software can still search for the camera through the following network configurations:

(1) Set camera's IP address as static IP address.

(2) Router of the LAN where camera is connected supports Port Mapping.

(3) Router of the LAN where camera is connected has fixed public IP address.

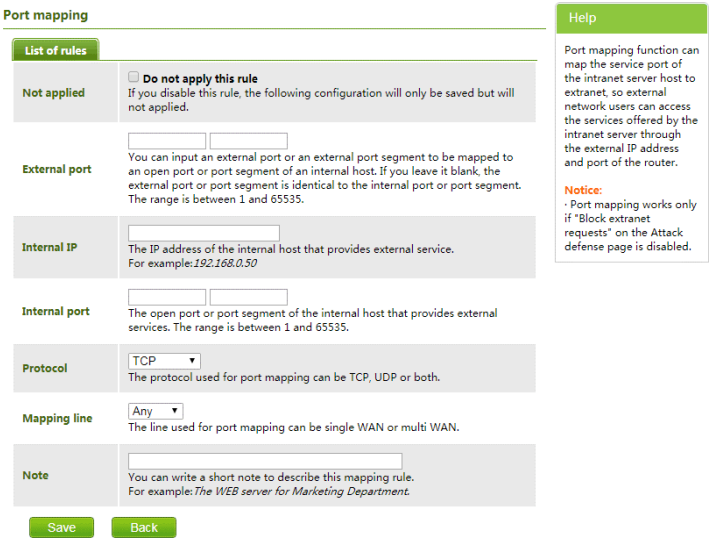
Follow below steps to connect.

Step One

Set camera's IP address in LAN: connect user PC to the LAN (Router 1) where the camera is connected according to LAN connection instructions, use application software CameraCMS to search and find the camera, then add it to manage; then set camera's IP address in the same network segment as the router 1.Camera's gateway is usually set at Router 1's LAN IP address, for example, 192.168.1.1, then camera's IP address can be set as for example 192.168.1.179 or 192.168.1.180 as long as they are in the same network segment.

Step Two

Router Mapping: The user's computer accesses the LAN of router 1 where the camera is and enters the router configuration interface (administrator rights of router 1 should be required); enter the page of "port mapping", refer to below picture, Do not tick "Do not apply this rule", in the first frame of "External port", fill in any number from 1~65535, such as 10200 (try to select port greater than 10000 to avoid port conflict); Fill in the IP of camera 1 in the internal IP, such as 192.168.1.179, and fill in the internal port 3478 of the camera in the first box of the internal port (all Descriptions such as "port mapping of camera 1" can be filled in the description.



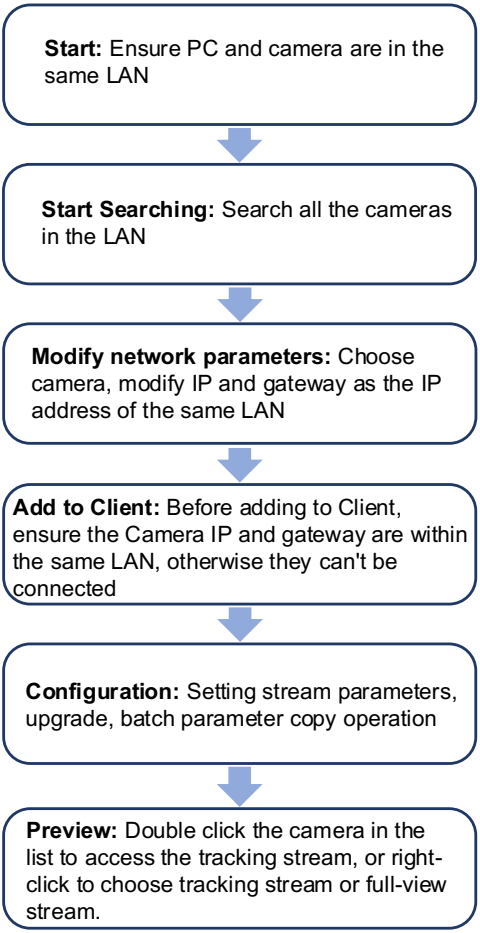
Step Three

Access from external network: For example, if the external IP address of router 1 is 115.200.31.100, the WAN user under router 2 can access camera 1 through IP address 115.200.31.100 and port 10200 through steps 1 and 2 above. That is to say, in WAN, camera 1 is mapped to (IP 115.200.31.100 + port 10200). Camera 2 can use another external port such as 10320, so camera 2 is mapped to (IP 115.200.31.100 + port 10320). In the “Managed Device” of the client software CameraCMS, click the button “+Add”, enter the IP address 115.200.31.100 and port 10200 and other information, then the camera 1 can be accessed and controlled.

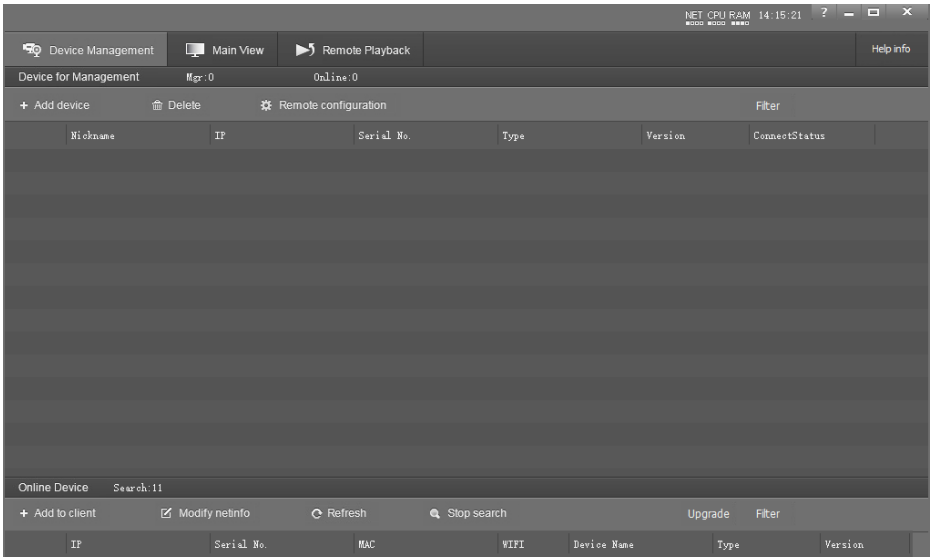
7. CAMERACMS INSTRUCTIONS

7.1 SEARCH AND ADD THE CAMERA

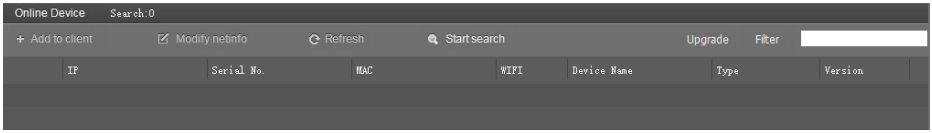
CameraCMS setup process:



Install and open the CameraCMS software on the PC, enter the interface of Device Management.

