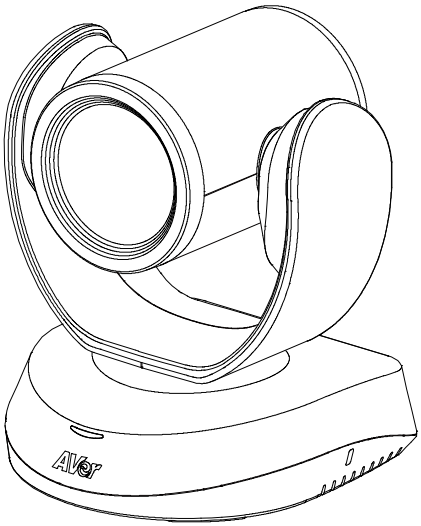
www.aver.com



CAM520 Pro2

User Manual

Federal Communications Commission Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radiofrequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Warning:
This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

この装置は、クラス A 機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。
この場合には使用者が適切な対策を講ずるよう要求されることがあります。 **VCCI-A**

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WARNING

- To reduce risk of fire or electric shock, do not expose this appliance to rain or moisture. Warranty will be void if any unauthorized modifications are done to the product.
- Do not drop the camera or subject it to physical shock.
- Use correct power supply voltage to avoid damaging camera.
- Do not place the camera where the cord can be stepped on as this may result in fraying or damage to the lead or the plug.
- Hold the bottom of the camera with both hands to move the camera. Do not grab the lens or lens holder to move the camera.

Remote Control Battery Safety Information

- Store batteries in a cool and dry place.
- Do not throw away used batteries in the trash. Properly dispose of used batteries through specially approved disposal methods.
- Remove the batteries if they are not in use for long periods of time. Battery leakage and corrosion can damage the remote control. Dispose of batteries safely and through approved disposal methods.
- Do not use old batteries with new batteries.
- Do not mix and use different types of batteries: alkaline, standard (carbon-zinc) or rechargeable (nickel-cadmium).
- Do not dispose of batteries in a fire.
- Do not attempt to short-circuit the battery terminals.

CAUTION

- Risk of explosion if battery is replaced by an incorrect type.
- Dispose of used batteries in a safe and proper manner.

遥控器电池安全信息

- 请将电池存放在凉爽与干燥的位置。
- 不要将电量用尽的电池弃置在家庭废弃物中。请将电池弃置在特定回收处，或送回原购买的商店。
- 如果长时间不使用电池，请将其取出。电池漏液与腐虫可能会损坏遥控器，请以安全方式弃置电池。
- 不可混用新旧电池。
- 不可混用不同类型的电池：碱性、标准（碳锌）或可充电（镍镉）电池。
- 不可将电池弃置于火源中。
- 请勿尝试让电池端子短路。

More Help

For FAQs, technical support, software and user manual download, please visit:

Headquarters
Download Center: https://www.aver.com/download-center
Technical Support: https://www.aver.com/technical-support

USA Branch office
Download Center: https://www.averusa.com/business/support/
Technical Support: https://averusa.force.com/support/s/contactsupport

Europe Branch office
Download Center: https://www.avereurope.com/download-center
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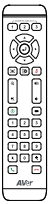
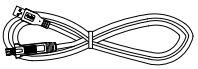
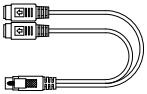
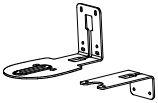
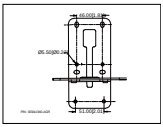
Package Contents

Camera Unit	Remote Control	Power Adapter & Power Plug*	USB 2.0 Type-B to Type-A Cable (5m)
			

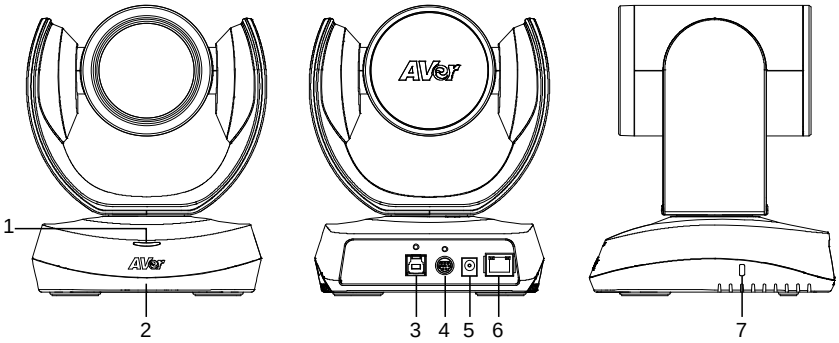
Mini DIN9 to Mini DIN8 RS232 Adapter Cable	QR Code Card	L-Mount Brackets	Screws for Mount
			M4 x8mm (x2) 1/4”-20 L=7.5mm (x2)

Drilling Paper


***** The power plug will vary depending on the standard power outlet of the country where it is sold.

Product Introduction

Overview



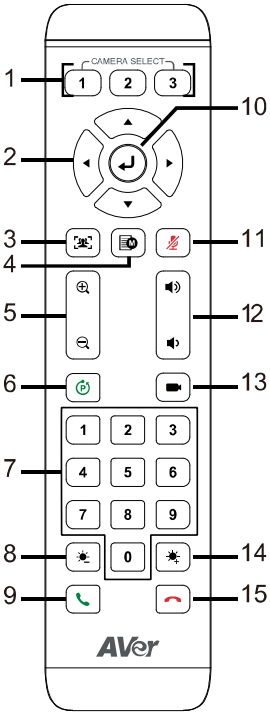
1	Status LED	4	RS232 In/Out Port	7	Kensington Lock
2	IR Sensor	5	DC 12V Power Plug		
3	USB 3.1 Type B Port	6	PoE Port*		

* Power over Ethernet (PoE), compatible with IEEE 802.3AT and 802.3AF. Please use CAT 5e FTP cable (not included.)

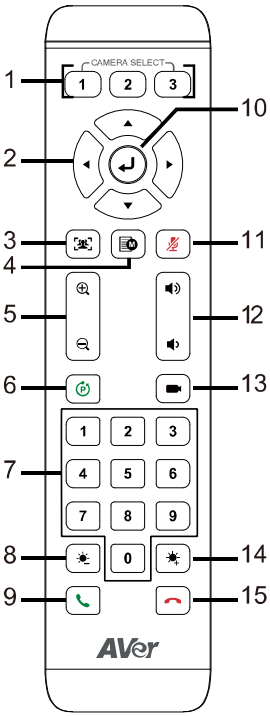
LED Indicator

Power on: Blink blue once
Start-up: Solid red
Video mute: Solid orange
Video on: Solid blue

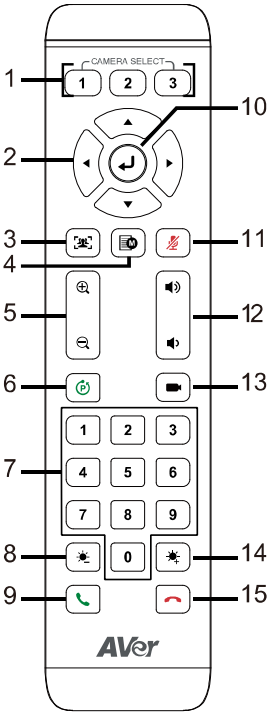
Remote Control



Name	Function
1. Camera Select	One remote can control up to 3 AVer VC/CAM/VB series cameras. You can use AVer PTZApp 2 to set numbers associated with each camera, and then select which camera you would like to control using the remote. **[Note]** If you only have one camera and do not need to adjust any setting, the default is camera 1. If you press camera 2 or 3 on the remote control, you will find your remote can't control your camera. In this case, please press camera 1 on your remote again.
2. Camera Directional Control	Use the directional buttons on the remote to control the direction of the camera. Press the directional button to move the camera or press and hold to continuously pan or tilt.
3. SmartFrame	One-click automatic FOV adjustment to fit all participants. Press for 1 second to switch the SmartFrame function among Manual Framing/Auto Framing/Preset Framing modes. A message (as figures shown) will display on the screen to indicate the mode. **[Notes]** ■ SmartFrame deploys face and body detection technology. People wearing masks and side facial profiles can still be detected. The maximum detection distance is 7~10 meters.



	■ Camera will track people while moving. It will start to focus and zoom in once people stop moving for 1~5 seconds, depending on the framing speed you choose. The default framing speed is “Middle” speed. “High” speed is more suitable for one person tracking. ■ Preset Framing: Set up preset points in advance (Only for Preset points 1~9. Preset 0 is for home position). Camera tracks one presenter and shoots the preset areas instead of focusing and zooming into presenter.
4. OSD Menu	To pull up OSD menu while using HDMI out function. Not supported for CAM520 Pro2.
5. Zoom In/Out	Increase/Decrease the camera zoom.
6. Preset	The Preset button on the remote serves 2 functions. **To Save a Preset –** Move camera to desired position. Press and hold the preset button until you receive the save message on the screen. Select preset position button 0-9 to store the current camera position. Repeat steps if needed. **To Load a Preset -** Press the preset button and preset position button 0-9 to load a saved camera position. Repeat steps if needed.
7. Preset Position/Number Buttons	Preset position buttons are used in conjunction with the Preset button to save positions. There are a total of 10 presets. Press the preset button first and then press 0~9 for the camera to move to



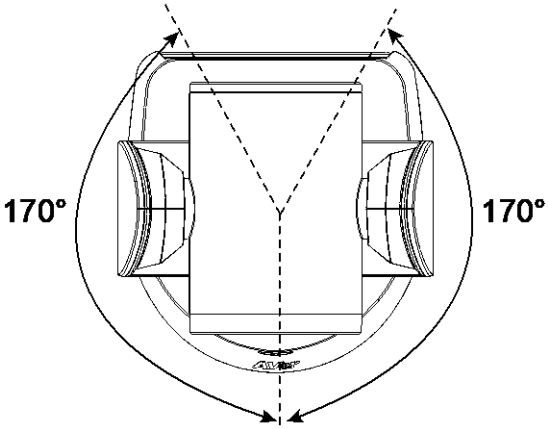
the saved position.

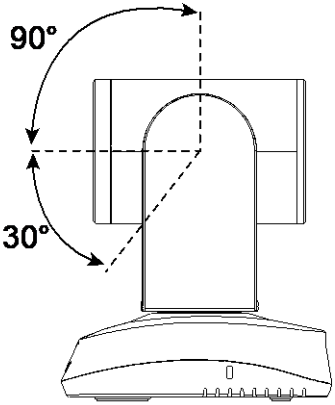
[Notes]

- Press and hold the number button “ 1 ” for 1 second to turn on or off the WDR function.
- Press and hold the number button “ 5 ” for 1 second to turn on or off the SmartFrame function.
- Press and hold the number button “ 8 ” for 1 second to enable or disable RTMP streaming function.
- Press and hold the number button “ 9 ” for 1 second to force camera to enter sleep mode. This will end any video streaming. To wake up the camera, press the button or any directional button for 1 second. This mode is not functional while USB streaming is on.

8. Brightness -	Decrease the brightness.
9. Call/Answer	Answer a call or start a call.
10. Enter	To confirm selection. Not supported for CAM520 Pro2.
11. Mute/Un-mute Speakerphone	Mute/Un-mute the speakerphone. Not supported for CAM520 Pro2.
12. Volume Up/Down	Adjust volume up or down. Not supported for CAM520 Pro2.
13. Preset Hot Key	Press to move the camera to the preset position the user has set.
14. Brightness +	Increase the brightness.
15. Hang Up	End the call.

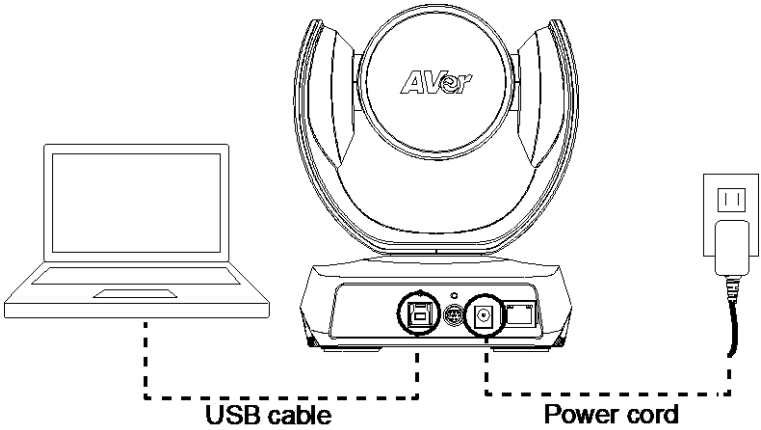
Pan and Tilt Angle





Installation

Device Connection



1. Use USB cable to connect the CAM520 Pro2 to your PC/laptop (refer to diagram above).
2. Connect the power to the CAM520 Pro2; power indicator will light up and camera head will rotate.
3. Install PTZApp 2 on laptop or PC that is connected with CAM520 Pro2. The app can be used to adjust and setup the parameters of the camera (refer to the section of PTZApp 2).
4. To make a call, run your video application (Zoom, Microsoft® Teams, Skype for Business, Skype, Google Meet, Intel® Unite™, RingCentral, BlueJeans, V-Cube, LiveOn, CyberLink U Meeting®, TrueConf, Adobe Connect, Cisco WebEx®, Fuze, GoToMeeting™, Microsoft® Lync™, Vidyo, vMix, WebRTC, Wirecast, XSplit, etc.). Select CAM520 Pro2 as your video device.

[Notes]

- Use the USB 2.0 cable included in the package.
- CAM520 Pro2 has the USB 3.1 port which is USB 2.0 compatible.

