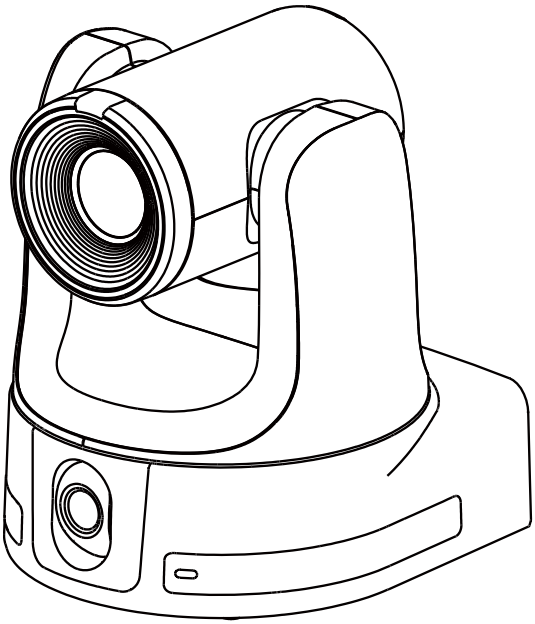


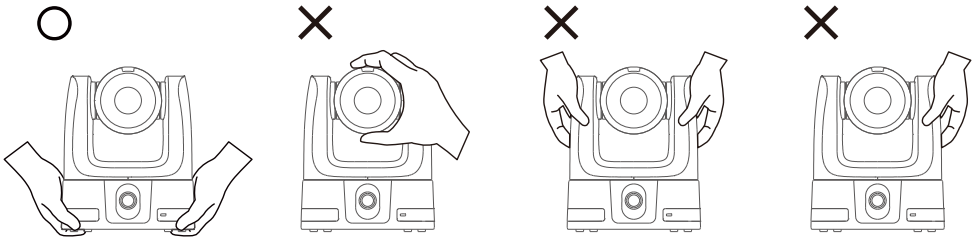
TR535/TR535N

Dual-Lens Auto Tracking Camera

— User Manual —

Firmware 0.0.0000.33

Warning



- Hold the bottom of the camera with both hands to carry the camera.
  Whether the camera is connected to power or not, do not grab any part of the lens or the lens holder to carry the camera or adjust pan and tilt.
- Do not drop the camera or subject it to physical shock.
- Ensure the power supply voltage is correct before using the 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.
- To reduce the risk of fire or electric shock, do not expose the camera to rain or moisture. Warranty will be voided if any unauthorized modifications are done to the camera.

Federal Communications Commission

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.

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.

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.

Caution

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

PoE

The PoE++ port is connected only to PoE networks without routing to the outside plant.

PSTI Statement of Compliance

Please refer to the following website: https://www.aver.com/product-security-advisory

VCCI-A

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。

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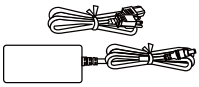
Tel: +82 (0) 2 722 8535

Contents

Overview

Package Contents

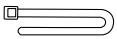
Camera



Power Adapter & Power Cord

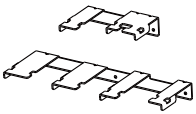
DIN8 to D-Sub9 Cable

Mini DIN9 to Mini DIN8 RS-232 Adaptor Cable

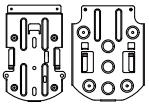


Cable Tie (x7)

Remote Control



Cable Fixing Plate (x2)

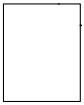


Ceiling Mount Bracket (x2)

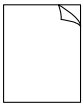
M2 x 4 mm Screw (x5)

M3 x 6 mm Screw (x3)

1/4”-20, L=6.5 mm Screw (x2)



Drill Template



Quick Start Guide

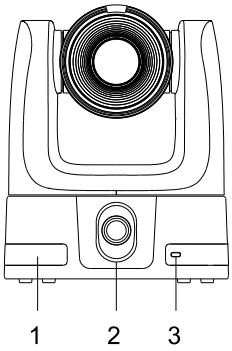
Optional Accessories

Wall Mount Bracket

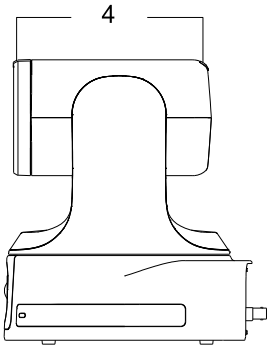
Camera Controller (CL01)

* For detail on optional accessories, consult your local dealer.

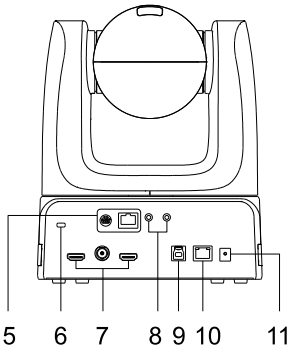
Parts Info



1. IR Sensor
2. Wide-Angle Lens
3. LED Indicator



4. Tally Lamps



5. Control Ports
   RS-232 / RS-422
6. Kensington Lock
7. Video Output Ports
   HDMI 1/ 3G-SDI / HDMI 2
8. Audio Input Ports
   Mic / Line
9. USB 3.0 Type-B Port
10. PoE++ 802.3bt
11. DC Power Jack

Tally Lamps

- Programmable red, yellow, and green lights.
- When video theme mode is set to Zoom:

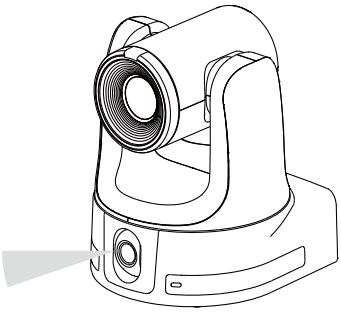
Color	Status
Red	Streaming over USB
No light	Not streaming over USB

LED Indicator

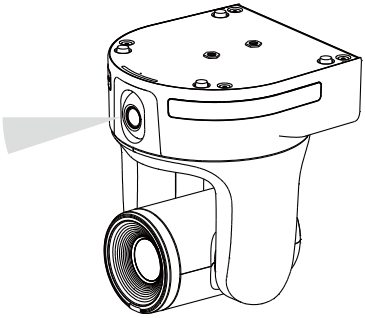
Color	Status
Flashing orange	Start-up
Solid orange	Standby
Solid blue	Normal
Flashing blue	Auto tracking on
Flashing red	Firmware update

Wide-Angle Lens Tilt Angle

- The wide-angle lens has a 110-degree field of view and a continuous tilt.
- The wide-angle lens tilts automatically based on how it's installed:



Downward

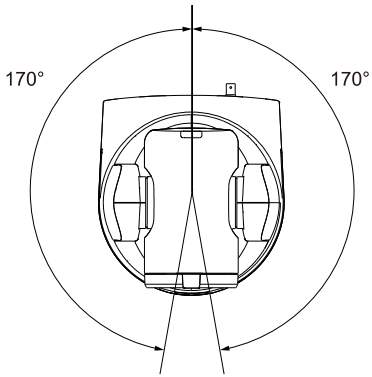


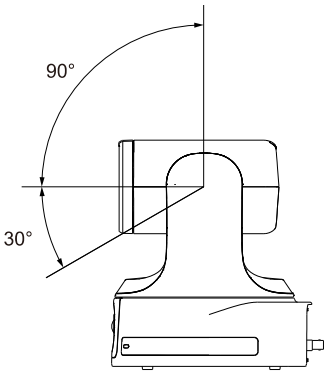
Upward

Both image mirror and flip must be turned on.