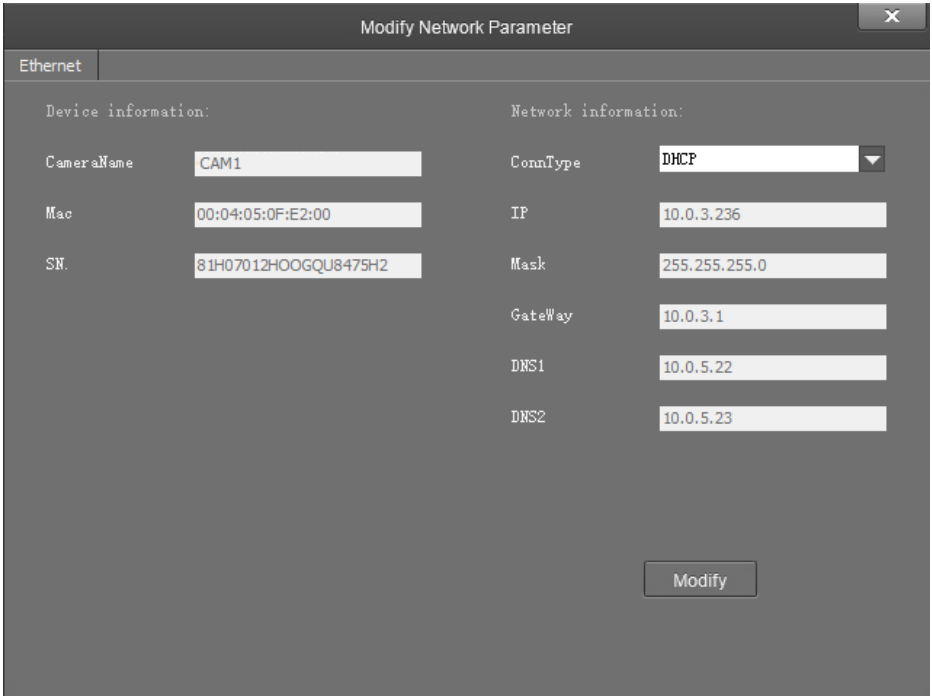


If the camera and PC are in the same LAN, click Start Search, then searching starts and all online devices will be listed, as the picture shown below:

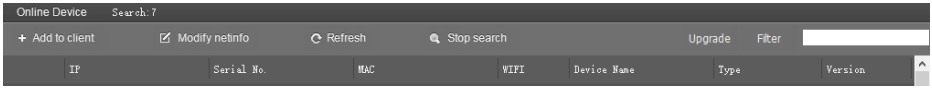


To upgrade multiple cameras in batch, first select multiple devices in the list and select the upgrade file in the camera program file path, click Upgrade.

To modify the device IP address, input the IP address, mask, gateway in the Modify Network Parameter.



To control and preview a camera, first choose the device, modify its IP address as the IP address of the same LAN, then click Add to Client as the picture shown below.

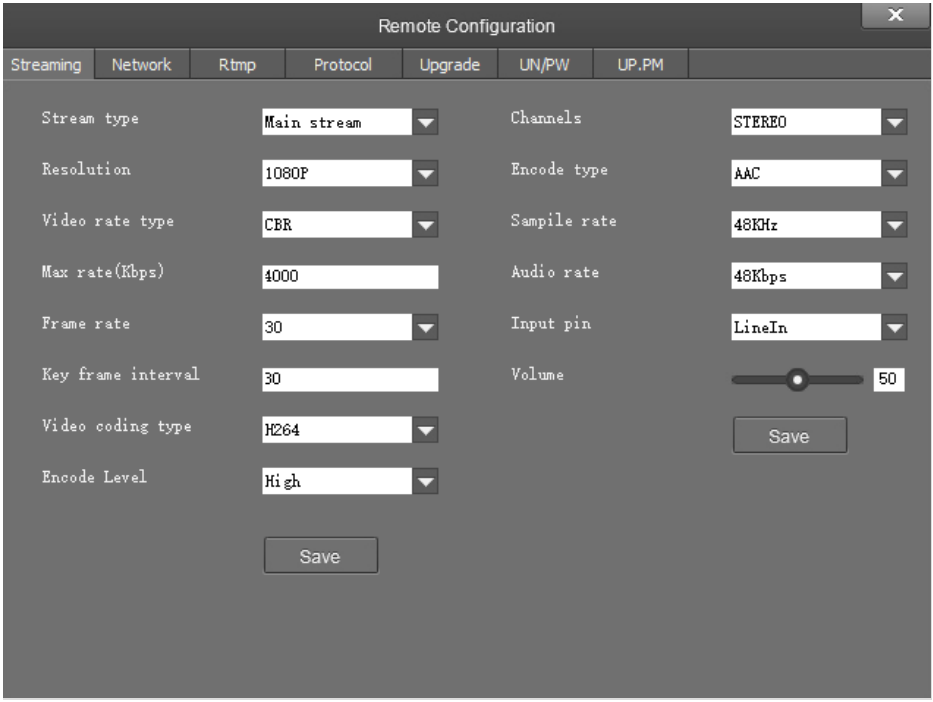


Add the camera in the WAN according to the WAN connection instruction.

7.2 CONFIGURATION

Choose the camera in the device list, click Remote Configuration to upgrade or Configure the camera.