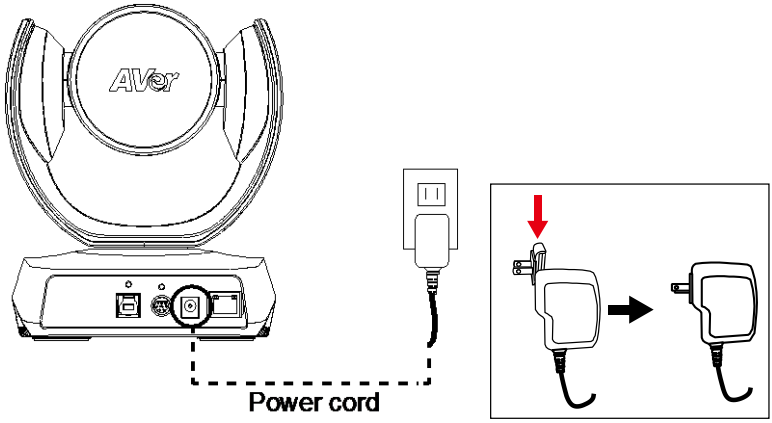
  Maximum resolution/fps for USB 2.0 and USB 3.1 port are shown below.

	M-JPEG/ fps	NV12/fps	YUV/fps
USB 2.0	1080@ 60 fps	720p@ 10 fps 480p@ 30 fps	720p@ 10 fps 480p@ 30 fps
USB 3.1	1080@ 60 fps	1080p@ 30 fps	1080p@ 30 fps

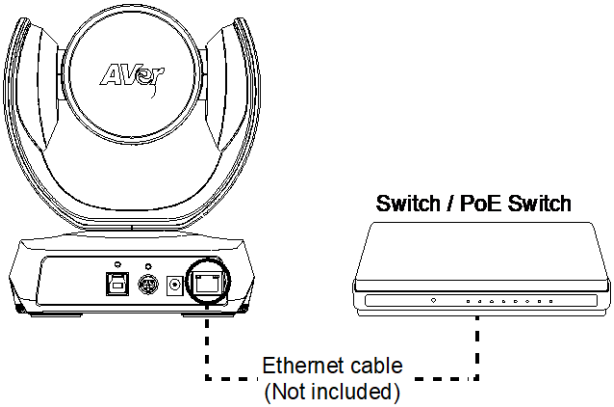
Power Connection

The power supply can be plugged into the wall outlet or drawn from PoE switch (Ethernet).

Wall outlet



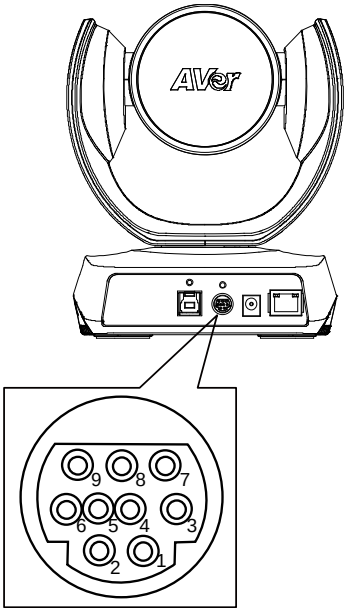
PoE



[Note] To ensure stability of IP video streaming, please use CAT 5e FTP cable (not included).

RS232 Connection

■ Camera RS232 Port Pin Definition

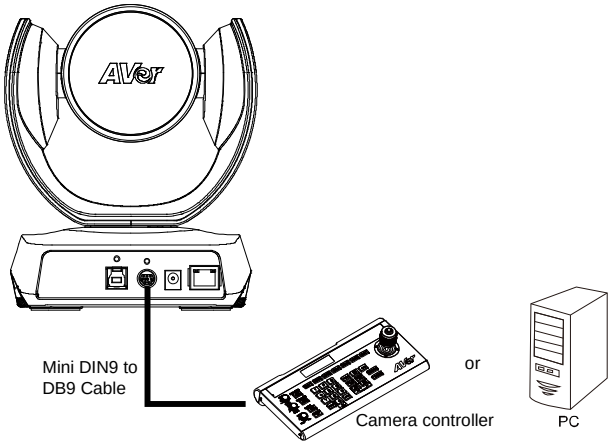


Function	Mini DIN9 PIN #	I/O Type	Signal	Description
VISCA IN	1	Output	DTR	Data Terminal Ready
	2	Input	DSR	Data Set Ready
	3	Output	TXD	Transmit Data
	6	Input	RXD	Receiver Data
VISCA OUT	7	Output	DTR	Data Terminal Ready
	4	Input	DSR	Data Set Ready
	8	Output	TXD	Transmit Data
	9	Input	RXD	Receiver Data
	5	---	---	Not connect

■ Computer/Keyboard Controller and Camera Connection

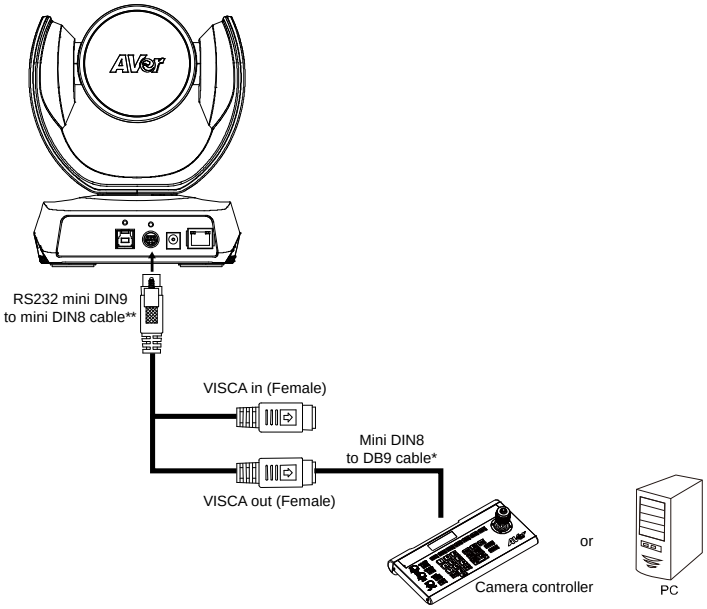
Direct Connection

If users do not use AVer RS232 adapter cable, please refer to the pin connection shown below.



Camera (Mini DIN9)	Camera controller or PC (DB9)
1. DTR (IN)	1. DCD
2. DSR (IN)	2. RXD
3. TXD (IN)	3. TXD
6. RXD (IN)	4. DTR
7. DTR (OUT)	5. GND
4. DSR (OUT)	6. DSR
8. TXD (OUT)	7. RTS
9. RXD (OUT)	8. CTX
	9. RI

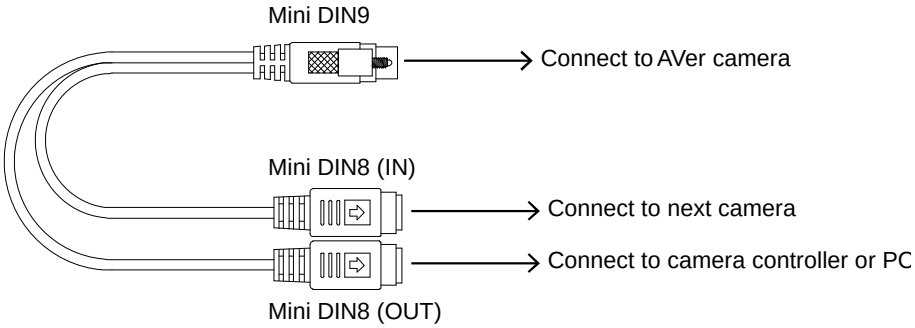
Use the supplied RS232 mini DIN9 to mini DIN8 cable



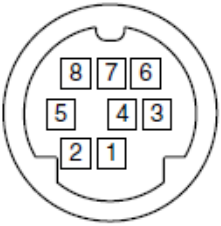
Camera controller or PC (DB9)	Camera (Mini DIN8)
1. DCD	1. DTR (IN)
2. RXD	2. DSR (IN)
3. TXD	3. TXD (IN)
4. DTR	4. GND (IN)
5. GND	5. RXD (IN)
6. DSR	6. GND (IN)
7. RTS	
8. CTX	1. DTR (OUT)
9. RI	2. DSR (OUT)
	3. TXD (OUT)
	4. GND (OUT)
	5. RXD (OUT)
	6. GND (OUT)

*** Mini DIN8 to D-Sub9 (DB9) cable 064AOTHERBPK is an optional item.**

**** RS232 mini DIN9 to mini DIN8 Cable Pin Definition**



Mini DIN8 Pin Definition



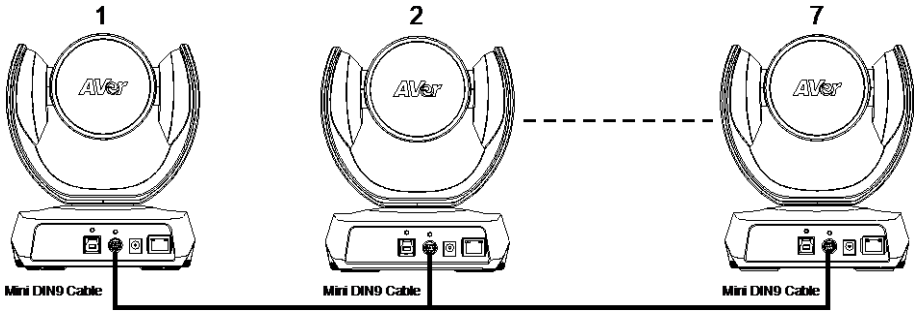
No.	Pin
1	DTR
2	DSR
3	TXD
4	GND
5	RXD
6	GND
7	NC
8	NC

■ Camera Cascade Connection

Direct Connection

If users do not use AVer RS232 adapter cable, please refer to the pin connection shown below for cascading cameras.

Total can connect up to 7 cameras.



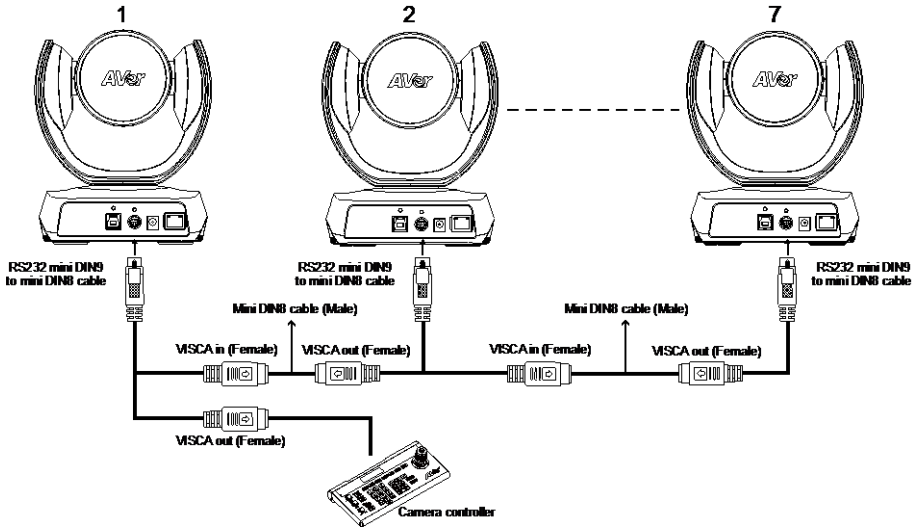
Camera 1 (Mini DIN9)	Camera 2 (Mini DIN9)
1. DTR (IN)	1. DTR (IN)
2. DSR (IN)	2. DSR (IN)
3. TXD (IN)	3. TXD (IN)
6. RXD (IN)	6. RXD (IN)
7. DTR (OUT)	7. DTR (OUT)
4. DSR (OUT)	4. DSR (OUT)
8. TXD (OUT)	8. TXD (OUT)
9. RXD (OUT)	9. RXD (OUT)
SHIELD	SHIELD

Use the RS232 mini DIN9 to mini DIN8 cable

Total can connect up to 7 cameras.

To facilitate the camera cascade, users can use AVer RS232 adapter cable.

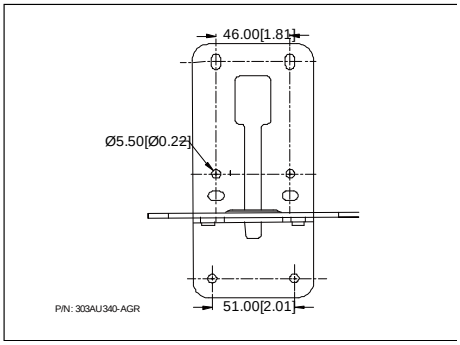
Connect camera with AVer mini DIN9 to mini DIN8 adapter cable. Connect the mini DIN8 female side to male mini DIN8 Visca cable (Users have to buy it in the market) and then connect AVer mini DIN9 to mini DIN8 adapter cable again to connect to next camera.



Camera 1 (Mini DIN8)	Camera 2 (Mini DIN8)
1. DTR (IN)	1. DTR (IN)
2. DSR (IN)	2. DST (IN)
3. TXD (IN)	3. TXD (IN)
4. GND (IN)	4. GND (IN)
5. RXD (IN)	5. RXD (IN)
6. GND (IN)	6. GND (IN)
1. DTR (OUT)	1. DTR (OUT)
2. DSR (OUT)	2. DST (OUT)
3. TXD (OUT)	3. TXD (OUT)
4. GND (OUT)	4. GND (OUT)
5. RXD (OUT)	5. RXD (OUT)
6. GND (OUT)	6. GND (OUT)

Wall Mount Installation

1. Use the drilling paper included in the package to drill the holes in the wall where the user wants to mount the camera.