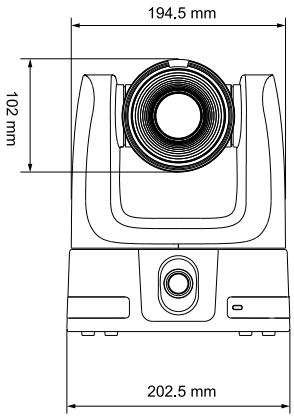
- To adjust the tilt angle, do any of the following:
  - When accessing the camera web interface for the first time, you will be prompted to calibrate.
  - Go to **System** > **Wide-Angle Camera Setting** on the camera web interface.

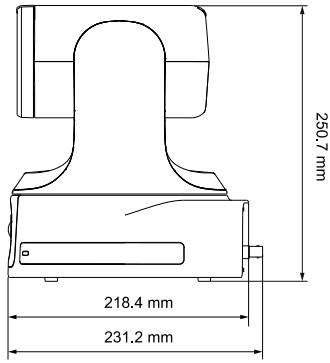
Pan and Tilt Angle

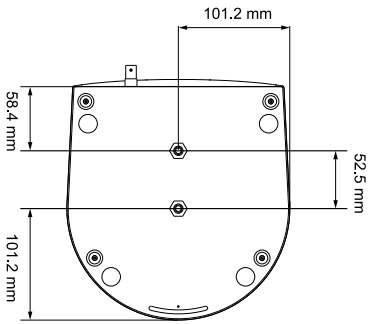


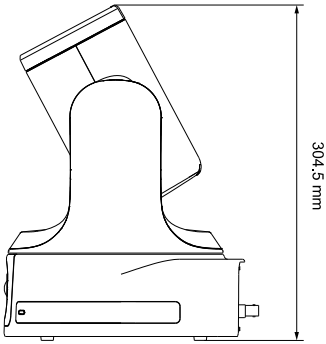


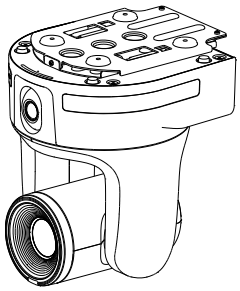
Dimensions

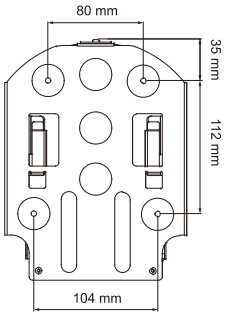


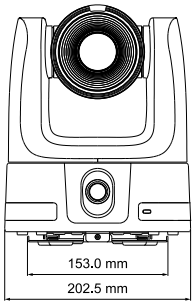


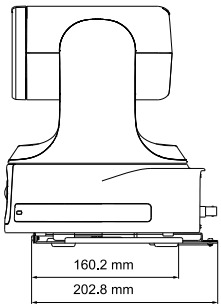


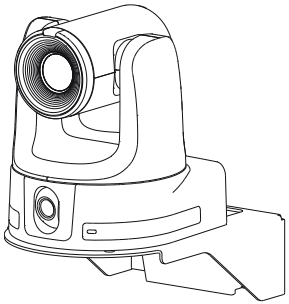


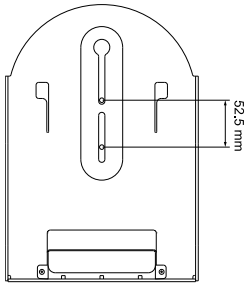


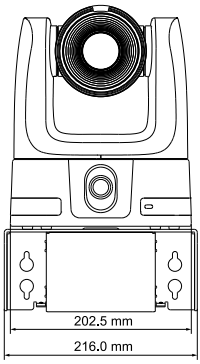

80 mm
35 mm
112 mm
104 mm

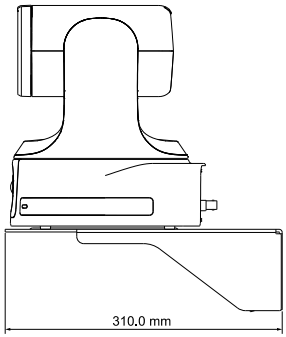

153.0 mm
202.5 mm


160.2 mm
202.8 mm



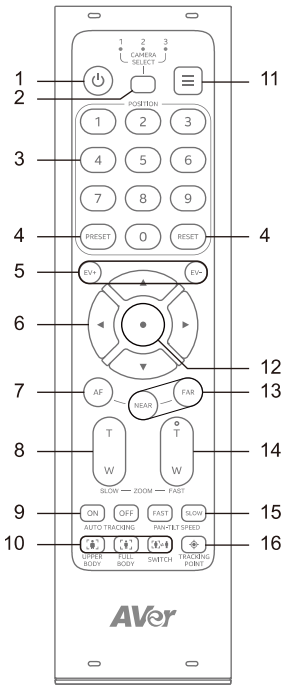

52.5 mm

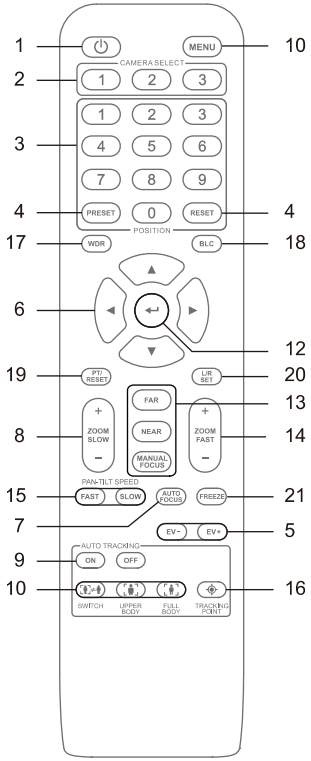

202.5 mm
216.0 mm


310.0 mm

Remote Control

Your device may come with one of the following remote controls.





Name	Function
1. POWER	Enter Standby Mode or wake up.
2. CAMERA SELECT	No selection is required to operate the camera by default. • Both camera and remote control have been set to 1 at the factory. • To assign a number to the camera, go to **System** > **Camera Selector** in the OSD menu.
3. NUMBER BUTTONS	Press **Number button (0-9)** to load defined preset 0-9.
4. PRESET/RESET	• To save a preset, press and hold **PRESET**, then press a **Number button (0-9)**. • To clear a preset, press and hold **RESET**, then press a **Number button (0-9)**.
5. EV +/-	• Press to adjust exposure value. • Press and hold **EV+** to turn on RTMP. • Press and hold **EV-** to turn off RTMP.

6. PAN-TILT CONTROL	Pan and tilt direction control.
7. AF	Turn on Auto Focus.
8. ZOOM SLOW	Zoom in or out slowly.
9. AUTO TRACKING	Turn Auto Tracking on or off.
10. FRAME PRESENTER	• UPPER BODY: Frame presenter's upper body. • FULL BODY: Frame presenter's full body. • SWITCH: Switch presenter.
11. MENU	Open or close the OSD menu during HDMI output.
12. ENTER	• Confirm a selection in the OSD menu. • Press to One Push Focus (auto focus once).
13. NEAR / FAR / MANUAL FOCUS	Press **NEAR** or **FAR** to adjust focus manually. Or press **MANUAL FOCUS**, if available, to turn on Manual Focus first, then press **NEAR** or **FAR** to adjust focus manually.
14. ZOOM FAST	Zoom in or out fast.
15. PAN-TILT SPEED	Adjust pan-tilt speed.
16. TRACKING POINT	Load tracking point (Preset 1).
17. WDR	Turn Wide Dynamic Range on or off.
18. BLC	Turn Backlight Compensation on or off.
19. PT RESET	Reset the pan-tilt position to center.
20. L/R SET	• To invert L/R pan direction, press and hold **L/R SET**, then press **Number button 2**. • To reset L/R pan direction, press and hold **L/R SET**, then press **Number button 1**.
21. FREEZE	Freeze or unfreeze the live view.