Streaming

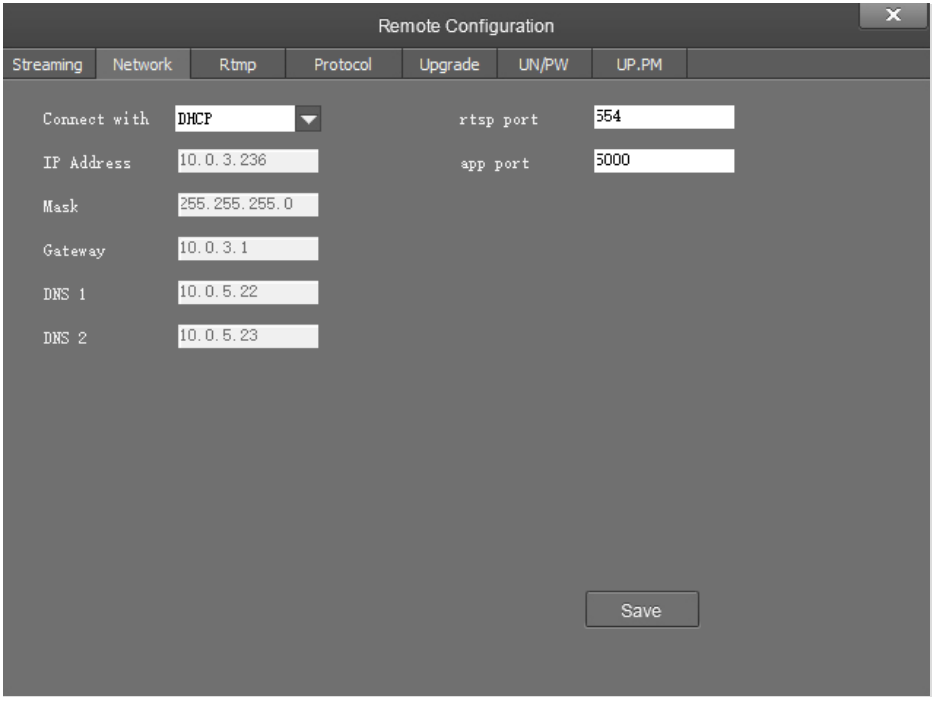


- Stream type: set the parameters of Main stream, Sub stream and Stream 3. Different devices support different streams;
- Resolution: set among 1080P, HD720P, 640*360, choose resolutions based on actual requirements and capability of device. The higher the resolution is, the better network requirements will be needed;
- Video rate type: support CBR or VBR;
- Frame rate: indicate the number of frames per second of the video;
- Key frame Interval: configure the number of frames between the two key frames. The larger the key frame interval is, the smaller the fluctuation of the byte will be, but the image quality is

relatively poor. Vice versa, the large the fluctuation of the byte will be, the higher the image quality will be. Default values are recommended;

- Video coding type: choose H.264 or H.265;
- Encode Level: choose from Base Profile, Main Profile, and High Profile;
- Channels: support STEREO;
- Encode type: only support AAC, set sampling rate and Audio rate at the same time;
- Sample rate: 48KHz;
- Audio rate: choose from 48Kbps, 64Kbps, 96Kbps, 128Kbps;
- Input pin: choose the type of audio input;
- Volume: pull the volume bar to set the volume, the volume ranges from 0 to 100.

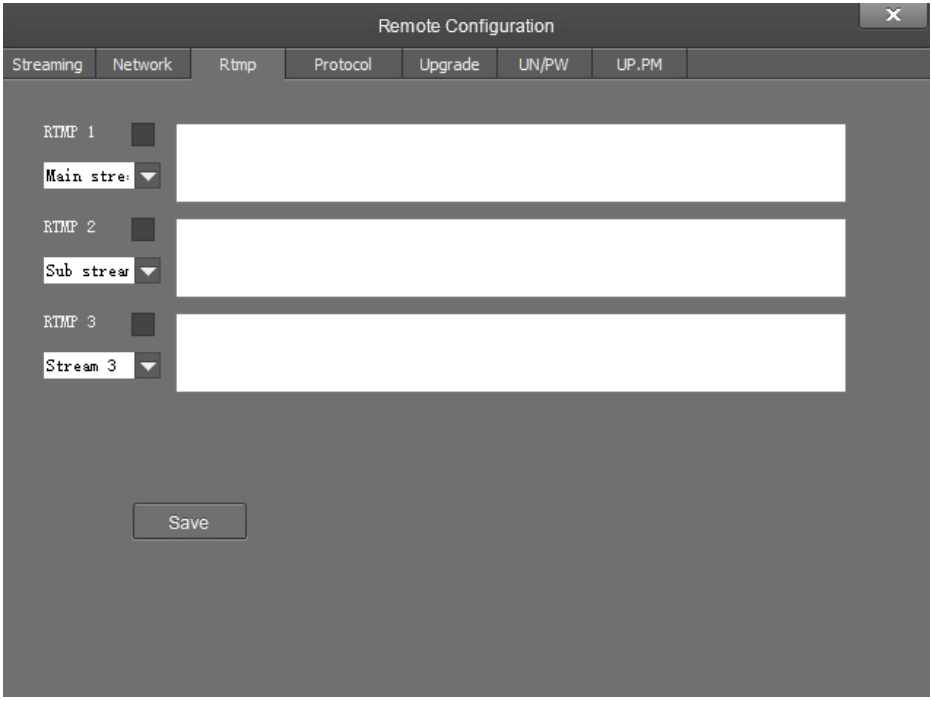
7.3 NETWORK



- Connect with: please choose from Static IP or dynamic IP address;

- IP Address: input the IP address not used for the camera;
- Mask: same as those used by other PC's on the network;
- Gateway: input gateway IP address;
- DNS1: server-preferred, same as other PC's on the LAN;
- DNS2: It will be used in case DNS1 server is not working;
- Port: streaming port (RTSP) and application port (SDK connection) can be configured. The range of stream ports is 3479~7999 and 554, default is 554. The range of application ports is 3479~7999, default is 5000;
- Click the Save button after setting is completed.