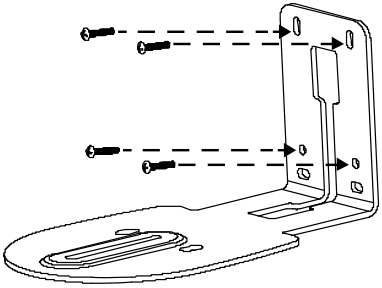


2. Use the screws (not included) to secure the L-mount bracket [A] on the wall.

Screw

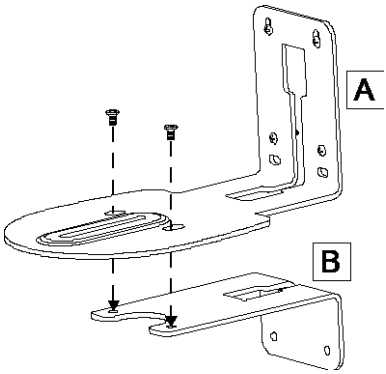
For Cement wall: M4 x20mm self-tapping screws (x4) + Plastic conical anchor

For Wooden wall: M4 x20mm self-tapping screws (x4)



3. Then, assemble the L-mount brackets [A] + [B] with screws (included in package).

Screw size: M4 x8mm (x2)

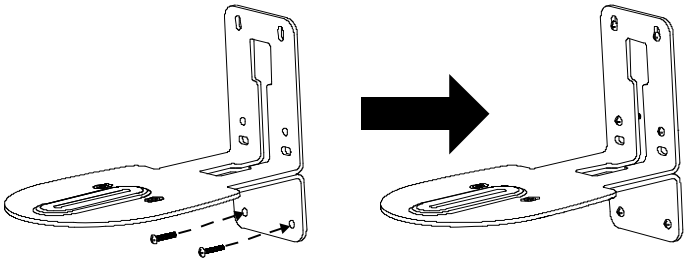


4. After assembling the L-mount brackets, use the screws (not included) to secure the lower part of L-mount brackets on the wall.

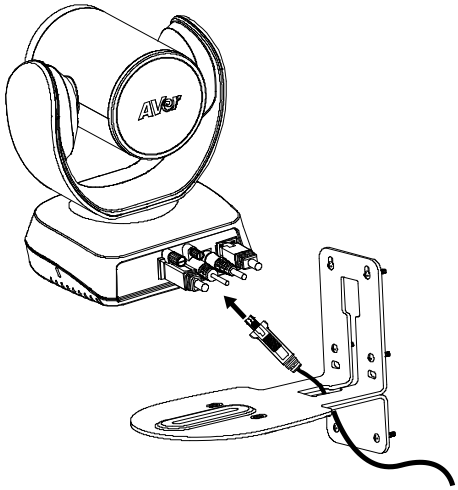
Screw

For Cement wall: M4 x20mm self-tapping screws (x2) + Plastic conical anchor

For Wooden wall: M4 x20mm self-tapping screws (x2)

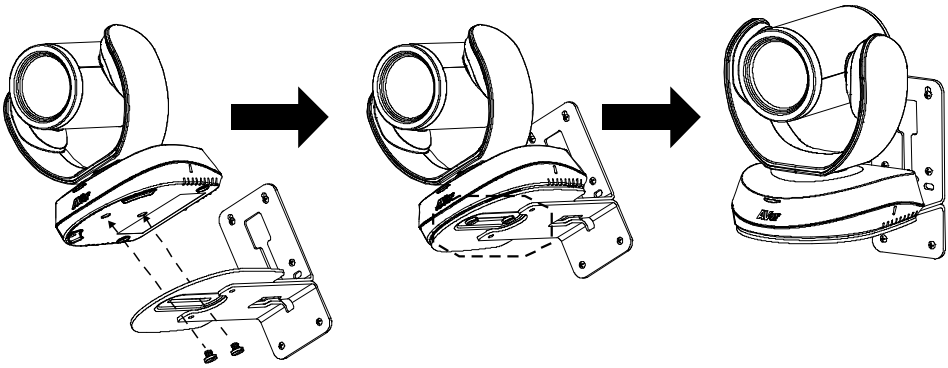


5. Pass the cables through the hole on the L-mount bracket and connect the cables to corresponding connection ports.



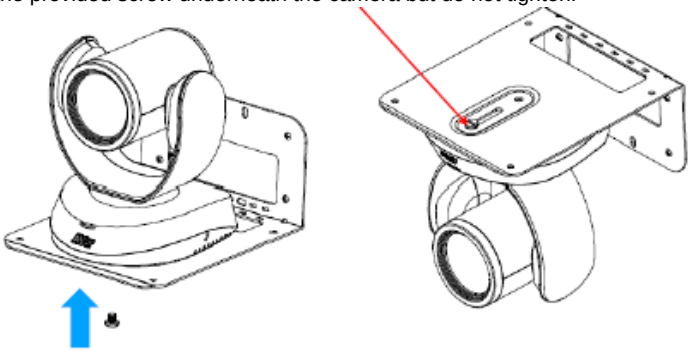
6. Use the remaining screws (included in package) to secure the camera on the L-mount bracket.

   Screw: 1/4”-20 L=7.5mm (x2)

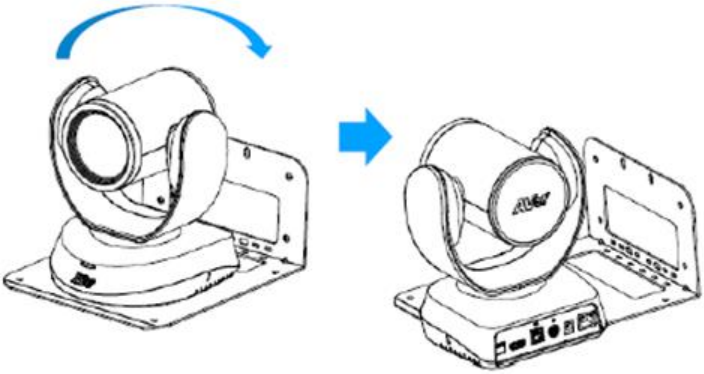


Ceiling Mount Installation (Optional)

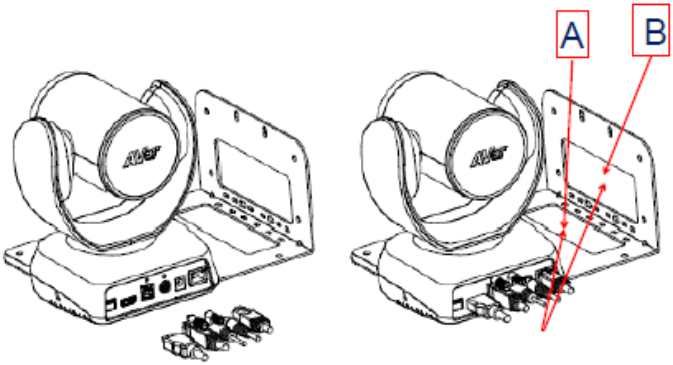
1. Install the provided screw underneath the camera but do not tighten.



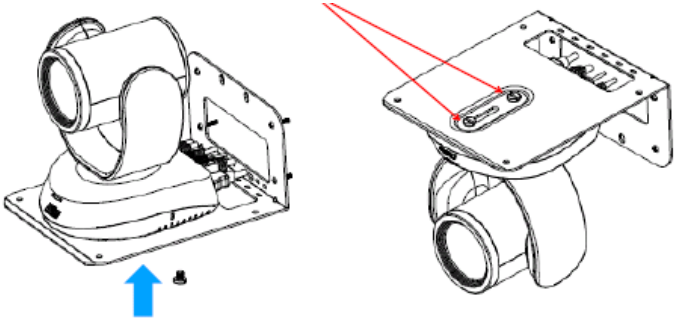
2. Turn the camera to right side.



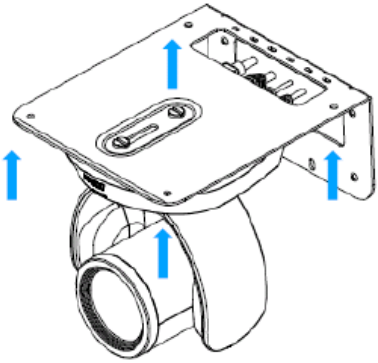
3. Pass cables through A or B hole first. Connect cables with camera.



4. Turn the camera to face the front side. Install the second screw and tighten both screws.



5. Find suitable screws to fix the camera mount to the ceiling.

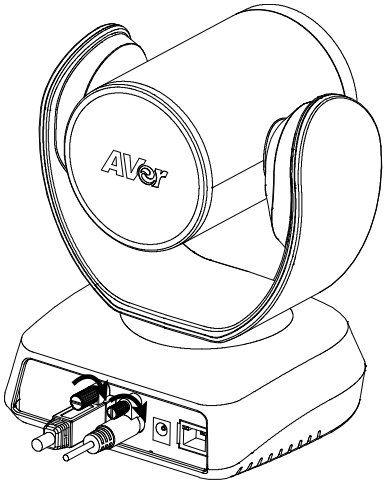


Secure the Cables

The USB and RS232 cables have a screw on the cable for securing cable on the camera.

Install the cable first and tighten the screw to secure the cable.

[Note] Make sure the cable is well connected to the connector on the camera before securing the cable.



Operating the Camera

Make a Video Call

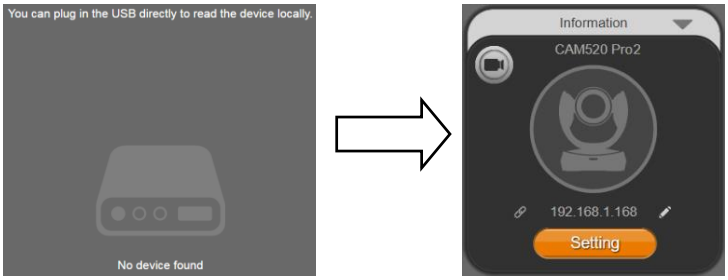
1. Make sure all devices (CAM520 Pro2, laptop/PC, TV/monitor) are well connected and powered on.
2. Run your video application (Zoom, Microsoft® Teams, Skype for Business, Skype, Google Meet, Intel® Unite™, RingCentral, BlueJeans, V-Cube, LiveOn, CyberLink U Meeting®, TrueConf, Adobe Connect, Cisco WebEx®, Fuze, GoToMeeting™, Microsoft® Lync™, Vidyo, vMix, WebRTC, Wirecast, XSplit, etc.) on your PC or laptop.
3. Set the CAM520 Pro2 camera as the primary camera for your video application (refer to your video application user guide). You can now make your call.

[Note] The CAM520 Pro2 is a plug-and-play conference camera. The system requires no special drivers, but we do recommend installing the PTZApp 2 for a better user experience. For information on how to install and use the PTZApp 2, refer to the PTZApp 2 section in this user manual.

Make a Connection through the Browser

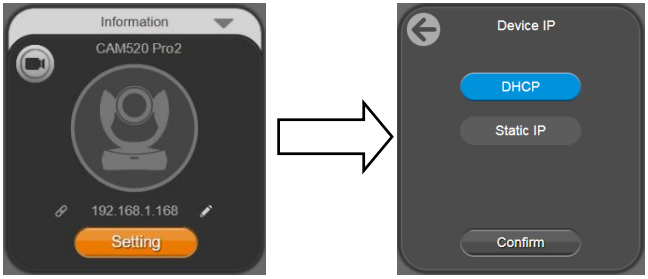
CAM520 Pro2 has an Ethernet port for IP streaming and allows administrators to remotely control and set up the camera via an internet access. Moreover, CAM520 Pro2 also supports RTSP and RTMP functions. For more details, please contact our technical support.

1. Make sure the CAM520 Pro2 has an internet access connection.
2. Launch PTZApp 2* ( ) and connect CAM520 Pro2 to PC with USB cable. The camera default IP address is **192.168.1.168**.

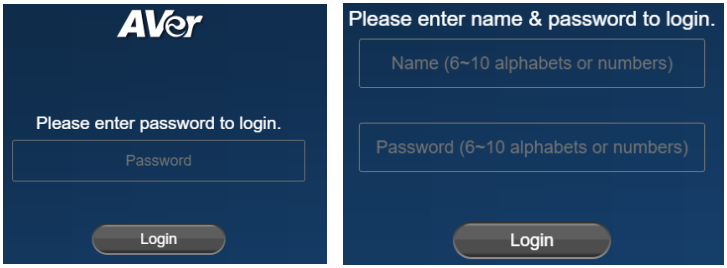


[Note] The browser supports:
- Chrome: version 76.x or above
- Firefox: version 69 or above
- IE: Doesn't support

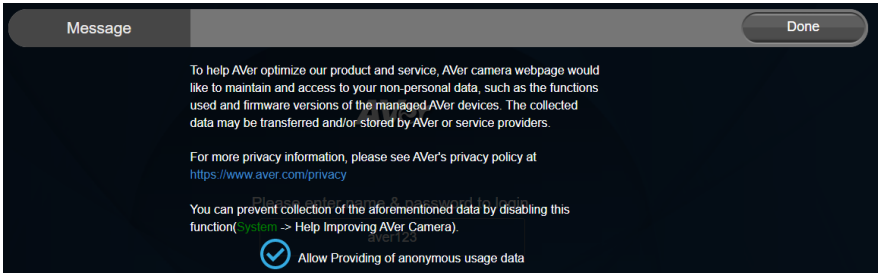
3. Click pencil icon ( ) to edit IP address**.



4. Click weblink icon ( ) to launch Chrome page. Please enter the password (default password is **aver4321**). User will be asked to set a new account and password. (Please enter PTZApp2 to reset password back to default while password is forgotten.)