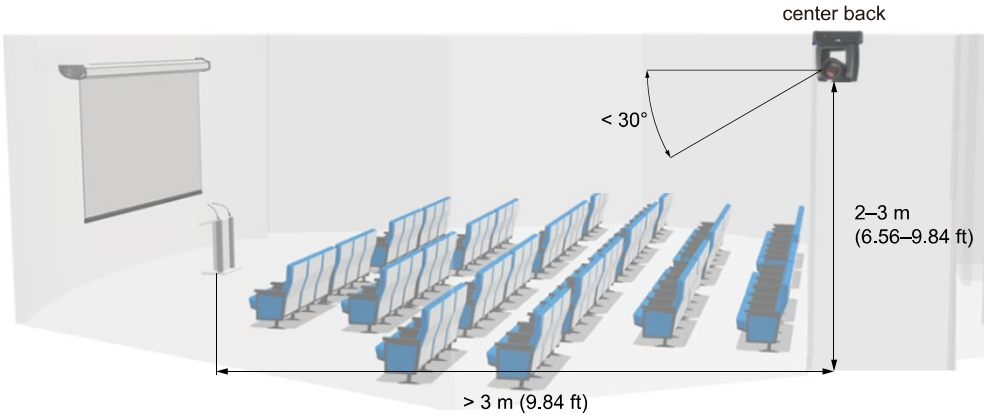
Shortcuts

Press	To
6 six times (666666)	Reset the device to factory default settings.
7 seven times (7777777)	Display the human tracking frame on the HDMI output.
8 eight times (88888888)	Set the network setting to static IP 192.168.1.168.
9 nine times (999999999)	Clear the web interface login. You'll be prompted to change the username and password on your next login.

Installation

Mounting Measurements

- Motion tracking

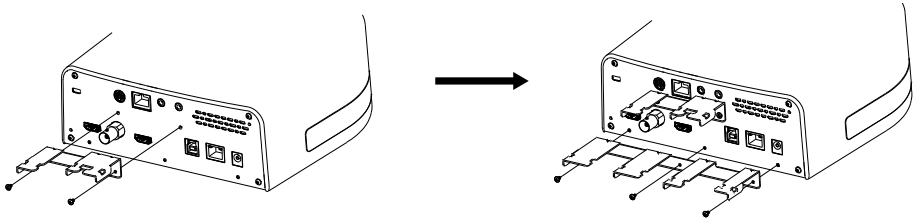


- Voice tracking with third-party microphones

Optical zoom	Distance from subject	Height	Can be inverted
12X	1.8-12 m	1.8-3 m	Yes
21X	1.8-20 m	1.8-3.5 m	Yes
30X	1.8-30 m	1.8-3.8 m	Yes

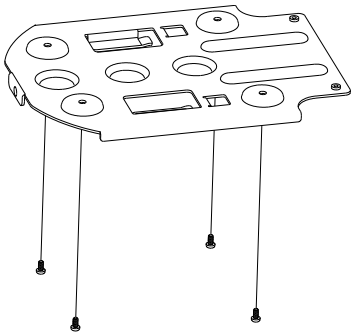
Cable Fixing Plate Installation

1. Secure the cable fixing plate to the camera with the included M2 x 4 mm screws (x5).
2. Connect the cables.
3. Use the cable ties to secure the cables to the cable fixing plate.

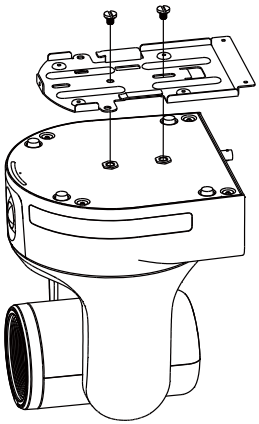


Ceiling Mount Installation

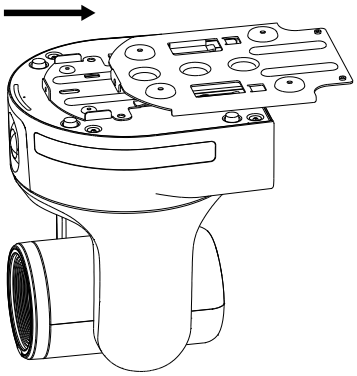
1. Secure the mount bracket to the ceiling.
   Screw: 4 screws, M4 x 10 mm (not Included)



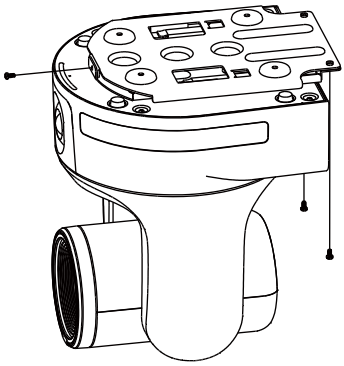
2. Secure the mount bracket to the camera.
   Screw: 2 screws, 1/4"-20 L=6.5 mm (included)



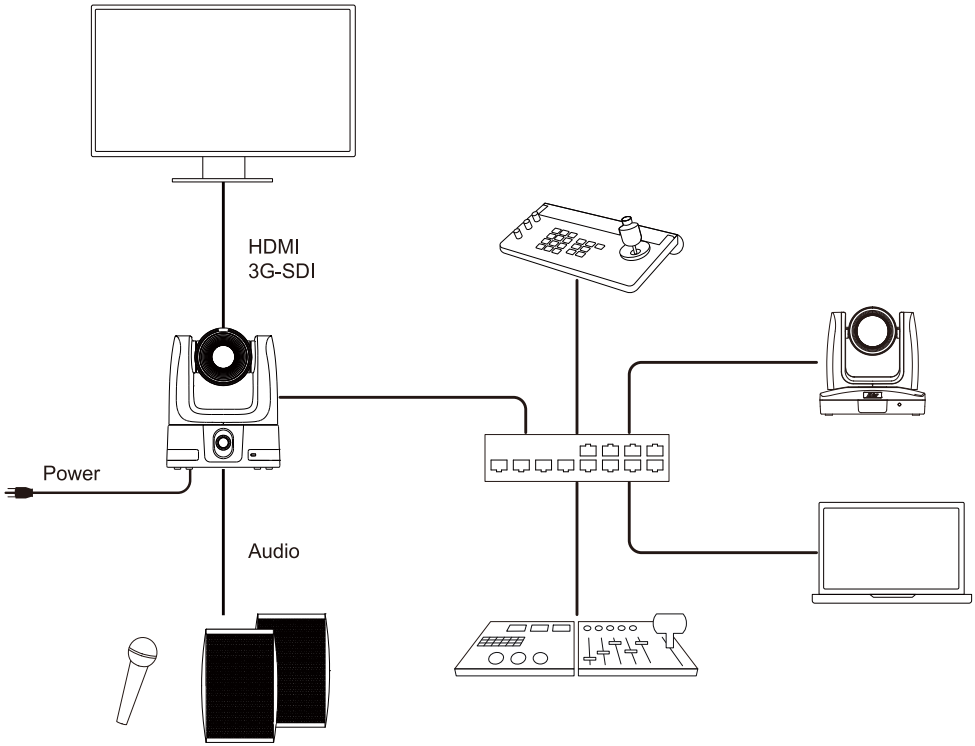
3. Slide the mount bracket with the camera into the mount bracket secured to the ceiling. Then connect the cables.