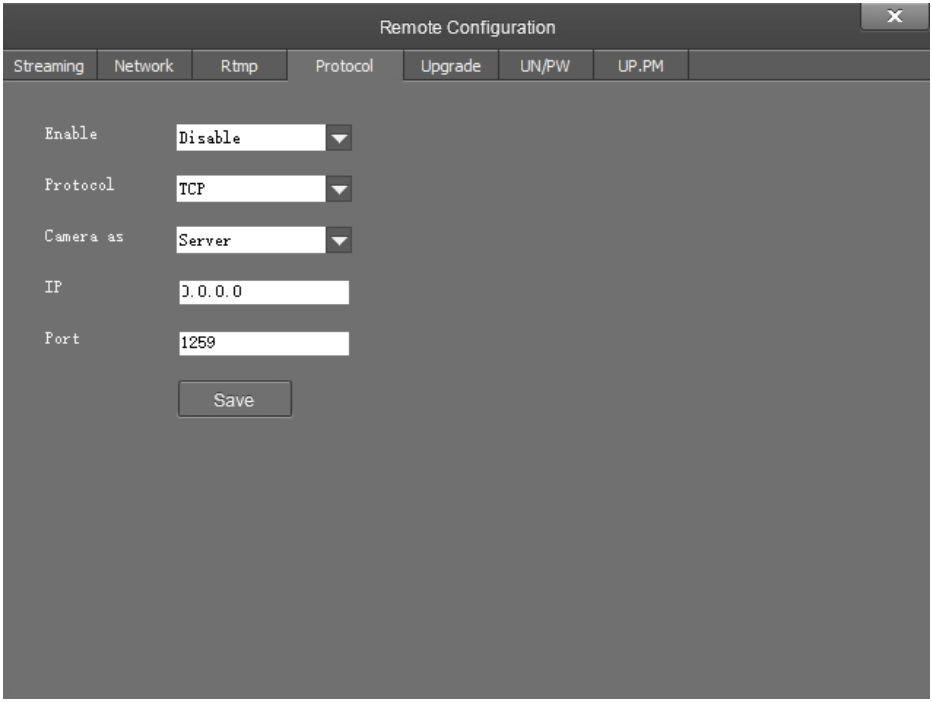
7.4 RTMP



RTMP1, RTMP2 and RTMP3 can select the Main stream, Sub stream or Stream 3 to pull the stream.

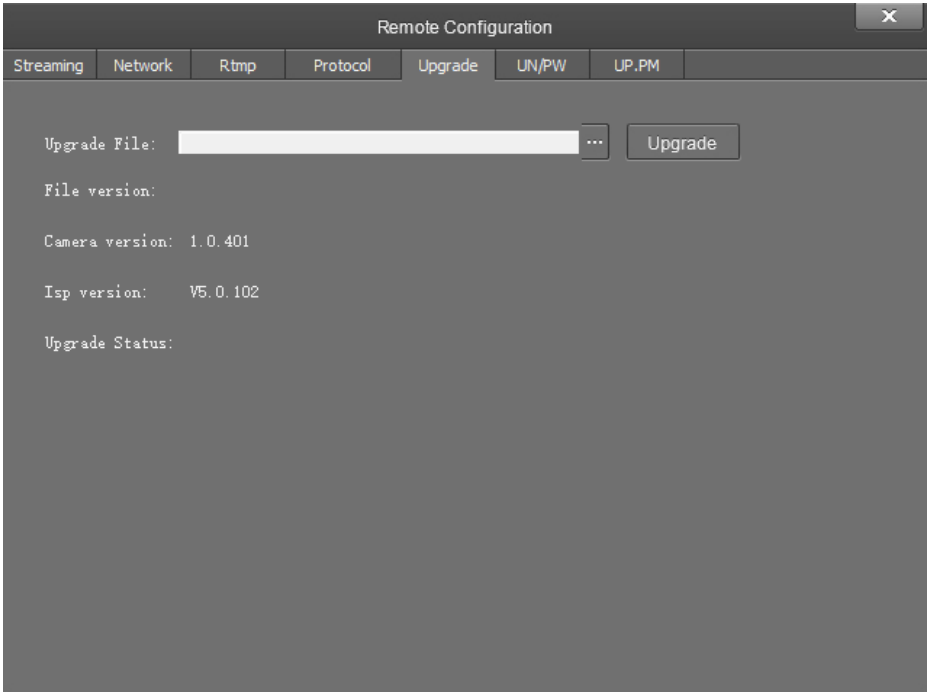
Support popular RTMP servers, such as red5, nginx, crtmpserver, fms, wowza.

7.5 PROTOCOL



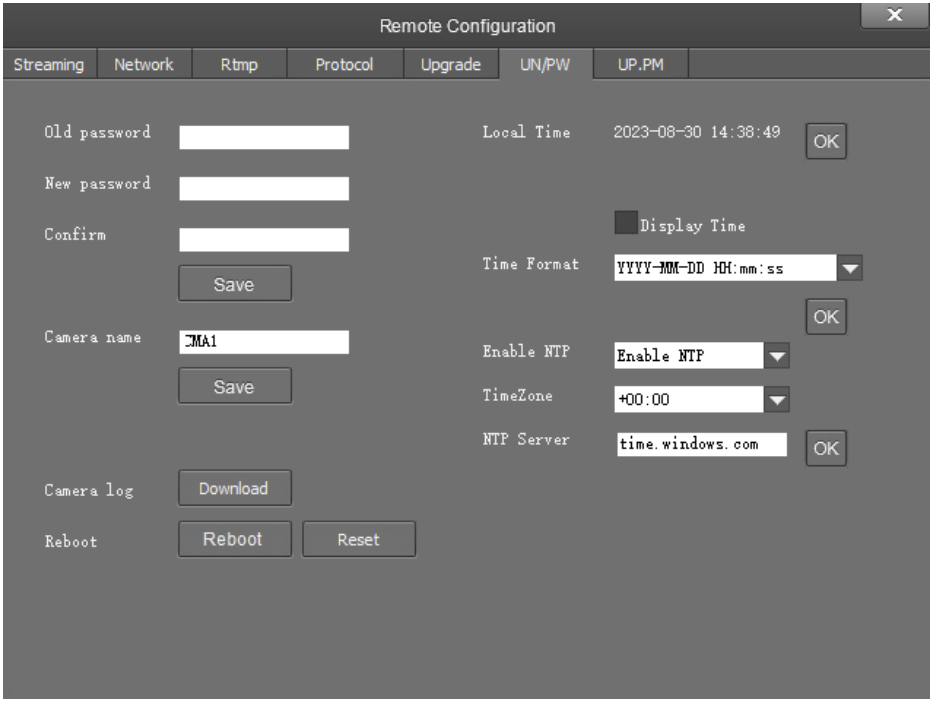
- Enable: enable / disable transparent transmission;
- Protocol: choose TCP or UDP protocols;
- Camera as: choose Client or Server;
- IP: when the camera is set as client, the IP address of the transmitted camera is needed. When the camera is set as server, the IP address can be left as black;
- Port: choose from 1~65535 as transparent transmission port.

7.6 UPGRADE



- Click Upgrade menu to enter the main interface, as the picture shown above.
- Click ... to search and load the updating firmware, the click Upgrade to start upgrading. Do not power off the camera during upgrading. After upgrading is completed, camera will reboot.