5. Input the new account, password and click **Login**, you will be prompted with a setting for sharing the non-personal data with AVer, such as the functions used and firmware versions of the AVer devices. Click to enable sharing the usage data with AVer and then click **Done**. You can optionally disable this setting afterward (**System** > **Help Improving AVer Camera**).



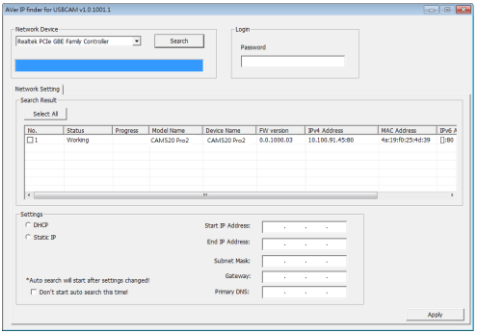
6. Now you can access web settings of the camera with only Ethernet cable connection. Unplug the USB cable.

7. The main web screen is displayed as below.

* For information on how to install and use the PTZApp 2, refer to the PTZApp 2 section in this user manual.

** To support IP address changes in groups, user can download AVer IP Finder app.

1. Download the IP Finder from https://www.aver.com/download-center (Headquarters & Europe) or https://www.averusa.com/business/support/ (USA).
2. Run the IP Finder.
3. Click “**Search**”, and all available devices will be listed on the screen.
4. Select a camera from the list. The corresponding fields of IP address will display.
5. To change the IP address of camera, user can select “**DHCP**” or “**Static IP**”.
   The DHCP should get the IP address from local dynamic IP sever. The static IP, user can enter the specific IP address. Click “**Apply**” to apply the setting to the camera. The password is required (default password is **aver4321**).
6. Click “**Search**” button to re-scan the camera.
7. Double-click on the IP address of camera from the list can connect to camera through the browser.
8. Enter the default password (**aver4321**) to login to Web setup screen.



Web Settings

CAM520 Pro2 supports Ethernet connection; users can enter the IP address into the web browser to connect to the camera for detail settings.

First Time Login

To find the IP address of the camera, please refer to “**Make a connection through the Browser**” section.

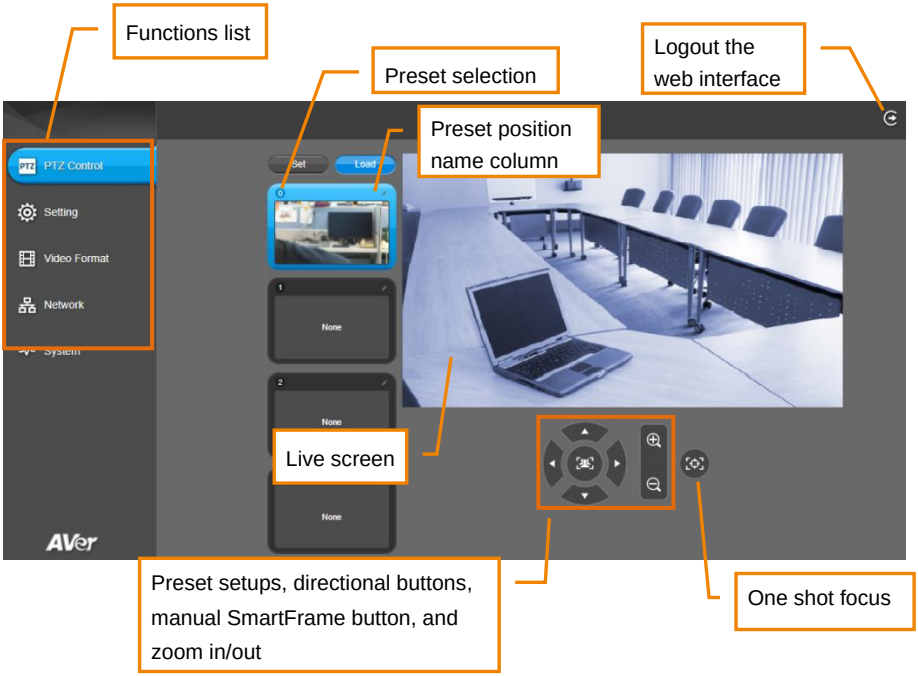
1. Open the browser on your laptop/PC and enter the IP address of the camera.
2. Enter the password at login screen. The default password is “**aver4321**”.
3. The main web screen is displayed.

Live Screen Operation

User can control the camera direction, zoom in/out, and preset selection.

[Notes]

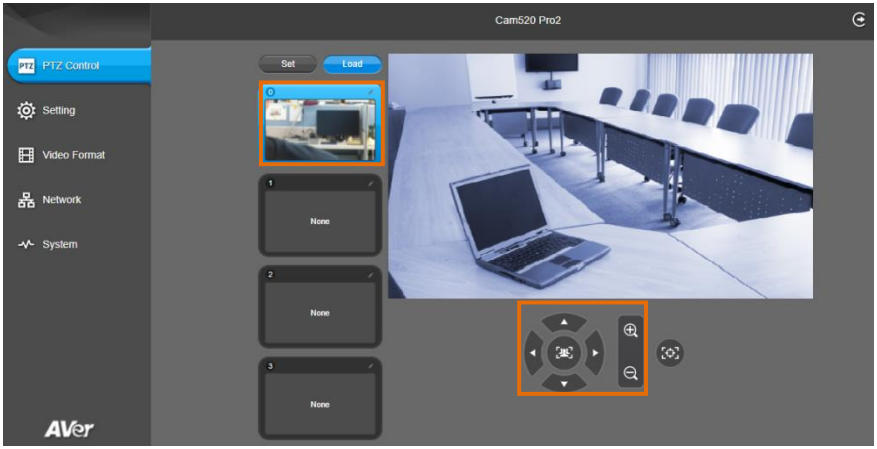
- The system will force the previous login to log out, when there is a second login.
  If the web page is idle without any request for more than 4 hours, user will be logged out.
- The resolution of live screen is 840x480/ 10fps.



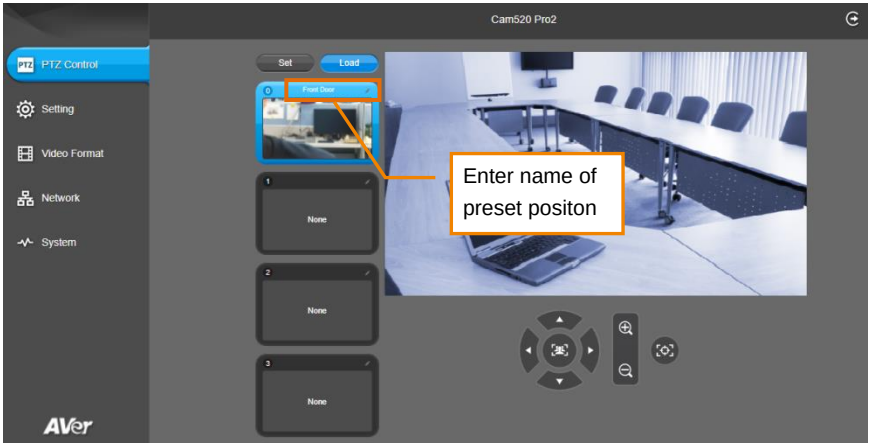
Set Up the Preset

User can set 10 preset positions.

1. In live screen, use ▲, ▼, ◀, ▶ and zoom in/out buttons to adjust the camera screen view to desired position.
2. Select "**Set**" button and click on the preset number to save the preset. The system will capture the preset screen view and display in preset number frame.



3. Select icon to edit name of preset frame. Click other Web interface to save the name edited.

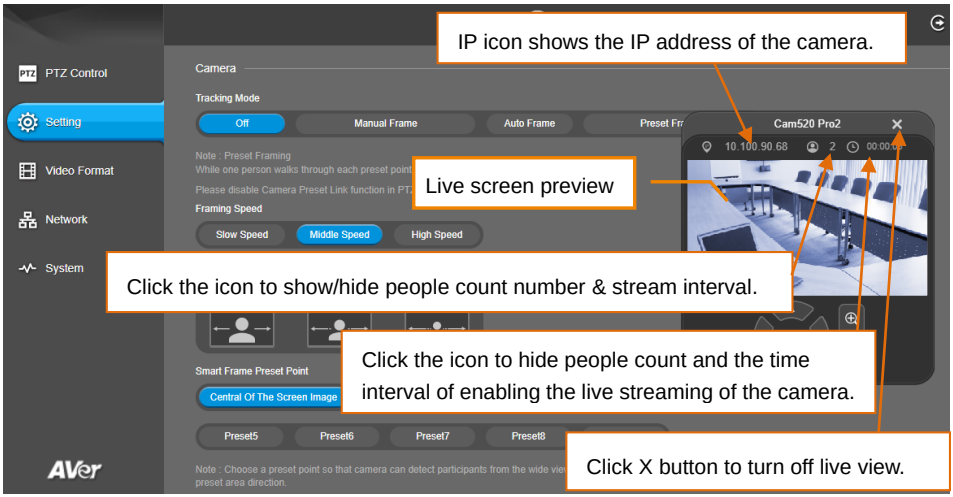


4. To set another preset, repeat the above steps.

5. After setting up the preset positions, you can start performing the function. Select the “**Load**” button and then click on the preset numbers, the live screen will move to the preset screen view.

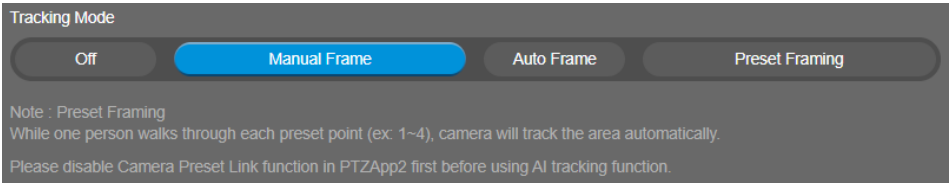
Camera Settings

The video icon is to turn on camera live view while adjusting any settings.

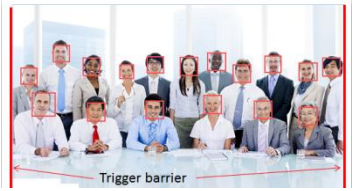


Tracking Mode

Select **Setting** > **Camera** > **Tracking Mode** > **Off**, **Manual Frame**, **Auto Frame**, or **Preset Framing**.



- **Off:** Tracking mode is disabled.
- **Manual Frame:** User one-click SmartFrame button and camera will adjust view angle to fit all participants in screen.
- **Auto Frame:** Camera automatically adjusts view angle to frame all participants on screen every time when it detects participants' faces or bodies. This action will be activated once people in the room sit or stand still for 1~5 seconds, depending on the framing speed you select. Once all the participants are in frame, the camera will keep the image stable by not completing any action until subjects move in or out of the screen. When a participant touches the sides of the screen, it will trigger the camera and automatically track, detect, and frame all the participants again.

  *The default framing speed is "Middle" speed. "High" speed is more suitable for one person tracking.

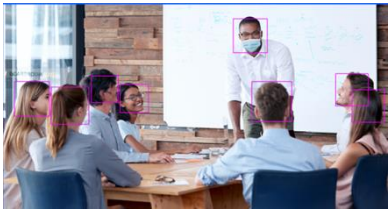
- **Preset Framing:** Set up preset points in advance. (Only for Preset points 1~9. Preset 0 is for home position). This is designed for requiring a specific zooming area with preferred image proportion. Camera tracks and frames all the participants in the screen if none of them touch any preset area. When any of them touch a preset area, the camera will immediately shoot the preset zones instead of focusing and zooming into presenter. To keep the screen stable, whenever there is a person in the area, the camera won't move any more until no one shows up. However, the camera can detect the direction where the last person goes. If the person goes to the next preset area with overlap section, the camera will directly move to the next preset area. Thus, to ensure smooth transition, please set up zones with overlapping presets.

  If the preset zones do not overlap and when the last person leave the preset area, camera will zoom out to wide to find people and frame them again.

  If more than 2 presets areas are touched by 2 persons, camera will go to preset 1. The priority is preset 1>preset2> preset 3….>preset 9

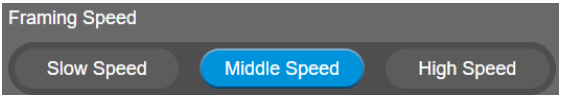
Overlap beginning & end of each zone

[Note] CAM520 Pro2 frames people in masks or any facial profile up to 7~10 meters away!



Framing Speed

Select **Setting** > **Camera** > **Framing Speed** > **Slow Speed**, **Middle Speed** (default), or **High Speed**. When in auto framing or preset framing mode, camera will automatically frame people if they stand still without moving for 1~5 seconds.



- **Slow Speed**: camera starts to frame people if they don't move for 5 seconds.
- **Middle Speed**: camera starts to frame people if they don't move for 3 seconds.
- **High Speed**: camera starts to frame people if they don't move for 1 second.

[Note] The default framing speed is "Middle" speed. "High" speed is more suitable for one person tracking.

Framing Size

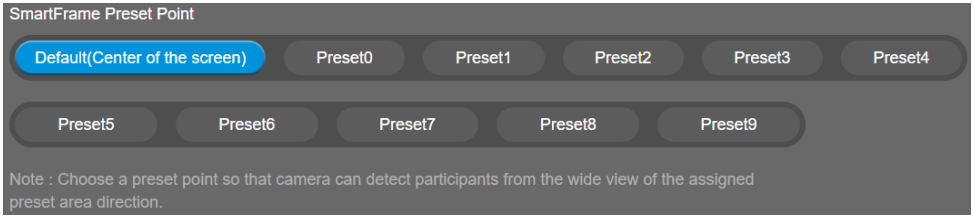
Select **Setting** > **Camera** > **Framing Size** > **Tight**, **Medium**, or **Wide**.