4. Secure the two mount brackets with screws.
   Screw: 3 screws, M3 x 6 mm (included)



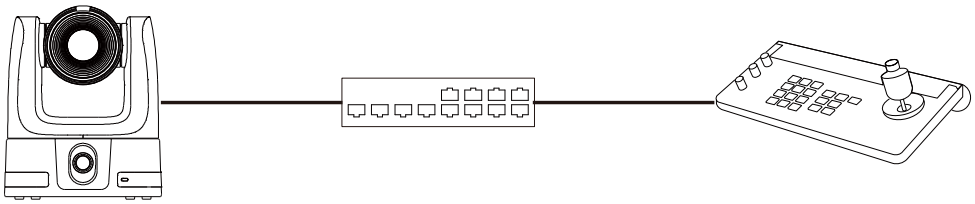
Connections



IP Connection

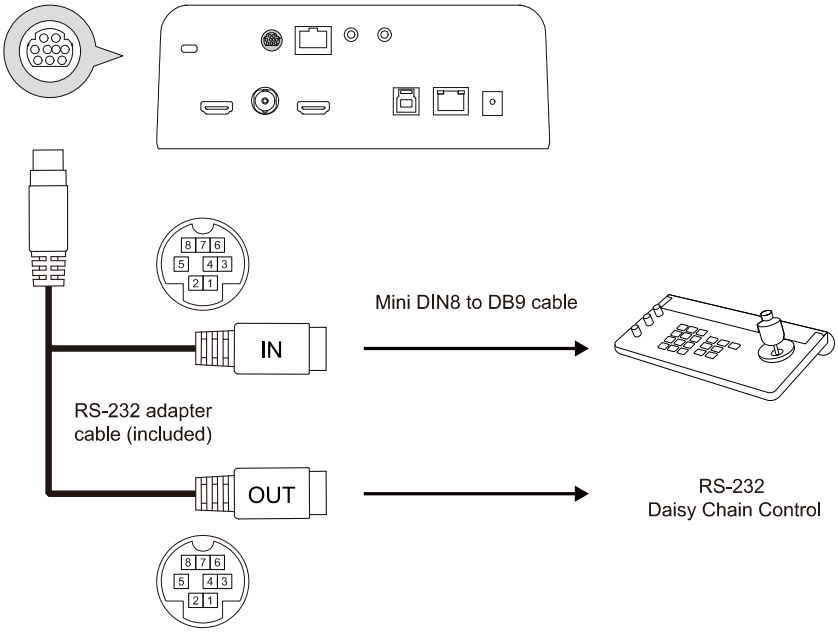
1. Connect the camera PoE++ 802.3bt port to a port on the Ethernet switch. The switch must provide PoE++ if you are not using a power adapter.

2. Connect the Camera Controller's IP port to a port on the Ethernet switch.

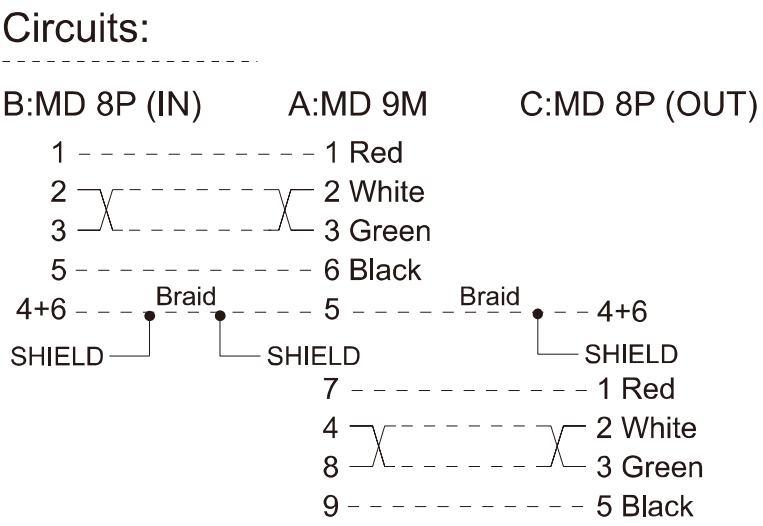


RS-232 Connection

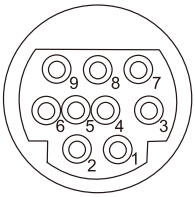
Use the included mini DIN9 to mini DIN8 RS-232 adapter cable to make a RS-232 connection to your control device.



- **Mini DIN9 to Mini DIN8 RS-232 Adaptor Cable Pin Definition**

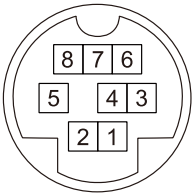


- **RS-232 Pin Definition**



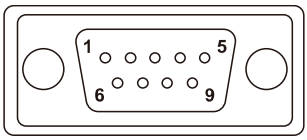
Function	Mini DIN9 Pin #	I/O Type	Signal	Description
VISCA IN	1	Output	DTR	Data Terminal Ready
	2	Input	DSR	Data Set Ready
	3	Output	TXD	Transmit Data
	6	Input	RXD	Receiver Data
VISCA OUT	7	Output	DTR	Data Terminal Ready
	4	Input	DSR	Data Set Ready
	8	Output	TXD	Transmit Data
	9	Input	RXD	Receiver Data
	5	Input	I/O	Detect DIN8/DIN9
---	Shield	---	GND	Ground