7.7 UN/PW



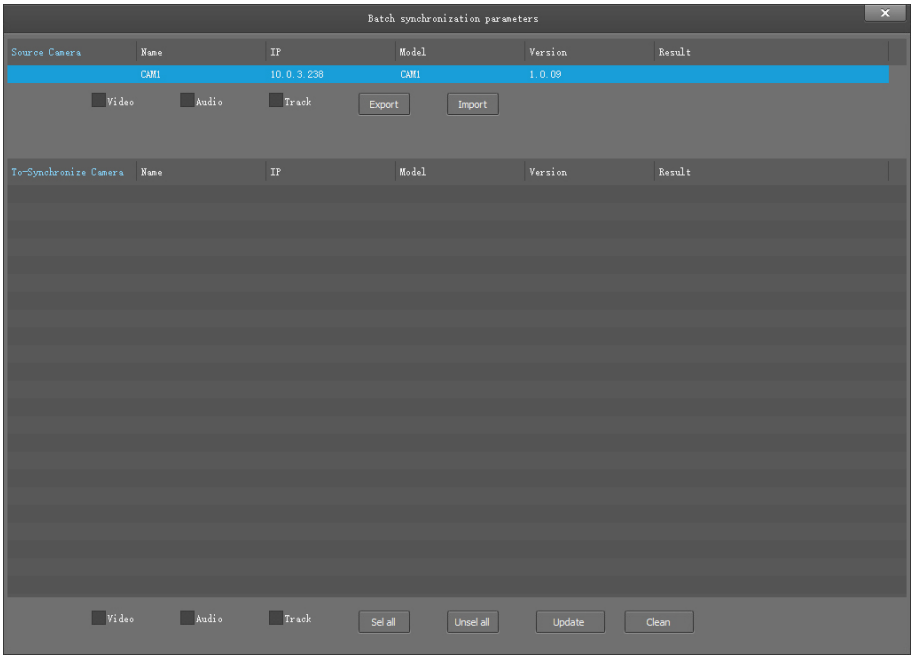
- Password setting: when a password is required, the camera can be accessed only after a correct password is input;
- Camera name: set the camera name, click Save;
- Reboot: Reboot or Reset;
- Time configuration:

  a. Synchronize local time;

  b. Show time or not on the CMS video and set the time format;

  c. NTP Server setting.

7.8 UP.PM

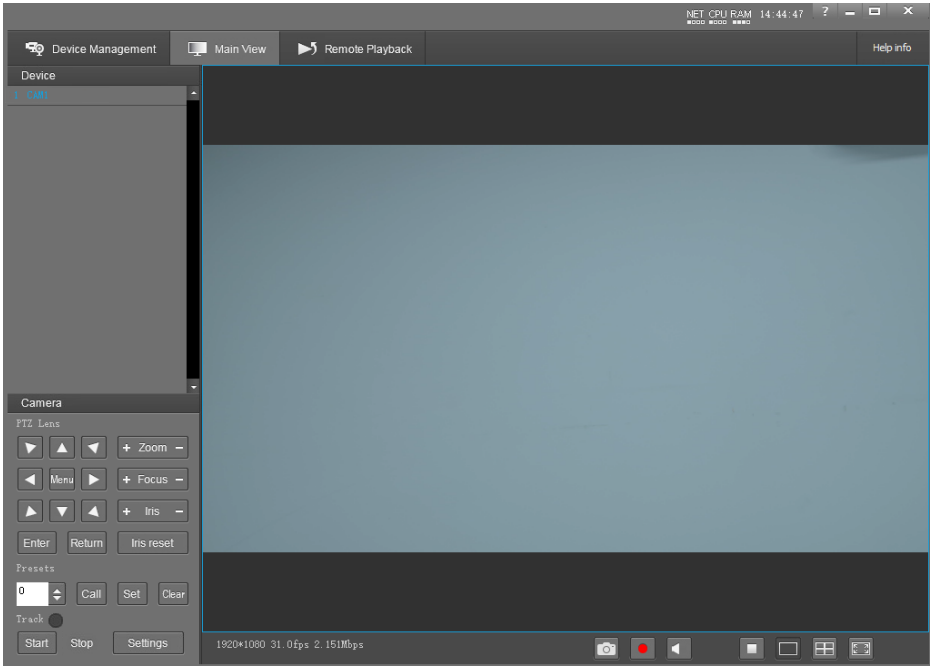


Select the camera to be synchronized of the same model which are currently managed and unselected, and then click any options among the Video, Audio and Track. After clicking the Update, the current camera to be synchronized with the Source camera parameters.

- Import, Export: only operate on the original camera, the camera parameters can be exported, or the parameters could be loaded into the camera.
- Update: only operate on the camera to be synchronized.

7.9 PREVIEW

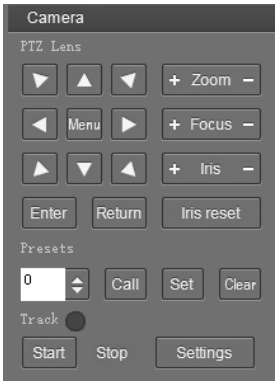
Click Main View to get into camera control and preview part as below.



This interface includes three main parts: Device List, Device Control, and Video Preview.

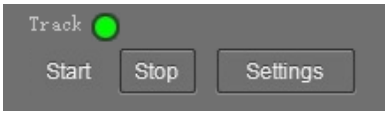
- Device: It displays all online cameras added to Device Management.

- Device Control: get control of the selected camera (camera name in blue).



- Video Preview: double click the camera in the list, main stream of the camera will be displayed, or you can also select the sub-steam through clicking right button for display. Video preview mode can be single video or four channels, when in four channel's mode, click to select a picture, and then click the switch icon in the lower right corner to present a single large picture of the selected picture.
- Video recording: Default save path: {app} | save_video folder.

8. TRACKING



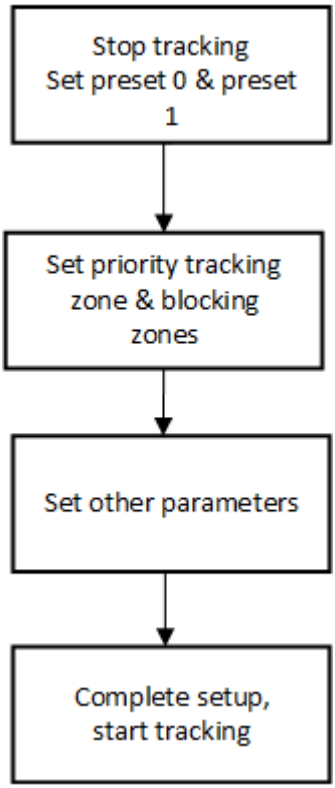
Start: Turn on tracking, use controller or software to call preset 80 can also turn on tracking.

Stop: Turn off tracking, use controller or software to call preset 81 can also turn off tracking.

Settings: Click this button to get into detailed tracking parameters for configuration.

Once this button is clicked, main stream will automatically switch from tracking camera to full view camera. Once configuration is completed, main stream will return to tracking camera again.