- **Tight** (default): It provides a close-up view of meeting participants.
- **Medium**: It provides a medium view of meeting participants.
- **Wide**: It provides a wide view of meeting participants.

Smart Frame Preset Point

Select **Setting** > **Camera** > **Smart Frame Preset Point** > **Default(Center of the screen)** or **Preset0** ~ **Preset9**.

The default is the central of the image screen. Choose a preset point so that camera can detect participants from the wide view of the assigned preset area direction.

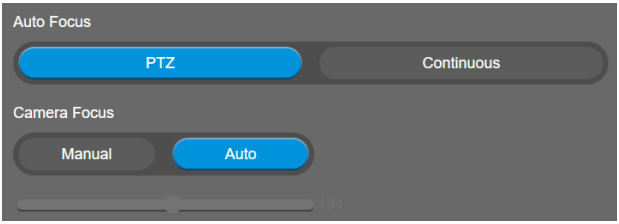


Auto Focus

Set auto focus mode.

First select **Setting** > **Camera** > **Camera Focus** > **Auto**.

Select **Setting** > **Camera** > **Auto Focus** > **PTZ** or **Continuous**.

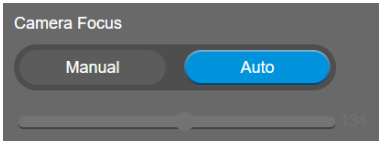


- **PTZ:** Click the button (such as pan, tilt, or zoom in/out) to adjust focus once.
- **Continuous:** The camera will adjust the focus when the objects have moved.

Camera Focus

Set auto/manual focus mode.

Select **Setting** > **Camera** > **Camera Focus** > **Auto** or **Manual**.

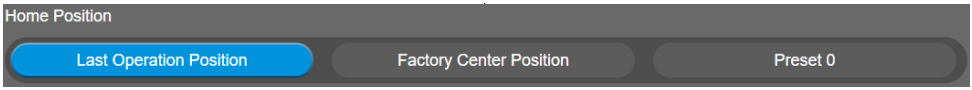


- **Auto:** Camera adjusts focus automatically.
- **Manual:** You can adjust the camera focus by moving the control bar below.

Home Position

Every time when powering on the camera, it will turn to this position.

Select **Setting** > **Camera** > **Home Position** > **Last Operation Position**, **Factory Center Position**, or **Preset 0**.



Sleep Position

When the camera idles for certain period, it will enter sleep mode and go to the sleep position. Please set up sleep timer to enable sleep mode.

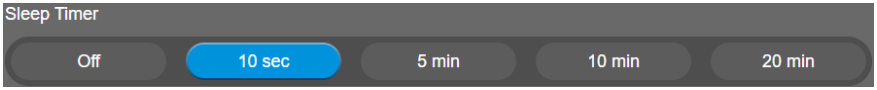
Select **Setting** > **Camera** > **Sleep Position** > **Factory Downside Position** or **Preset 9**.

Sleep Timer

Set the camera idle time to enter sleep mode.

Select **Setting** > **Camera** > **Sleep Timer** > **Off**, **10 sec**, **5 min**, **10 min**, or **20 min**.

Please notice that whenever there is USB streaming or RTSP/RTMP streaming, the camera won't enter sleep mode.



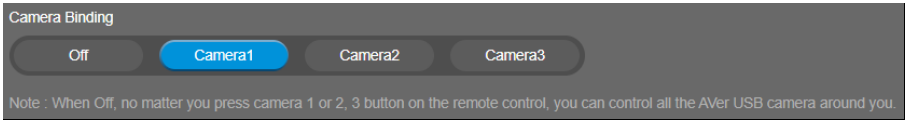
On Screen Menu

Enable/disable on screen display status information. For instance, when it is at auto frame mode, it will appear "Auto framing" on the bottom of the screen. If you don't want to see the words, please select Off.

Select **Setting** > **Camera** > **On Screen Menu** > **Off**, **On**, or **Load Preset Off**.

Camera Binding

With multiple cameras connection, users can set each camera to buttons 1 to 3 on the remote control.
Select **Setting** > **Camera** > **Camera Binding** > **Off**, **Camera1**, **Camera2**, or **Camera3**.



Save Preset

Enable/disable “save preset” function. When applicable, IT personnel can limit end-user access to change preset points by locking “save preset” function and switching this function off.
When off, user can’t save preset points via IR remote, Hot key, VISCA, and webpage.
Select **Setting** > **Camera** > **Save Preset** > **Off** or **On**.

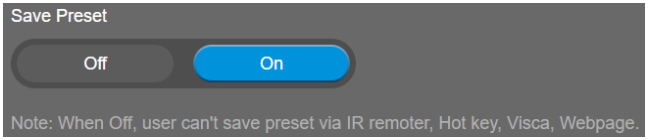


Image Settings

Image Flip

If the CAM520 Pro2 is installed in the upside down position, please enable the "**Flip**".
Select **Setting** > **Image** > **Image Flip** > **Off** or **On**.

Image Mirror

To mirror the camera image.
Select **Setting** > **Image** > **Image Mirror** > **Off** or **On**.

True WDR

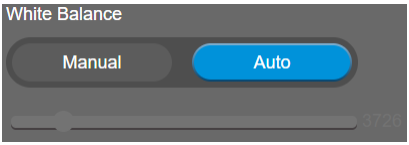
In back light environment, enable WDR to improve the brightness of image.
Select **Setting** > **Image** > **True WDR** > **Off** or **On**.
The frame rate will be limited to 30fps while WDR is on.
If user enables this function in a normal light condition, the image will become over exposure and encounter image blur.
When WDR is enabled, camera has taken long exposure and user cannot manually adjust the brightness of image.

Frequency

Select the frequency of the camera.
Select **Setting** > **Image** > **Frequency** > **50 HZ** or **60 HZ**.

White Balance

Select the white balance setting for various light conditions or color temperature.
Select **Setting** > **Image** > **White Balance** > **Auto** or **Manual**.



Noise Reduction

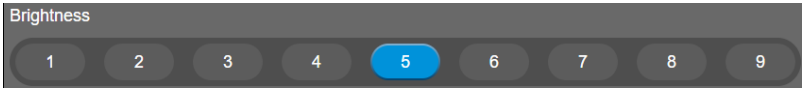
To reduce the noise from the signal.

Select **Setting** > **Image** > **Noise Reduction** > **Off**, **Low**, **Middle**, or **High**.

Brightness

Adjust the value of brightness.

Select **Setting** > **Image** > **Brightness** > **1** ~ **9**.



Sharpness

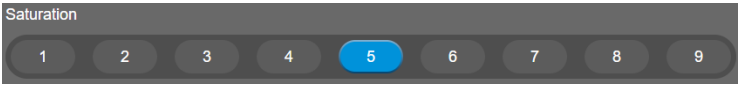
Adjust the value of sharpness.

Select **Setting** > **Image** > **Sharpness** > **Off**, **Low**, **Middle**, or **High**.

Saturation

Adjust the value of saturation.

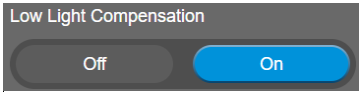
Select **Setting** > **Image** > **Saturation** > **1** ~ **9**.



Low Light Compensation

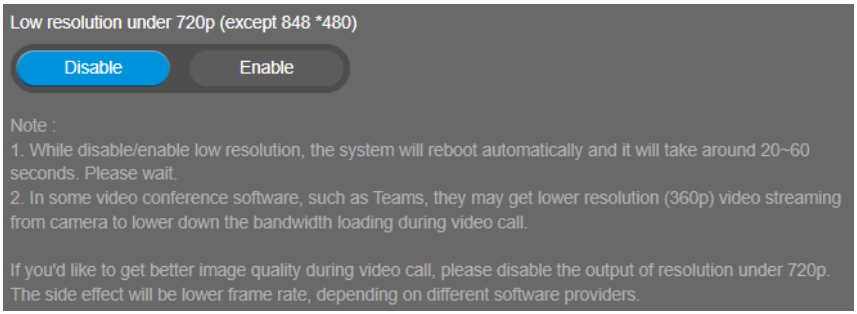
Select **Setting** > **Image** > **Low Light Compensation** > **Off** or **On**.

Please notice that the frame rate will drop to 10~15 fps.



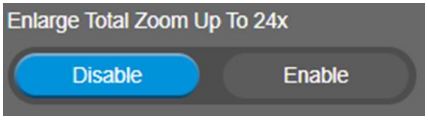
Low Resolution under 720p (except 848*480)

Select **Setting** > **Image** > **Low resolution under 720p** > **Disable** or **Enable**.



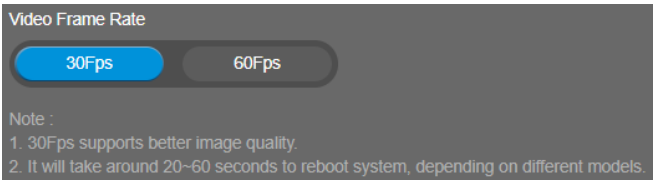
Enlarge Total Zoom Up to 24x

Select **Setting** > **Image** > **Enlarge Total Zoom Up to 24x** > **Disable** or **Enable**.
Enable/Disable enlarge zoom up to 24x.



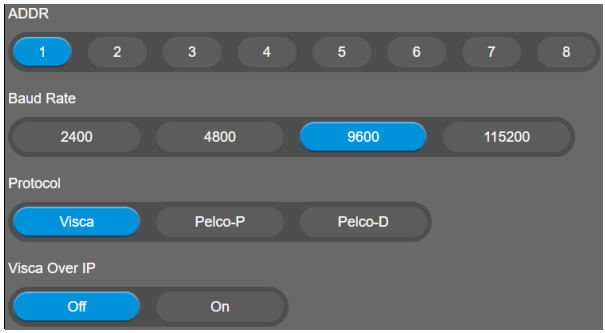
Video Frame Rate

Set up the frame rate value.
Select **Setting** > **Image** > **Video Frame Rate** > **30Fps** or **60Fps**.
30fps is with much better image quality than 60fps. Unless you want to shoot fast moving objects, please use 30fps.

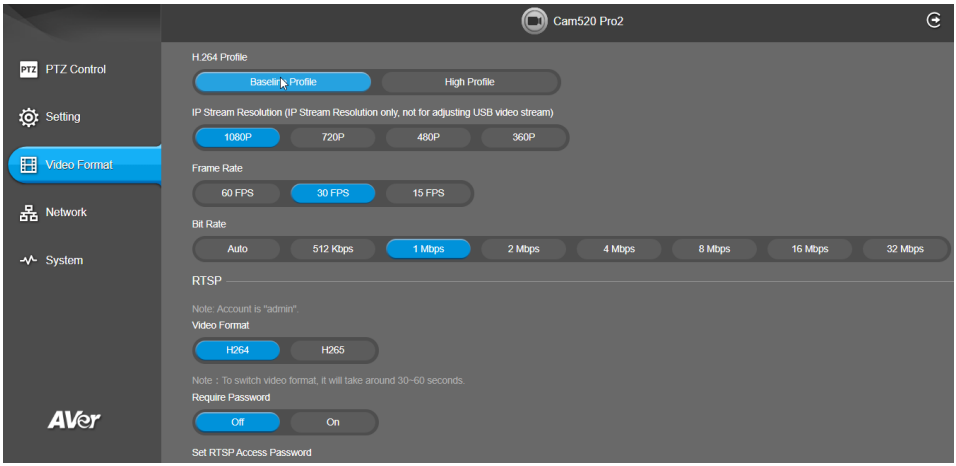


RS232 Settings

When CAM520 Pro2 connects with PTZ camera controller through the RS232 port, please setup **ADDR**, **Baud Rate**, **Protocol**, and **Visca Over IP** settings.
Select **Setting** > **RS232**.


ADDR
1
2
3
4
5
6
7
8
Baud Rate
2400
4800
9600
115200
Protocol
Visca
Pelco-P
Pelco-D
Visca Over IP
Off
On

Video Format Settings



H.264 Profile

While in live broadcasting, user can choose preferable profile to get best streaming quality.

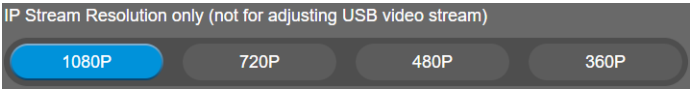
Select **Video Format** > **H.264 Profile** > **Baseline Profile** or **High Profile**.

IP Stream Resolution

Set up the resolution for IP stream. Not supported for USB video stream.

Select **Video Format** > **IP Stream Resolution only (not for adjusting USB video stream)** > **1080P**, **720P**, **480P**, or **360P**.

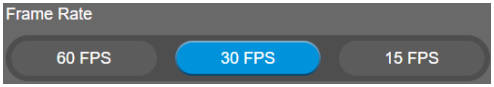
Please notice that if USB streaming (VC software side) is already in use at 1080p/30fps, the IP streaming resolution (RTSP) will be limited to 720p/30fps. It's better to disconnect USB streaming while having RTSP/ RTMP IP streaming to ensure the video transmission quality.



Frame Rate

Set up the frame rate value.

Select **Video Format** > **Frame Rate** > **60 FPS**, **30 FPS**, or **15 FPS**.



Bit Rate

Set up the bit rate value.