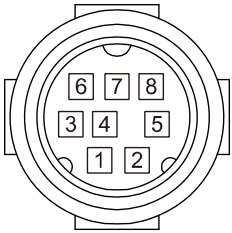
- **Mini DIN8 Cable Pin Definition**

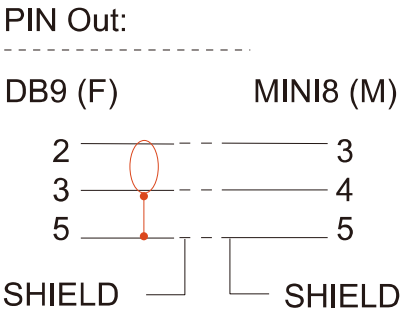


Pin #	Signal
1	DTR
2	DSR
3	TXD
4	GND
5	RXD
6	GND
7	NC
8	NC

- **Din8 to D-Sub9 Cable Pin Definition**

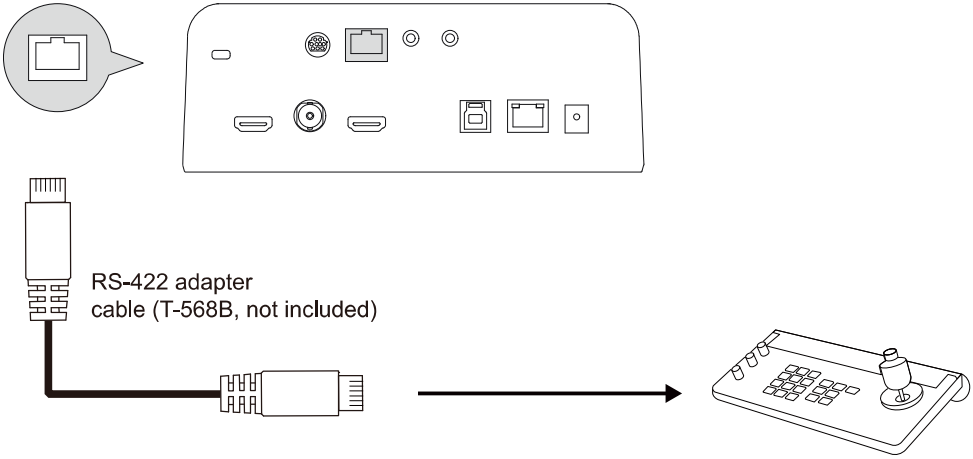


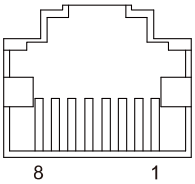




RS-422 Connection

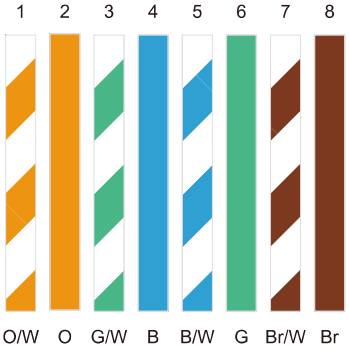
Use an RS-422 adapter cable to make a RS-422 connection to your control device.



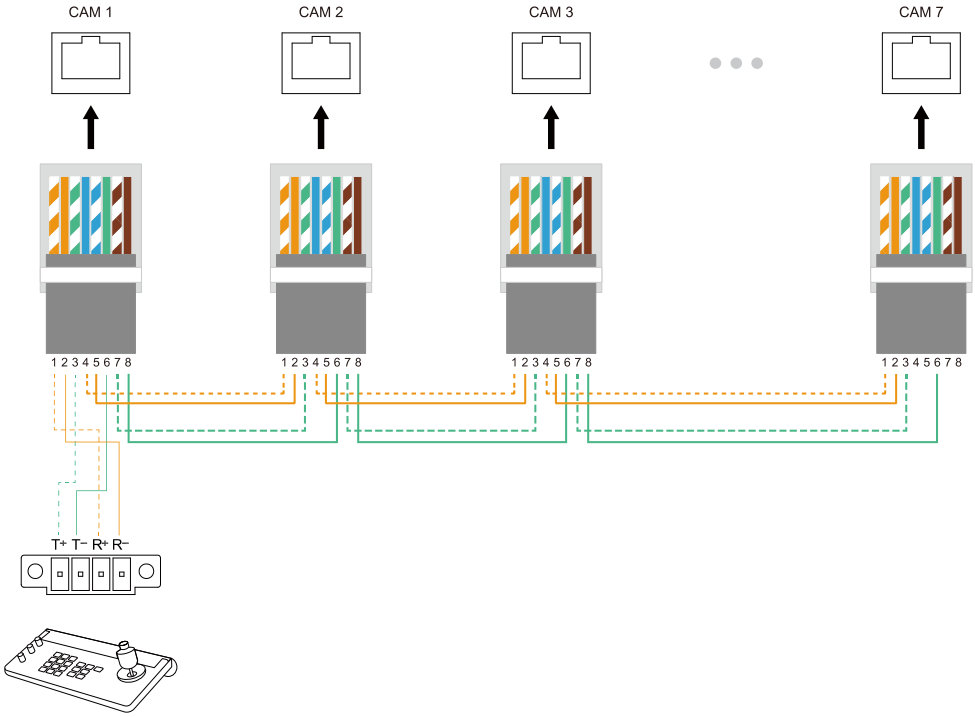


Pin #	Pin
1	TX+
2	TX-
3	RX+
4	TX+
5	TX-
6	RX-
7	RX+
8	RX-

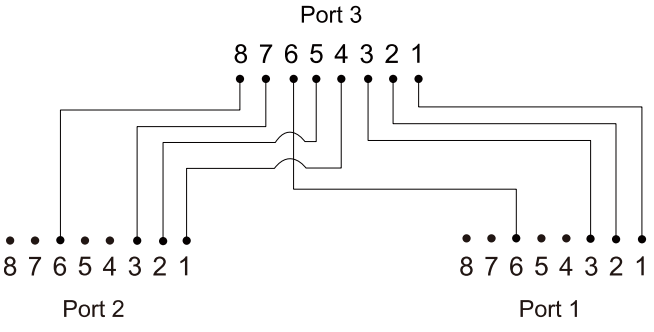
RS-422 Port Pin Definition



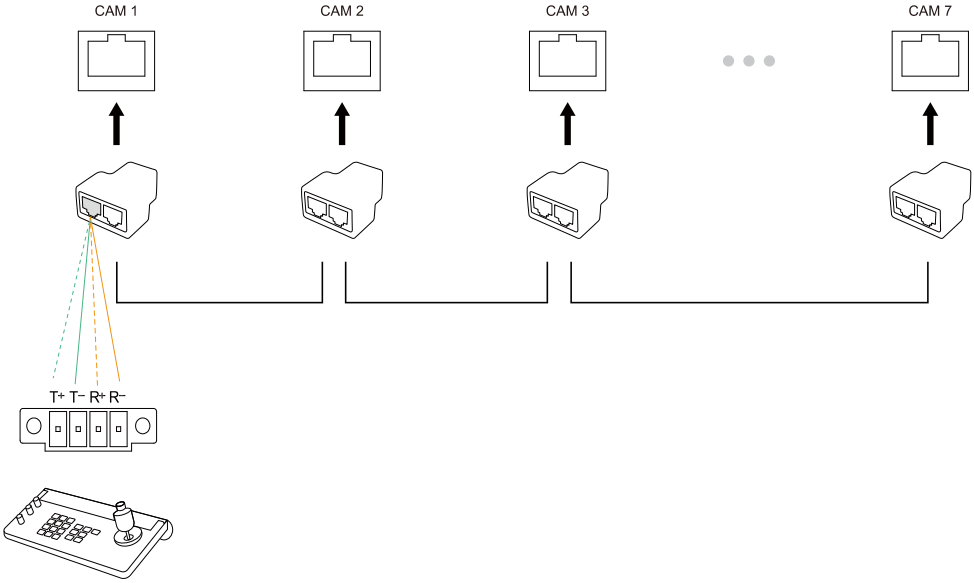
T-568B Cable



- Or you can use a Cat5e splitter to daisy chain multiple camera connection.

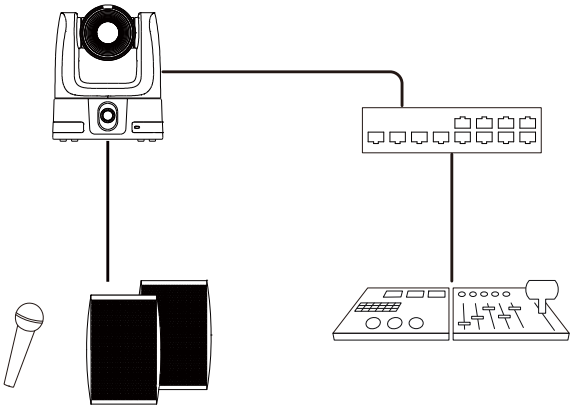


Cat5e Splitter Pin Definition



Audio Input Connection

Connect to your audio devices to receive audio.
Mic input level: 50 mVrms max.; supplied voltage: 2.5 V.
Line input level: 1 Vrms max.