SETTING PROCESS



Preset 0: Preset 0 is the position where the camera could be configured to return to once tracking object gets lost, preferable set it to cover whole lecturing area.

Preset 1: Preset 1 is the position where tracking starts, preferred to be set at podium; to configure it, move the camera's Pan / Tilt / Zoom to put the target in the appropriate size and position in the image, then set it as

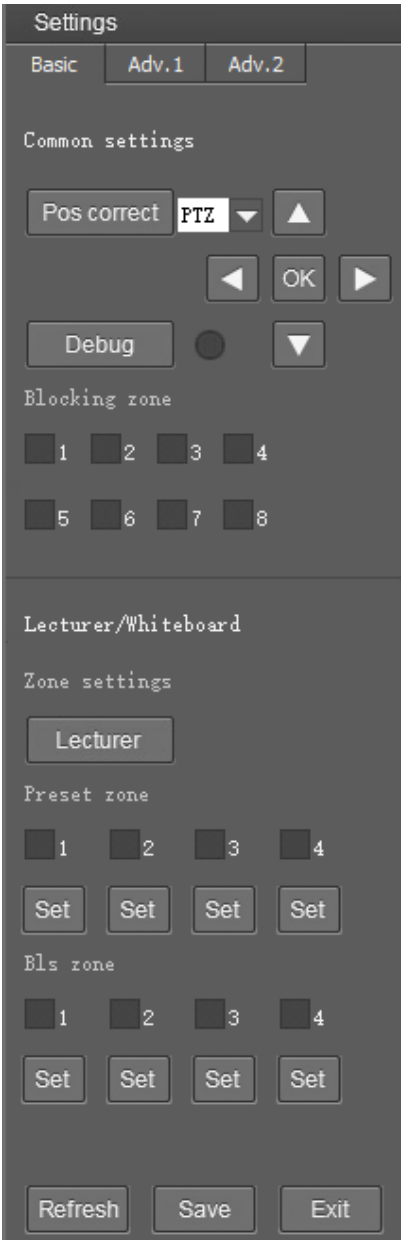
preset 1. When the camera is turned on, it will automatically move to the preset 1 and start tracking. When the camera starts auto zooming, its zooming times is also based on preset 1's zooming times. So be sure to set up preset 1 carefully.

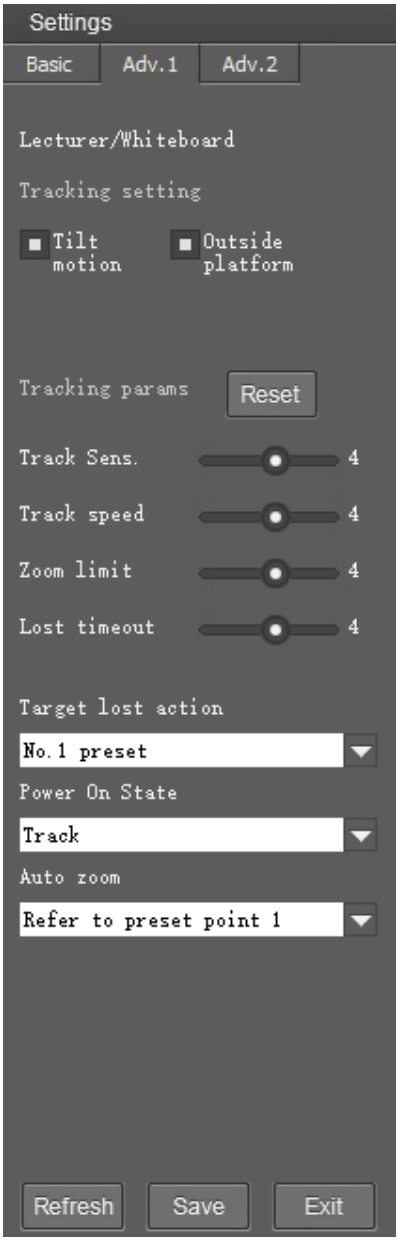
Note: Once tracking target gets lost, the camera can be configured to move to preset 1 or preset 0; please refer to Basic Setting.

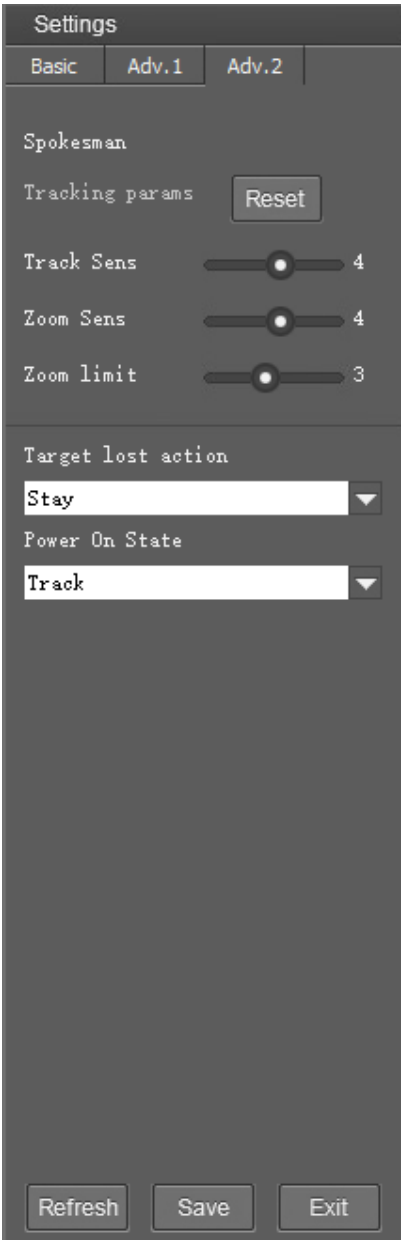
Main control interface

Click the parameter setting button to enter the parameter setting interface.

Parameter Setting




Settings
Basic
Adv.1
Adv.2
Lecturer/Whiteboard
Tracking setting
Tilt motion
Outside platform
Tracking params
Reset
Track Sens.
4
Track speed
4
Zoom limit
4
Lost timeout
4
Target lost action
No.1 preset
Power On State
Track
Auto zoom
Refer to preset point 1
Refresh
Save
Exit


Settings
Basic
Adv.1
Adv.2
Spokesman
Tracking params
Reset
Track Sens
4
Zoom Sens
4
Zoom limit
3
Target lost action
Stay
Power On State
Track
Refresh
Save
Exit

Basic Parameters Setting

Pos correct

This feature is used to adjust target's position in the video when he / she is not in the center of image. When both tracking and full view camera images show up, use directional arrows to control the tracking camera to align its image with full view image.