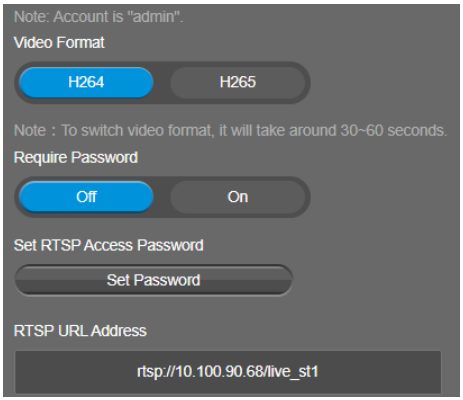
Select **Video Format** > **Bit Rate** > **Auto**, **512 Kbps**, **1 Mbps**, **2 Mbps**, **4 Mbps**, **8 Mbps**, **16 Mbps**, or **32 Mbps**.

For Facebook live broadcasting, it's suggested to choose less than 4Mbps to ensure smooth streaming.

RTSP

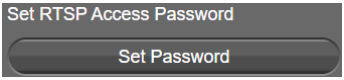
To use RTSP player connecting to the camera, please enter the RTSP URL which displays on the web in your application such as VLC, PotPlayer, or Quick Time.

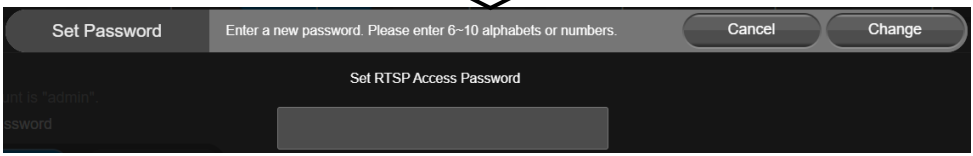
Select **On/Off** to enable/disable password requirement while opening RTSP.



Change RTSP Password

1. Select **Video Format** > **RTSP** > **Set RTSP Access Password**.
2. Enter the new password.
3. Select **Change** to save the new password.



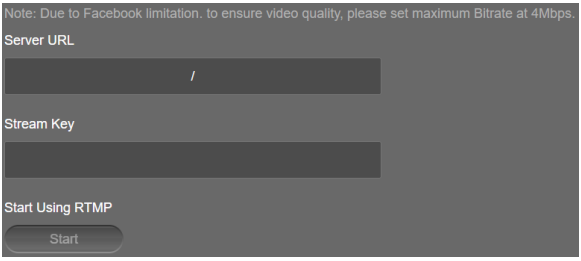


RTMP

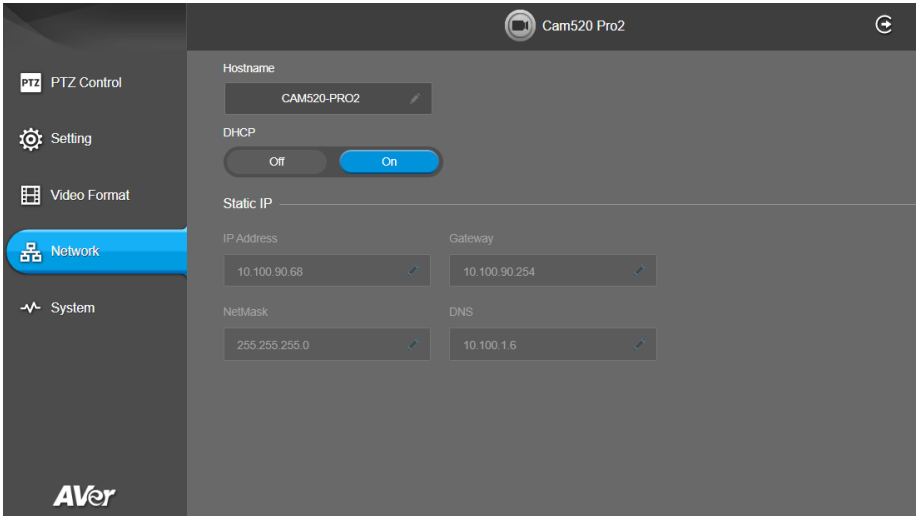
Set up for uploading the camera's live view to the broadcasting platform (e.g. YouTube).

Select **Video Format** > **RTMP**.

1. Locate the RTMP server URL and stream key from the broadcasting platform and enter in **Server URL** and **Stream Key** fields.
2. Select **Start** to begin uploading the live video of the camera to the broadcasting platform.
3. Select **Stop** to stop uploading the video.



Network Settings



Hostname

User can set a hostname. The hostname only allows numeric and alphabetic characters.

Select **Network** > **Hostname**. Click the pencil icon to enter hostname.

DHCP

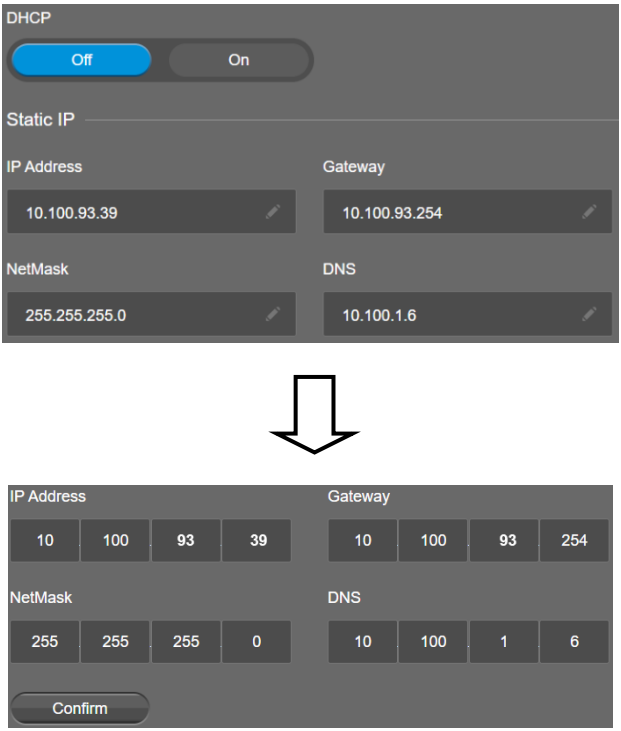
Enable/disable DHCP function.

Select **Network** > **DHCP** > **Off** or **On**.

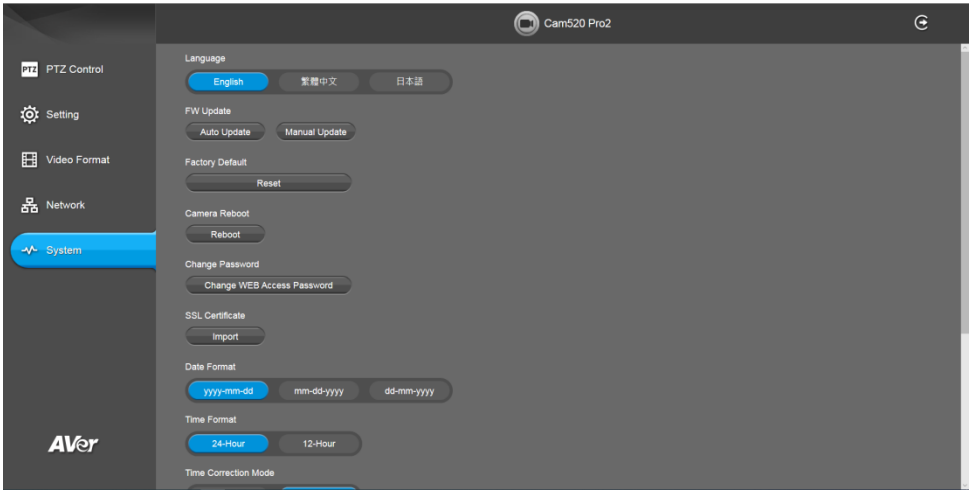
Static IP

Assign a fixed IP address to the camera. Please turn off the DHCP function.

1. Select **Network** > **DHCP** > **Off**.
2. Click pencil icon and enter the **IP Address**, **Gateway**, **NetMask**, and **DNS** in the corresponding fields.
3. Select **Confirm** to complete the setting.


DHCP
Off
On
Static IP
IP Address
10.100.93.39
Gateway
10.100.93.254
NetMask
255.255.255.0
DNS
10.100.1.6
IP Address
10
100
93
39
Gateway
10
100
93
254
NetMask
255
255
255
0
DNS
10
100
1
6
Confirm

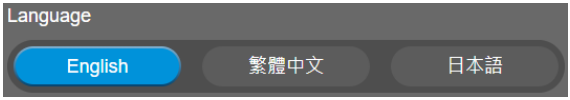
System Settings



Language

Select the language of the system.

Select **System** > **Language** > **English**, **Traditional Chinese**, or **Japanese**.



Firmware Update

Update the camera's firmware.

Select **System** > **FW Update** > **Auto Update** or **Manual Update**.

- **Auto Update:** The system will check firmware version from AVer server and request to update.
- **Manual Update:** To update the firmware from specific location.

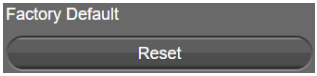
After updating, the camera will **reboot** and the connection will be lost. Please wait for few minutes and always keep the power cable connected. If unplugging the power during this process, it will cause damage of the device.

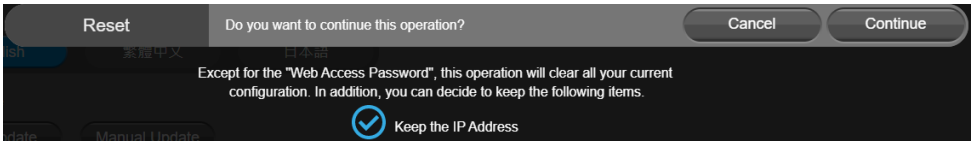
Factory Default

Reset the camera back to factory default setting.

1. Select **System** > **Factory Default** > **Reset**.
2. User can choose to keep current IP address or back to default.
3. Select **Continue** to reset back to factory default.

[Note] When factory default is activated, the password of Webpage login will not be set to default. For security concerns, to reset password of webpage access, please download PTZApp 2 to reset it.

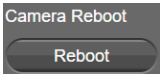


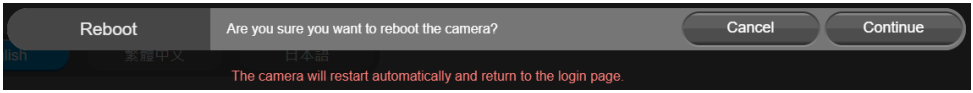


Camera Reboot

Restart the camera manually.

1. Select **System** > **Camera Reboot > Reboot**.
2. Select **Continue** to reboot the camera.

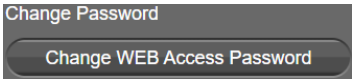


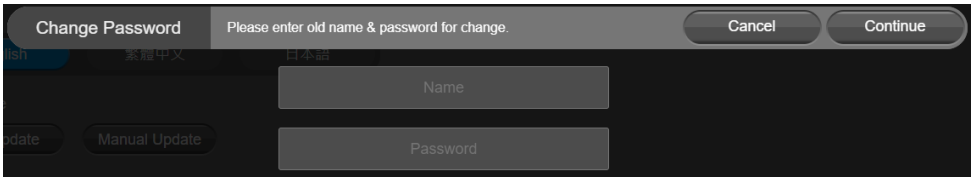


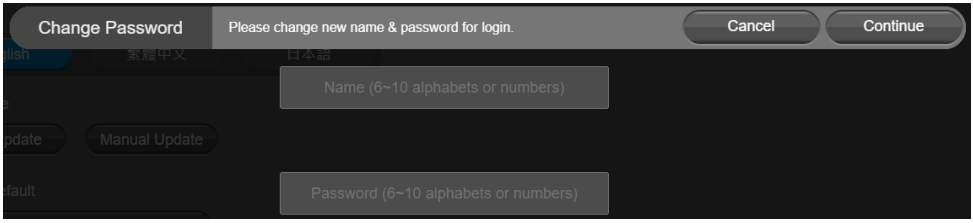
Change Password

Change the web login password. The default password is “**aver4321**”.

1. Select **System** > **Change Password** > **Change WEB Access Password**.
2. Enter the old account and password. Select **Continue**.
3. Enter the new account and password. Select **Continue** to save the new setting.
4. If users forget the password and want to revert back to the default password, please use PTZApp 2 to reset it.





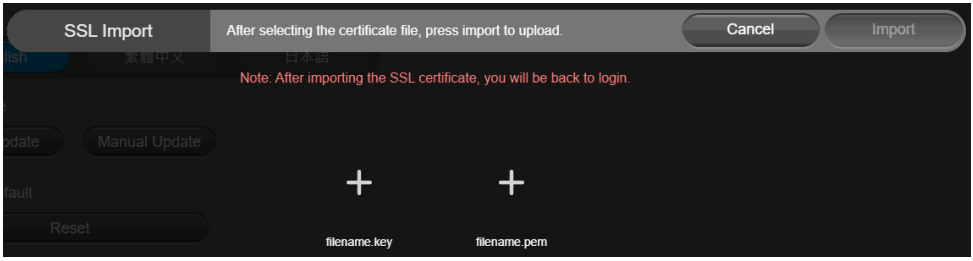


SSL Certificate

Import the SSL certificate from specific location.

1. Select **System** > **SSL Certificate** > **Import**.
2. Select the type by clicking “+”.
3. Direct the file location.
4. Select **Import**.

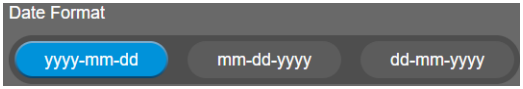
   [Note] Users can use PTZApp 2 to disable SSL function.



Date Format

Select the date format.

Select **System** > **Date Format** > **yyyy-mm-dd**, **mm-dd-yyyy**, or **dd-mm-yyyy**.



Time Format

Set up the time format.

Select **System** > **Time Format** > **24-Hour** or **12-Hour**.