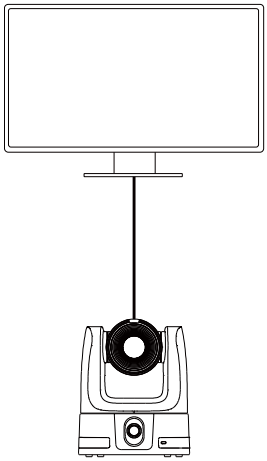


Video Output Connection

Use the included HDMI cable to connect to a monitor or TV. Or you can use a 3G-SDI cable to connect to a 3G-SDI display.

Note:

- The camera can stream video via HDMI and 3G-SDI simultaneously.
- The OSD menu will appear by default if you make an HDMI connection before turning on the camera.



Get Started

Power the Device On and Off

The device turns on when you plug it into a power source. The device doesn't have a power button, so you must unplug the power cable to power it off.

Reset the Device

To reset the device to factory default settings, do any of the following:

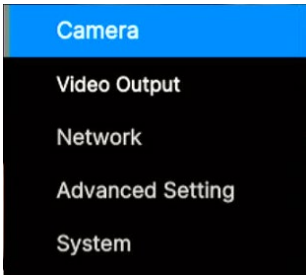
OSD menu: Go to **System** > **Factory Default** > **On**.
Web interface: Go to **System** > **Factory Default** > **Reset to Factory Default**.

Factory Default Settings

IP address	DHCP
Hostname	[Model name]-[last 6 digits of MAC Address] Find the MAC address on the bottom or rear of the device.
Web interface login	None
Theme Mode	All modes reset to **IP Mode**, except **Zoom** and **Teams**, which will remain unchanged.

Access the OSD Menu

During HDMI output, Press the **Menu** button (MENU) on remote control to open the OSD menu.

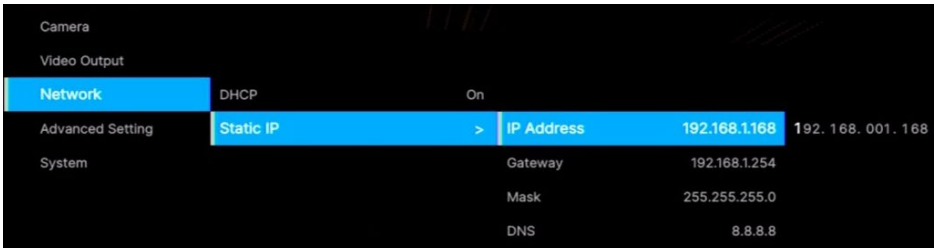


Change Your Network Setting

Note: The camera's default network is DHCP.

- **Static IP**

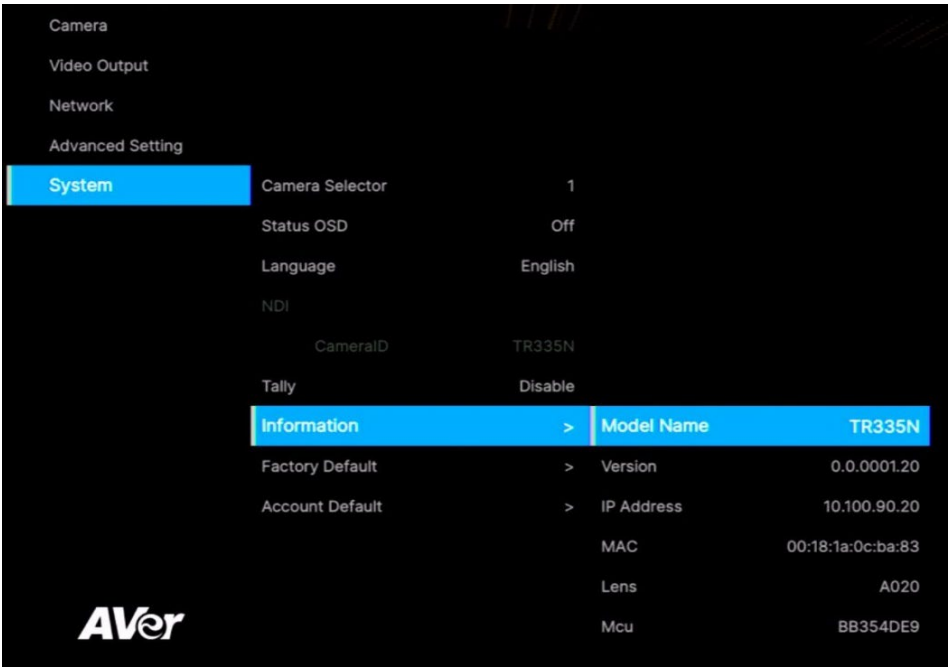
1. Press the (MENU) button on remote control to open the OSD menu.
2. Go to **Network** > **DHCP** > **On.**
3. Then go to **Network** > **Static IP**.
   Select and enter **IP Address**, **Gateway**, **Mask** and **DNS** to configure.



- **DHCP**

1. Press the (MENU) button on remote control to open the OSD menu.
2. Go to **Network** > **DHCP** > **Off**.

3. Then go to **System** > **Information** to see the IP address.



Note: If the DHCP server fails to assign an IP address after 30 seconds, the device defaults to 192.168.1.168. Multiple devices will be assigned random IPs within 192.168.1.1 – 192.168.1.254.

To troubleshoot, make sure your DHCP server is running, then disconnect and reconnect the camera LAN cable. Or go to **Network** on the OSD menu > Switch **DHCP** off and on.

OSD Menu Tree

1st Level	2nd Level	3rd Level	4th Level
Camera	Exposure Mode	Full Auto	Exposure Value
			Gain Limit Level
			Slow Shutter
		Shutter Priority	Exposure Value
			Shutter Speed
			Gain Limit Level
		Iris Priority	Exposure Value
			Iris Level
			Gain Limit Level
			Slow Shutter
		Manual	Shutter Speed
			Iris Level
			Gain Level
		Bright	Bright value
	White Balance	Auto	
		ATW	
		Indoor	
		Outdoor	
		One push trigger	
		Manual	R gain
			B gain
	Pan Tilt Zoom	Preset Speed	5, 25, 50, 100, 150, 200
		Digital Zoom	Off / On
		Digital Zoom Limit	x2, x3, x4, x5, x6, x7, x8, x9, x10, x11, x12
		Pan/Tile Slow	Off / On
	Noise filter	Off / Low / Middle / High	
	Saturation	0 1 2 3 4 5 6 7 8 9 10	
	Contrast	0 1 2 3 4	
	Sharpness	0 1 2 3	
	Mirror	Off / On	
	Flip	Off / On	
Video Output	Theme	IP	
		HDMI	
		USB	
		ZOOM	
		TEAMS	
		(NDI)	

	Frequency		60	
			59.94	
			50	
	HDMI1 Resolution		2160p60	
			2160p59.94	
			2160p50	
		HDMI2 Resolution	2160p30	
			2160p29.97	
			2160p25	
			1080p60	
			1080p59.94	
			1080p50	
			1080p30	
			1080p29.97	
			1080p25	
			1080i60	
			1080i50	
			720p60	
			720p59.94	
			720p50	
	HDMI1/HDMI2 Source		PTZ Camera	
			Wide Angle Camera	
			PIP/PBP	
	SDI Source		HDMI-1	
			HDMI-2	
	PIP Mode		PBP-1	
			PBP-2	
			PIP-1	
			PIP-2	
			PIP-3	
			PIP-4	
			PIP-5	
			PIP-6	
Network	DHCP		OFF	
			ON	
	Static IP		IP Address	192.168.1.168
			Gateway	192.168.1.254
			Mask	255.255.255.0
			DNS	168.95.1.1
	Speed		10M/100M/1000M/2500M	
Advanced Setting	Audio		Input Type	Line in / Mic in
			Audio Volume	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