Debug

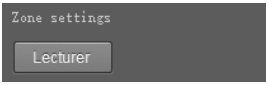
Enable and disable the rectangles of full view camera, turn on debug mode enables to view target's detecting and picking process.

Blocking zone

There are 8 blocking zones shown in green rectangle, they can be configured independently. The moving targets inside the blocking zones of the full-view camera will not be detected and tracked while the tracking camera still tracks the picked target.

Note: The blocking zones must be configured inside the tracking zone.

Zone settings



Recommended to set the podium as target tracking zone, the camera will detect target from this zone to start tracking accordingly. Set other interference sources (like projector, digital whiteboard, TV screen and etc) near the podium as blocking zones so the camera will not track these sources.

Once the target leaves the tracking zone and walks around the room, the camera can continue to lock and track; when tracked target moves out of the tracking zone, if there is another target moving into the tracking zone, the tracking camera will return to the tracking zone and track the new target accordingly.

Usually set the top edge of the blackboard as the top boundary of the platform zone (at least higher than the target's head), and the bottom boundary is higher than students' head sitting in the first row. Typical example of tracking zone is shown in the green box below:

Preset zone

Configure presets for preset tracking, totally 4 presets can be configured. Every preset can be cancelled separately. After presets are configured, once target enters into every preset zone, the tracking camera moves to relative preset accordingly to realize zone tracking, this feature is especially useful when there are more than one target show up in the same lecturing area.

Bls zone

Configure presets for whiteboard tracking, totally 4 preset can be configured. Every preset can be cancelled separately. After presets are configured, once target turns around and writes on board, the tracking camera moves to relative preset accordingly to view what target is writing.

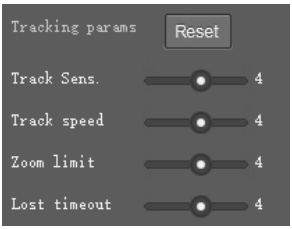
Advanced parameter settings

Lecturer / Whiteboard

Tilt motion: when it's enabled, the camera will automatically adjust tilt angle during tracking. When it's disabled, the camera will track as per the tilt angle of preset 1.

If the target does not walk into the student zone, it's suggested to disable auto zoom and tilt motion.

Tracking params

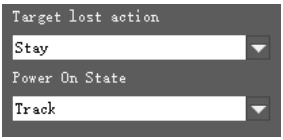


Tracking Sens: Set sensitivity of lecturer / whiteboard tracking based on speed of movement.

Track speed: Set pan speed for tracking.

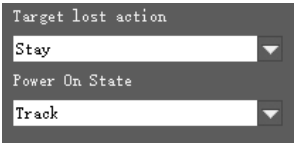
Zoom limit: Higher value enables more zoom times.

Lost timeout: Set the interval before target lost action will be performed.



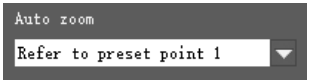
Target Lost Action: Used to define the action to be performed if the camera loses the tracked target for a period of time.

Power On State: The action to be performed when the camera is powered on.



Target Lost Action: Used to define the action to be performed if the camera loses the tracked target for a period of time.

Power On State: The action to be performed when the camera is powered on.



Auto zoom: When it's enabled, during tracking, the camera will automatically zoom in or out, when target moves farther or closer from the camera. When it's disabled, the zoom during tracking will only be according to preset 1.

Speaker Tracking

Track Sens: Set the sensitivity of voice tracking.

Zoom Sens: It defines how big the movement range will trigger camera to PTZ to frame after target is tracked.

Zoom Limit: Higher value enables more zoom times.

9. MENU SETTINGS

Click the "menu" button to enter or exit the camera menu. Click the "enter" button to enter and use the menu, click the "return" button to return to the previous menu, and click the left and right buttons of PTZ control to change the menu options.

Before leaving factory, camera has been configured at the best menu options, please do not change unless necessary.

9.1 MENU FUNCTION DESCRIPTION

1) Press menu button to enter / exit menu.
2) Click the "menu" which is been enlarged means been selected, and click "enter" to get the menu.
3) Click ◄ or ► to change the values.

Category	Options	Function
IMAGE	SHARPNESS	Used to adjust the sharpness of image and image edge. The higher the sharpness, the higher and clearer the contrast. But the sharpness value is too high, easy to cause the image distortion.
	BRIGHTNESS	Used to adjust the brightness of the image.
	CONTRAST	Refers to the ratio between the brightest and darkest zones of the image. The greater the ratio, the clearer and brighter the image; Low contrast will make the image gray.
	GAMMA	To adjust the bright value of the image, the lower the gamma value, the brighter the image, the higher the gamma value, the darker the image.
	2DNR	When the camera is a color image, you are advised to disable the DNR function; Otherwise, the image sharpness will be affected.
	3DNR	The higher the level of noise reduction, the more delicate the picture quality, the smaller the shaking feeling.
	DRC	It refers to the adaptability of the camera to strong light, specifically to different range of brightness and color temperature.

	MIRROR	The camera image flips 180° horizontally.
	FLIP	The camera image flips 180° vertically.
EXPOSURE	AUTO	Gain, Shutter Speed and Iris value are adjusted automatically accordingly to working environment.
	MANUAL	Manually adjust Gain, Shutter Speed and Iris.
	SHUTTER	Gain and Iris value are adjusted automatically according to working environment; shutter speed value is adjustable manually.
	IRIS	Gain and shutter speed value are adjusted automatically according to working environment; Iris value is adjustable manually.
	BRIGHT	Manually adjust the video brightness.
COLORTONE	WB	AUTO, MANUAL, OPWB, STATIC.
	SATURA	The higher the saturation, the brighter the color effect. On the contrary, the lower the saturation, the more the effect tends to black-and-white photos.
	HUE	Used to adjust the overall tendency of the color of the image, causing the color to rotate.
CAMERA	RUN SCENE	Used to set the scene for the camera's best shot.
	DIGITAL ZOOM	When the optical magnification reaches the MAX, turn on / off the digital magnification function to continue magnifying the image.
SYSTEM	PROTOCOL ADDR	Change the camera address by software without setting the camera address through dip switch.
	IR ADDR	Set the IR control address for the camera.
	PROTOCOL	Set the camera control protocol.
	BAUDRATE	View and set the current baud rate of the camera.