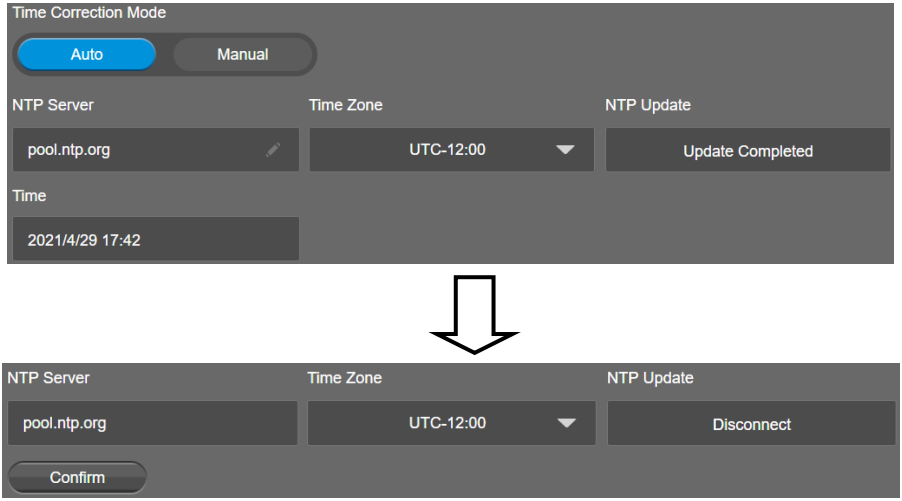
Time Correction Mode

Adjust time automatically or manually.

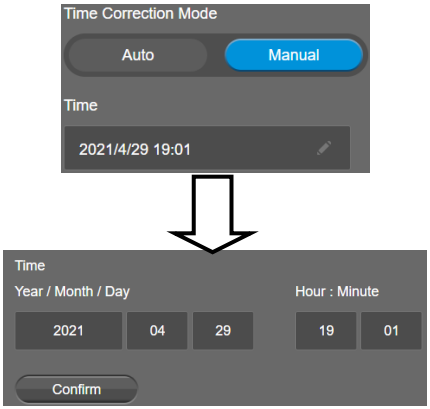
Select **System** > **Time Correction Mode** > **Auto** or **Manual**.

- **Auto:** The system time will be set by NTP server on the network. Click the pencil icon of NTP Server and enter the URL of NTP server. Select the **Time Zone**. Select **NTP Update** to save setting. Select **Confirm** to start auto time adjustment.

  [Note] Our default NTP server is located in the USA. If this does not work in your country, please manually key in the desired NTP server.

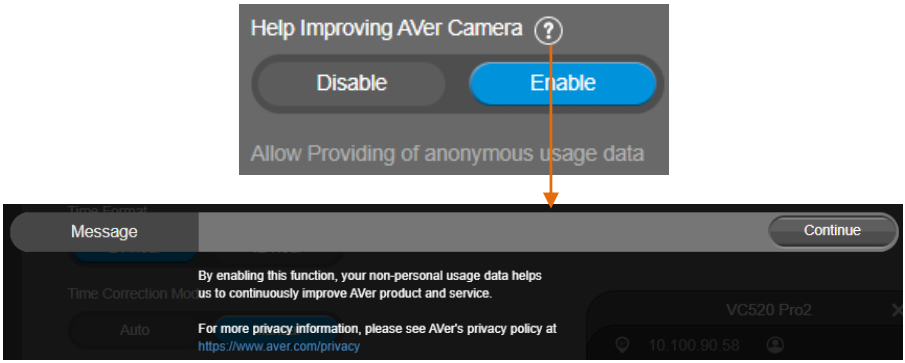


- **Manual:** User can set up time manually. Click the pencil icon and enter the **Year**, **Month**, **Day**, **Hour**, and **Minute**. Select **Confirm** to save the settings.



Help Improving AVer Camera

By enabling this function, your non-personal usage data helps AVer to continuously improve our products and services.



Information

Display the information of **Model Name**, **Firmware Version**, **Serial Number**, **IP Address**, and **MAC Address**.

Select **System** > **Information**.

PTZApp 2

In PTZApp 2, user can change the IP address setting of CAM520 Pro2, configure the parameters of the camera, set up AI tracking functions and some advanced image settings, pan, tilt, and zoom the camera.

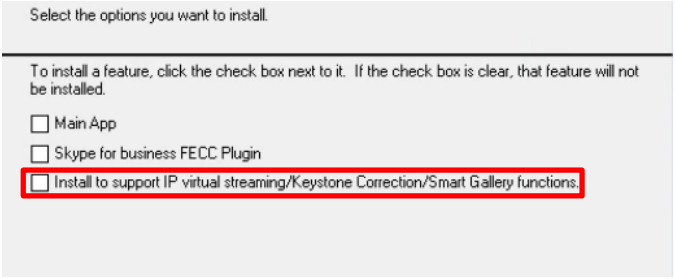
Install PTZApp 2

Please go to https://www.aver.com/download-center (Headquarters and Europe) or https://www.averusa.com/business/support/ (USA) to download the PTZApp 2. After downloading, double-click on the file and follow the on-screen instructions to complete the installation.

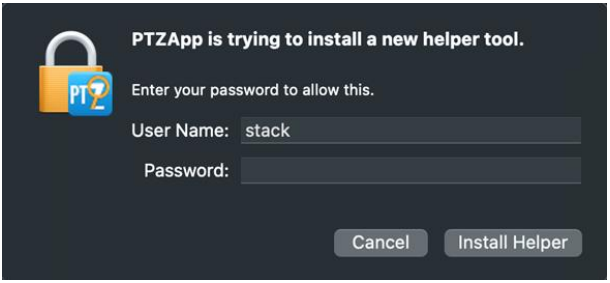
After installing the PTZApp 2, double-click on the PTZApp 2 icon to run the application.

[Notes]

While installing PTZApp 2, if you refuse to install IP virtual streaming and Smart Gallery plug-in in your PC (illustrated as below), you will not be able to use these functions. To enable these functions, please reinstall PTZApp 2 for the necessary plug-in.



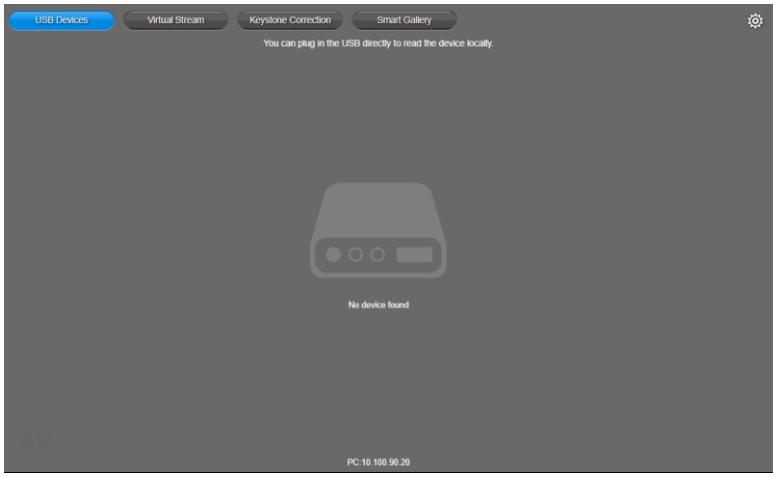
(Windows PC)



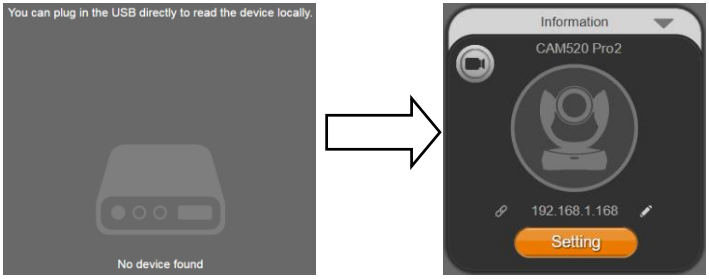
(MAC PC)

Use PTZApp 2 with USB Devices

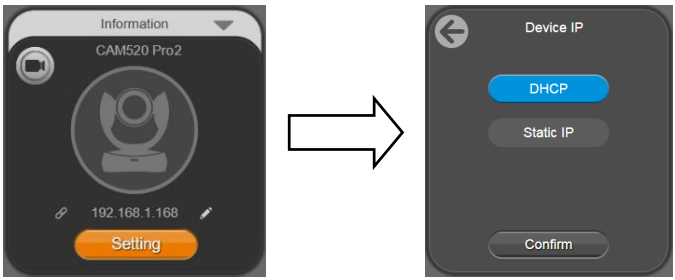
1. Run your video application and make a video call.
2. During your video call, you can use the PTZApp 2 to pan, tilt and zoom the camera in/out and enable/disable the true WDR, brightness, and sharpness feature.
3. Launch PTZApp 2 ( ) and it will open in Chrome browser automatically.



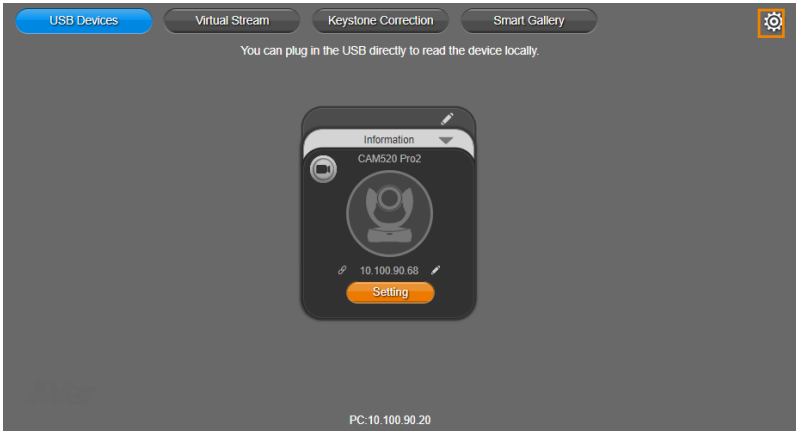
4. Choose “USB device” and connect CAM520 Pro2 to PC/laptop with USB cable. When the camera is detected, the product card will show up.

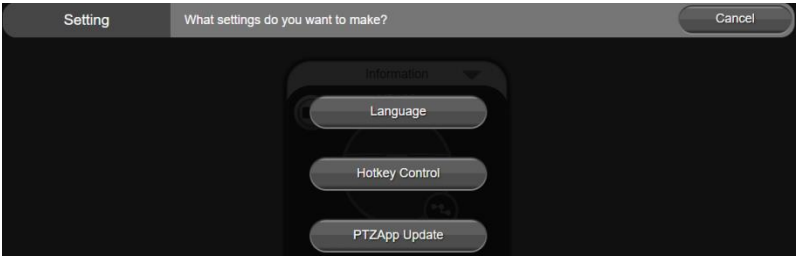


5. Set up IP address. The camera default IP address is **192.168.1.168**. Click pencil icon ( ) to edit IP address.



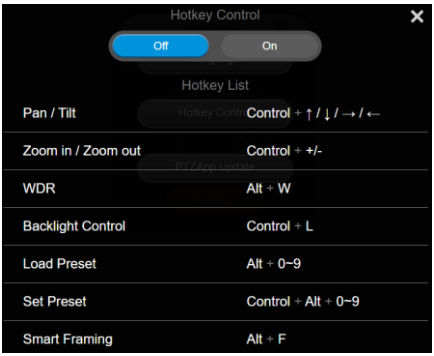
6. Click the setting icon to change Language, Hotkey Control, and PTZApp 2 Version.





- **Language:** Select desired language and click the check icon to confirm the selection.

- **Hotkey Control:** User can control the camera by using keyboard. This is a general list for all AVer USB Cameras. Backlight control equals to WDR function in CAM520 Pro2.



- **PTZApp Update:** Get current PTZApp 2's version number and do auto update here.

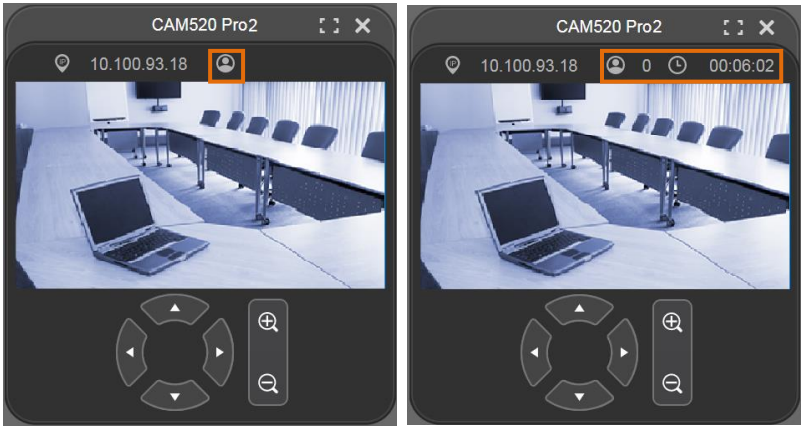
7. **Information:** Click the drop-down triangle icon to review the information of camera. To minimize the information, click the triangle or the bottom area of the information icon.

8. **Camera:** Click the camera icon to view the camera live view. IP address is displayed as well. Click the X icon to close the camera live view. If the live video did not appear, please check the camera and the laptop/PC connection to make sure all are correct and well connected.

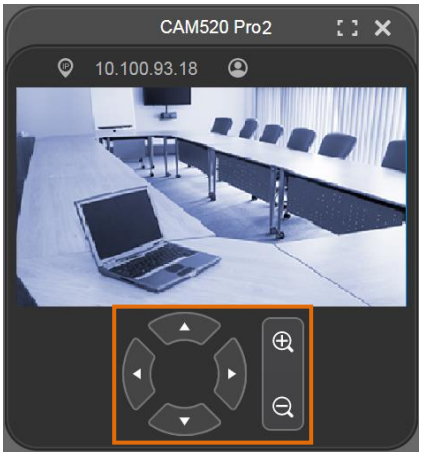
   The resolution of this small live view is 640x480 resolutions.