	Control	Serial Port	RS232 / RS422
		Protocol	VISCA / PELCO D/PELCO P
		Camera Address	1 2 3 4 5 6 7
		Baud Rate	4800 / 9600 / 38400
	Tracking	Off/On	
	Tracking Mode	Presenter/Zone/Segment/Hybrid	
System	Camera Selector	1,2,3	
	Status OSD	OFF	
		ON	
	Language	English/繁體中文/日本語	
	NDI	On/OFF	
		Camera ID	
	Tally	Disable/ Enable	
	Information	Model Name	TR535
		Series number	xxxxxxxxxx
		Version	0.0.0000.00
		IP ADDR	192.168.1.168
		MAC	00:18:1a:04:9e:81
	Factory Default	Off/On	
	Account Default	Off/On	

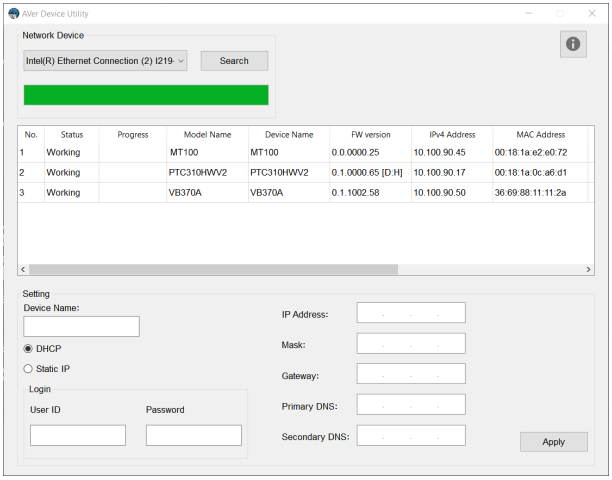
Access the Web Interface

To access the web interface of the camera, you can use any of the following software to find its IP address:

- AVer Device Utility
- AVer Enterprise Management

Note: The camera's default network is DHCP.

AVer Device Utility



To access the web interface:

1. Download AVer Device Utility from AVer Download Center (https://www.aver.com/download-center) and launch the software.

2. Click **Search** to see available devices on the same local area network (LAN).

   Note:
   - Make sure your camera has internet.
   - AVer Device Utility and camera must be on the same LAN.

3. Double-click on your camera's IP address in the **IPv4 Address** column to open the web interface in your browser.

To change your network to DHCP or static IP:

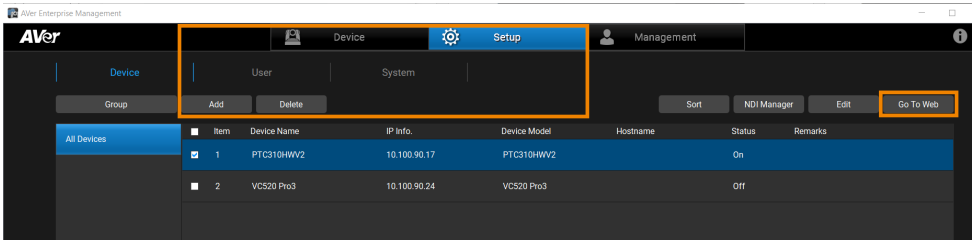
1. Select the checkbox of your camera.

2. Enter the changed username and password in the **Login** field.

3. Select **DHCP** or **Static IP**, then enter your network settings if applicable in the **Settings** section.

4. Click **Apply**.

AVer Enterprise Management



Note: The AVer Enterprise Management default username and password is **admin**/**admin**.

1. Download AVer Enterprise Management from AVer Download Center (https://www.aver.com/download-center) and launch the software.

2. Log in with the AVer Enterprise Management default username and password **admin**/**admin**.

3. Go to **Setup** > **Add**, then click **Auto Search** to see available devices on the same local area network (LAN).

4. Click to select your camera, enter the changed camera username and password, then click **Save** to add the camera to the device list.

5. Select the checkbox of your camera, then click **Go to Web** button to open the web interface in your browser.

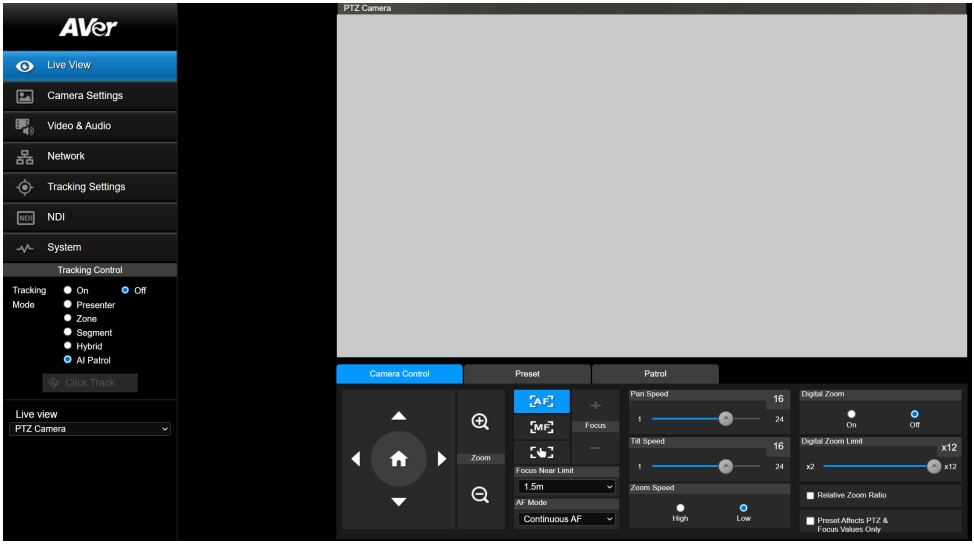
Log in for the First Time

When you log in for the first time, you'll be prompted to change the username and password. The username and password cannot be the same.

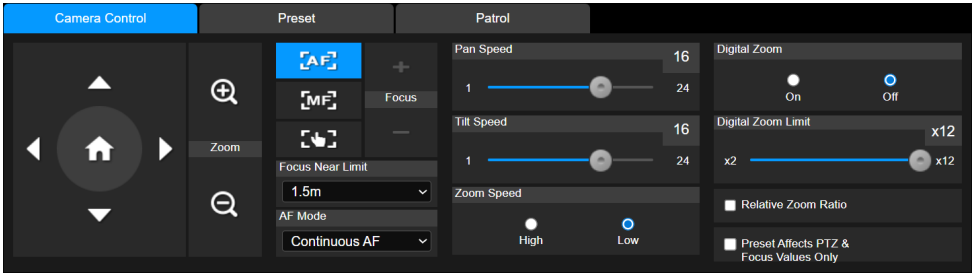
- Username: Use 1-32 characters.
- Password: Use 8-32 characters and a combination of uppercase letters, lowercase letters, and, numbers. Symbols (!$%'()*+,-./<=>?@[\]^_{}~) are optional.