	VIDEO FORMAT	View and set the current video format of the camera.
	TRACK MODE	View and set the current tracking mode of the camera.
	COM MODE	View and set the current communication method of the camera.
	LANGUAGE	View and set the current language of the camera.
	DEFAULTS	Used to restore all menu parameter settings to factory default settings.
	NETWORK	View and set the current network of the camera.
DEVICE INFO	FIRM VERSION	Displays the firmware version of the current camera.
PTZ	P/T SPEED	Set camera's Pan / Tilt speeds.
	PTZ TRIG AF	When the camera moves horizontally, vertically and multiplies, it automatically focuses.
	POWER UP	This operation is performed when the camera is powered on and doesn't receive the control command.

9.2 LIST OF SPECIAL PRESET COMMANDS

Preset No	Function
0	Initial target pickup position, selectable target lost position
1	Initial target tracking position, selectable target lost position
80	Turn on tracking
81	Turn off tracking
95	Turn on / off OSD
96	Clear all presets 0~255(Except special presets)
99	Reboot system
101	Preset position close -up 1

102	Preset position close -up 2
103	Preset position close -up 3
104	Preset position close -up 4
105	Whiteboard Close-up 1
106	Whiteboard Close-up 2
107	Whiteboard Close-up 3
108	Whiteboard Close-up 4
114	Speaker close-up reference position

10. TECHNICAL SPECIFICATIONS

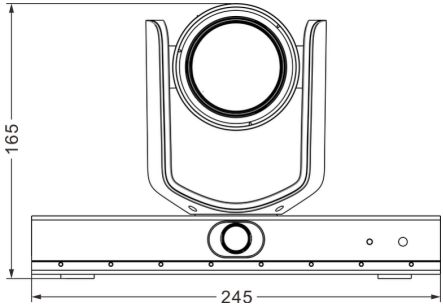
Camera parameter	
Close-up	
Image Sensor	1/2.8" CMOS, 2.14 megapixel
Focal Lens	f=4.1mm-49.2mm
Iris	F1.6-F2.8
Optical Zoom	12x
Digital Zoom	16x
Horizontal Viewing Angle	72.5°-6.3°
Focus System	Auto, Manual, PTZ Trigger, One Push Trigger
Shutter Speed	1/50-1/10,000s
Gain	Auto / Manual
White Balance	Auto, One Push, Manual, Static Color Temperature
Exposure Control	Auto, Manual, Shutter Priority, Iris, Bright
Full View Camera	
Image Sensor	1/2.8" CMOS，214 megapixel
Focal Lens	f=1.89mm
Pan Angle	110°

White Balance	Auto
Exposure Control	Auto
Function	
Pan Angle	-130° ~+130°
Tilt Angle	-30° ~+90°
Pan Speed	0.2°/s~90°/s
Tilt Angle	0.2°/s~60°/s
Preset Number	64
Menu	English
Interface	
Network	One channel 10/100M RJ-45 POE optional 1.Video channel1080P30/P25, 720P30/P25, 360P30/P25 2.Image compression support H.264, H.265 3.Audio compression support AAC 4.Protocols support ONVIF, RTSP, TCP, UDP, RTMP 5.Support Multi-stream: one close-up, one full-view, one switch, three streams
3G-SDI	One channel 3G-SDI, Video resolution 1080P60/P50/P30/P25, 720P60/P50
HDMI	One channel HDMI Out, Output audio Video resolution 1080P60/P50/P30/P25, 720P60/P50
USB 2.0	One channel USB 2.0 Type-A HOST
USB 3.0	One channel USB 3.0 Type-B USB3.0 Output format： 1.UVC supports UVC1.1 protocol 2.UVC video format supports YUY2, NV12：video resolution 1080P30/P25, 720P30/P25, 480P30/P25 3.H.264/H.265/MJPEG：video resolution support 1080P60/P50/P30/P25, 720P60/P50/P30/P25, 360P60/P50/P30/P25 4.UAC audio format PCM
Audio	One channel LINE IN, 3.5mm Audio Interface

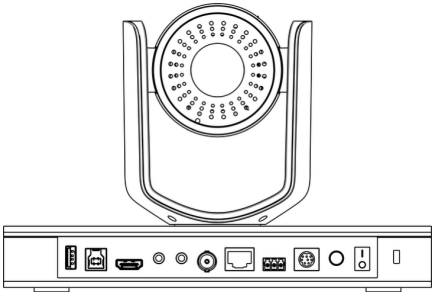
Reference audio	One channel REF, 3.5mm Audio Interface
Control Interface	One channel RS-485, One channel RS-232 IN
Power	DC12V
Power switch	Yes
Remote control	Infrared remote control
General	
Protocol	VISCA
Power Consumption	<20W
Operating Environment	Operating Temperature 0 ~ 40°C, Operating Humidity10%RH ~ 90 %RH
Storage Environment	Storage Temperature -20℃ ~ +60°C, Operating Humidity 10%RH ~ 95 %RH
Dimensions(L×W×H)	245mm×145mm×165mm
Weight	≤2kg
Body Color	Gray

11. OUTLINE DIMENSION DRAWING

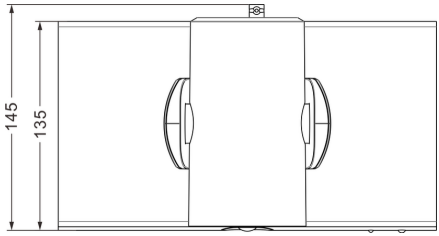
Front view



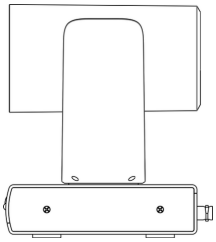
Back view



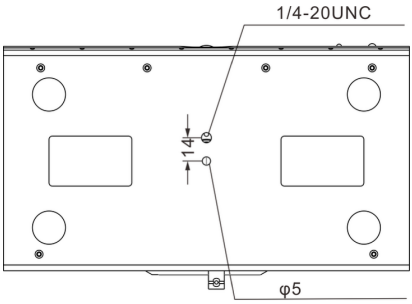
Top view



Side view



Bottom view



12. AFTER-SALE SERVICE

Dear user, in order to ensure that you fully enjoy our quality service, please read the following product service articles carefully.

Limited warranty and lifetime maintenance services are provided.

1. Limited warranty period is 12 months from the date products leaving factory. During the limited warranty period, you will enjoy free service of repair service expect caused by man-made malfunction.

2. Outside the limited warranty period of 12 months, damaged products need be paid for their repair service.

Maintenance response time

1. 24-hour response service will be provided from the day defective products been sent back.

2. To ensure timely response or repair service, before sending defective product(s) back, please contact relevant sales person in advance and then send the product(s) back according to returning instructions provided.

The user manual is only for a reference, if there are any changes or differences, please ask for the latest version from your supplier