- **Full Screen:** PTZApp 2 can switch to full screen mode. Click "⌜ ⌝" icon and video screen will switch to full screen mode. In full screen mode, user can use direction panel to control camera direction. Click "⌟ ⌞" icon to go back to normal screen view.
  The resolution of full screen mode is 1080p/ 30fps.

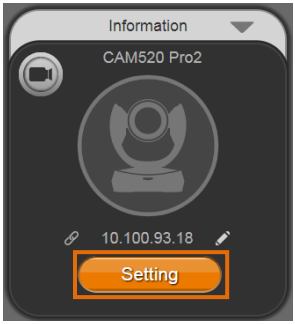
- **People Count and Stream Interval:** Click the icon to show people count number and stream interval. Click the or icon to hide the stream interval.

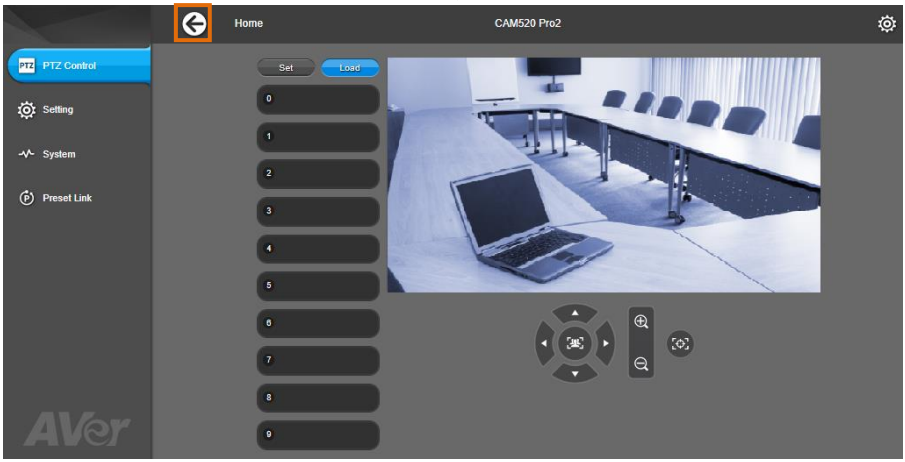


- **Control Panel:** To control the camera direction, zoom in and out during your video call.



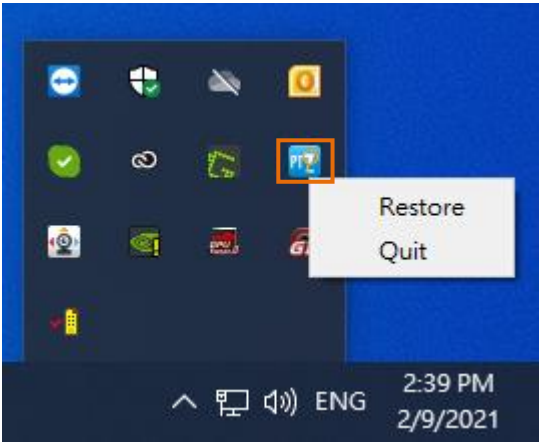
9. **Setting:** Click **“Setting”** button to set up parameters of the camera and speakerphone. Click arrow icon to leave the Setting page.





- **PTZ Control:** Use control panel to set up preset positions. Since most of operations are the same as web page, refer to Set Up the Preset section (pages 26) for detailed setup.
- **Setting:** To set up parameters of the camera. Since most of operations are the same as web page, refer to Camera Settings , Image Settings, and RS232 Settings section (pages 28~37) for detailed setup.
- **System:** To set up system. Since most of operations are the same as web page, refer to System Settings section (pages 42~48) for detailed setup.

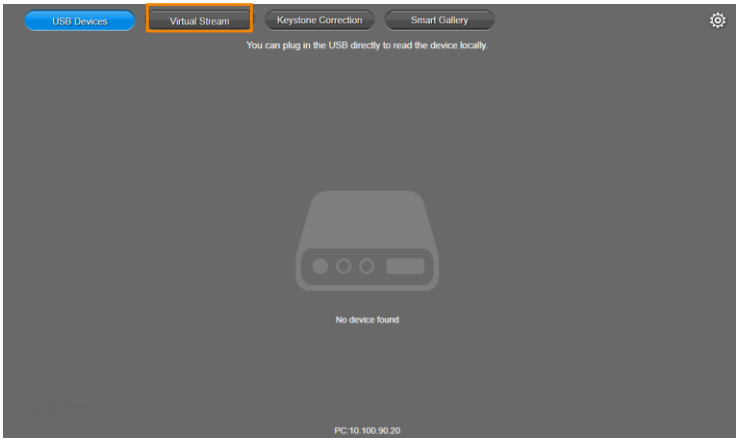
10. **PTZApp 2 Quit & Restore:** To quit the application, right-click the icon on the system tray and select “**Quit**”. If you can’t launch PTZApp 2 right after installation, please right –click the icon and choose “**Restore**”.



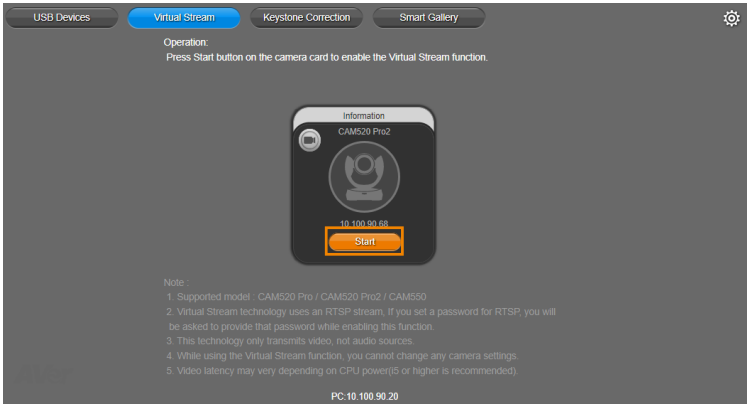
Use PTZApp 2 with a Virtual Stream

With this function, you can have a virtual meeting with only Ethernet connection and get rid of USB cable connection. Make sure the camera is connected with Ethernet and under the same subnetwork as the meeting room PC (e.g. NUC).

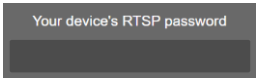
1. Launch PTZApp2 ( ) on a PC and click Virtual Stream.



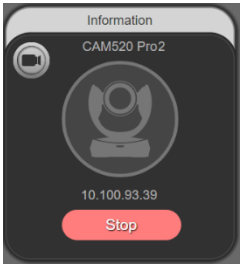
2. When the camera card appears, click **Start** to enable the Virtual Stream function.



3. Virtual Stream technology uses an RTSP stream. If you set a password for RTSP, you will be asked to provide that password while enabling this function.



4. Launch VC software (e.g. Zoom, Teams, Skype) and choose AVer USB VCam as the video source to start collaborating.
5. While using the Virtual Stream function, you cannot change any camera settings. To pan/tilt or zoom in/out the camera, use a remote control or VISCA control.
6. Click **Stop** and **Home** to stop using this function.



[Notes]

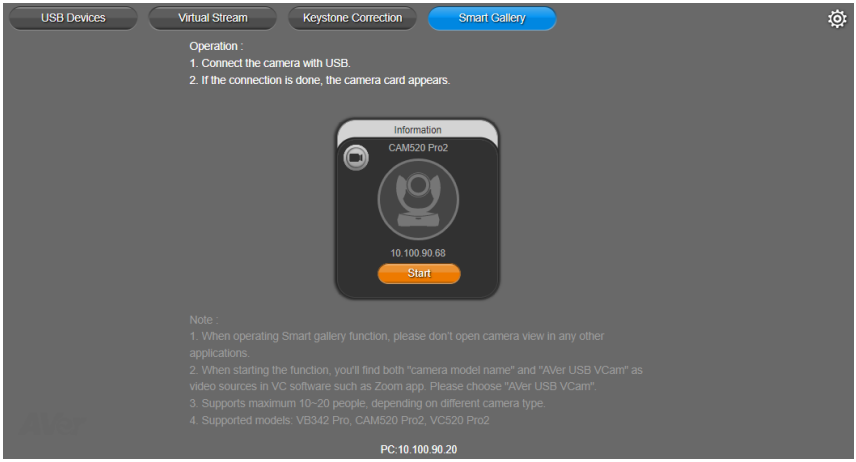
1. This technology only transmits video, not audio sources.
2. Video latency may vary depending on CPU power (i5 or higher is recommended).

Smart Gallery Operation

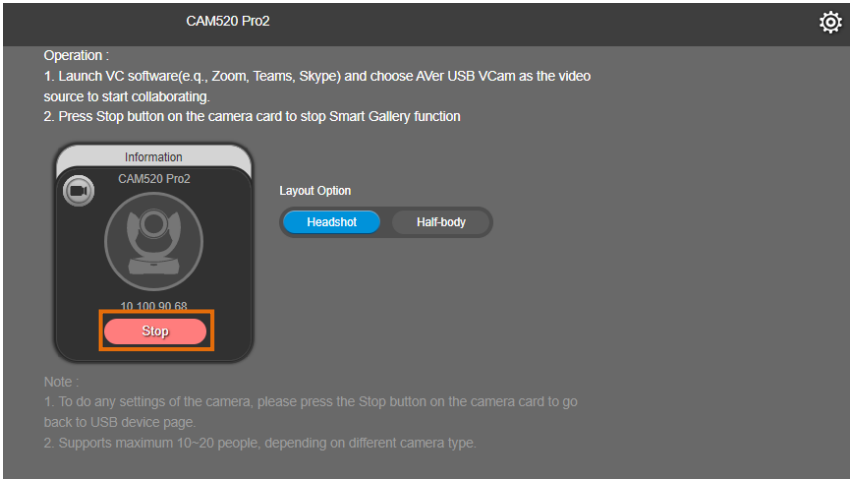
You can use the Smart Gallery function to increase the visibility of each participant in the meeting room. When operating Smart Gallery function, please don't open camera view in any other applications.

1. Connect your camera(s) supported with Smart Gallery function to the computer with USB cable.

2. Launch PTZApp 2 ( ) and click **Smart Gallery**, PTZApp 2 will start searching for the camera(s). The searched cameras supported with Smart Gallery function will be displayed.



3. Click the **Start** button, the button will change to **Stop**, and you can start operating the Smart Gallery function. To stop the Smart Gallery function, click **Stop**.



4. Launch VC software (e.g., Zoom, Teams, Skype) and choose AVer USB VCam as the video source to start collaborating. **[Note]** You will find both “camera model name” and “AVer USB VCam” as video sources in the VC software. Please choose “AVer USB VCam”.
5. In the **Layout Option** field, click **Headshot** or **Half-body** to perform the function.

Headshot Mode

Half-body Mode

6. To stop the Smart Gallery function, click **Stop**.

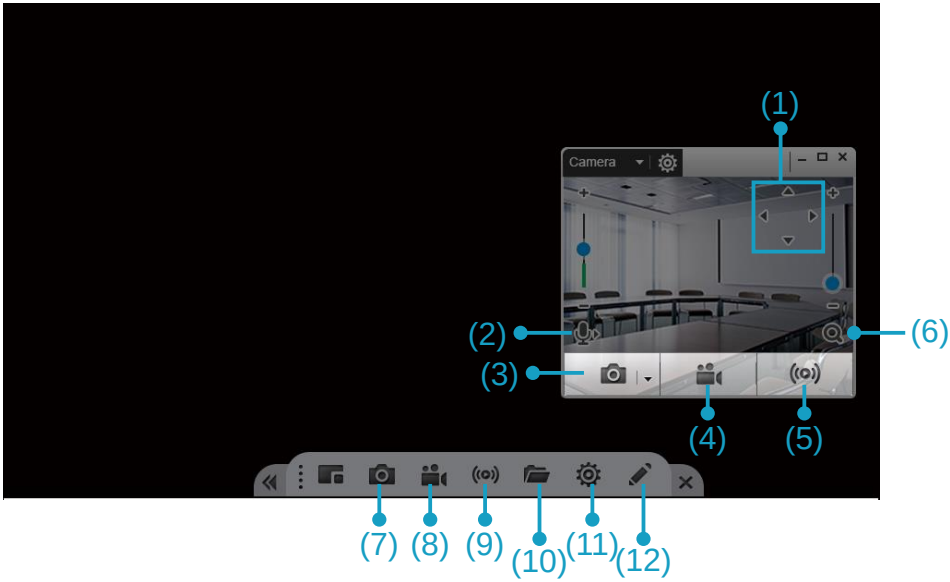
[Notes]

- Make sure each person has certain distance to have better image cropping.
- To do any settings of the camera, click the **Stop** button to stop the Smart Gallery function and then go to the **USB Devices** page. Click **Setting** to configure camera settings.
- The Smart Gallery function supports up to 10-20 people, depending on different camera type.

EZLive

Please go to http://www.aver.com/download-center to download the AVer EZLive software. After downloading, double-click on the file and follow the on-screen instructions to complete the installation.

Use AVer EZLive

During a video call, EZLive can help user to do:

(1) Camera ePTZ
(2) Volume control for the speaker connected
(3) Capture camera's still images
(4) Record video
(5) Live stream to Youtube, Livehouse.in, USTREAM…etc.
(6) Camera Zoom in/out
(7) Capture PC screen shot
(8) Record PC screen video
(9) Set up livestream
(10) Open file management to retrieve photos and video files
(11) Livestream setting
(12) Drawing tool