Web Interface

Live View



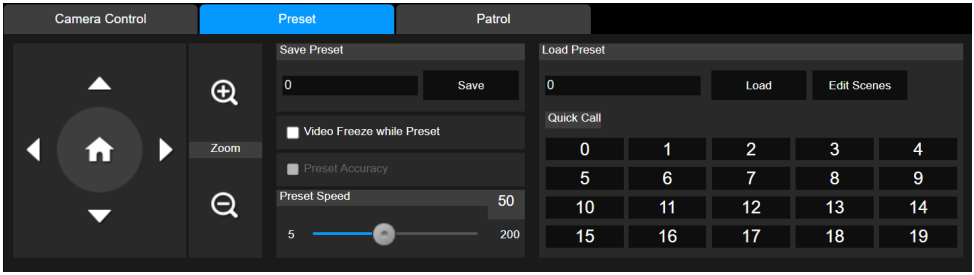
Camera Control



Item	Description
Pan, Tilt, Zoom Controls	Use pan, tilt, and zoom controls to position the camera.
Home	Reset the pan-tilt position to the center.
Auto Focus AF	Focus automatically with an autofocus mode: ● AF Trigger after PTZ: Automatically focus after each pan, tilt or

AF Mode	zoom. ● Continuous AF (default): Automatically focus continuously. ● Face Priority AF: ○ Tracking on: Focuses on the tracked face. ○ Tracking off: Focuses on the face closest to the screen center.
Manual Focus	Focus manually with + - buttons.
One Push Focus	Focus automatically once.
Focus Near Limit	Select the nearest focus limit.
Pan Speed	Adjust pan, tilt and zoom speed.
Tilt Speed	
Zoom Speed	
Digital Zoom	Turn digital zoom on or off.
Digital Zoom Limit	Select the digital zoom limit.
Relative Zoom Ratio	Select to automatically adjust pan and tilt speeds based on the zoom ratio.
Preset Affects PTZ & Focus Values Only	A preset typically includes pan, tilt, zoom, focus, and 3A (autofocus, auto exposure, auto white balance) values. Select to save only pan, tilt, zoom and focus values for presets.

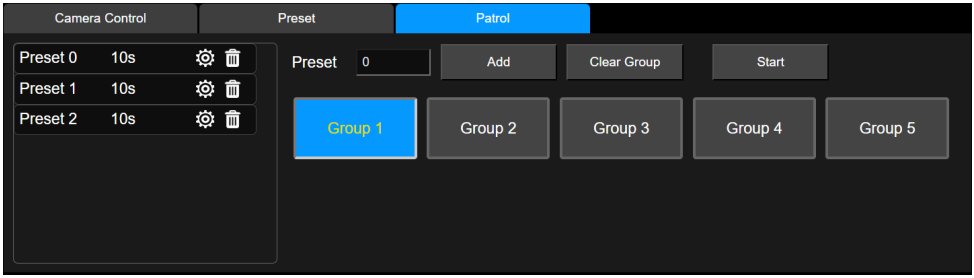
Preset



Item	Description
Save Preset	1. Position the camera using pan, tilt and zoom controls. 2. Enter a preset number (0–255) in the **Save Preset** field and click **Save**.
Load Preset	1. Enter a preset number (0–255) in the **Load Preset** field and click **Load**. 2. Or click a preset number (0–19) in the **Quick Call** section.
Video Freeze while Preset	Select to display only the live view from presets. The live view from the moving path will not be displayed.
Preset Accuracy	Select to improve the accuracy of moving to presets.
Preset Speed	Adjust the camera speed when moving to presets.

Edit Scenes	To customize camera functions for preset 0–9: 1. Click **Edit Scenes**. 2. Select **Scenes 0–9** from the **Scenes List** to add up to 10 CGI commands. 3. Select a scene from the **Set Scenes** drop-down list for each preset.

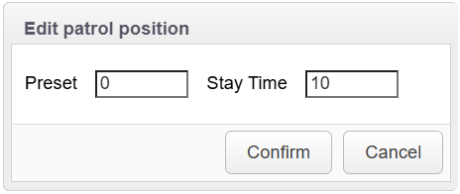
Patrol



Patrol allows the device to automatically move between a series of presets and can be set to pause at each preset for a specific amount of time. A patrol continues when the device is offline

To create a patrol:

1. Make sure the required presets have been defined before a new patrol can be created.
2. Click to select a group you want to add.
3. Enter the preset number in the **Preset** field, then click **Add**.
4. Click the **gear** icon next to the added preset to edit the preset or enter the amount of time you want the device to stay at this preset in the **Stay Time** field. Click the **trash can** icon to delete it.

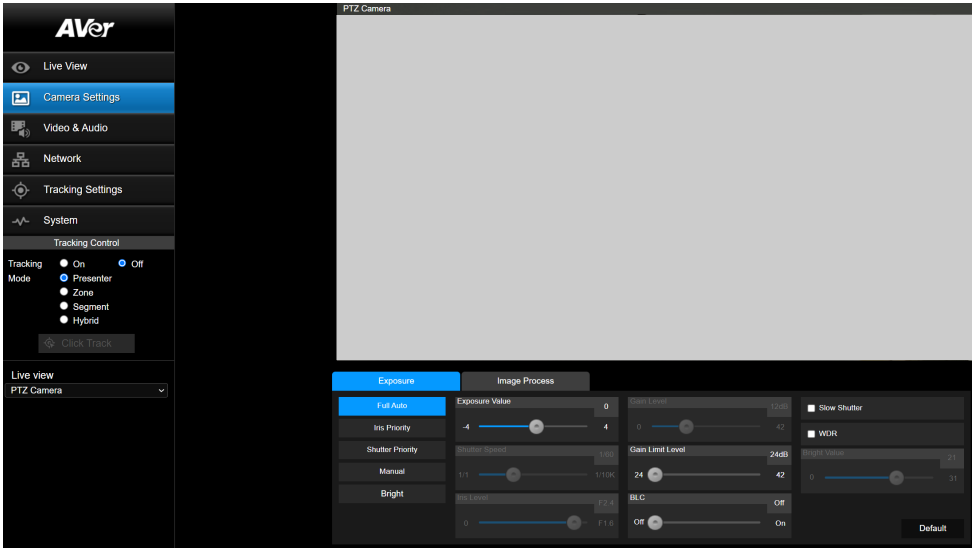


5. Click **Start** to start patrolling or **Stop** to stop patrolling.

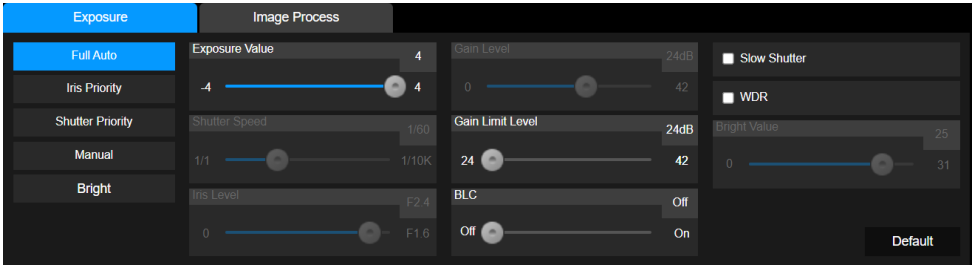
To delete a patrol:

1. Click to select a group you want to delete.
2. Click **Clear Group**.

Camera Settings



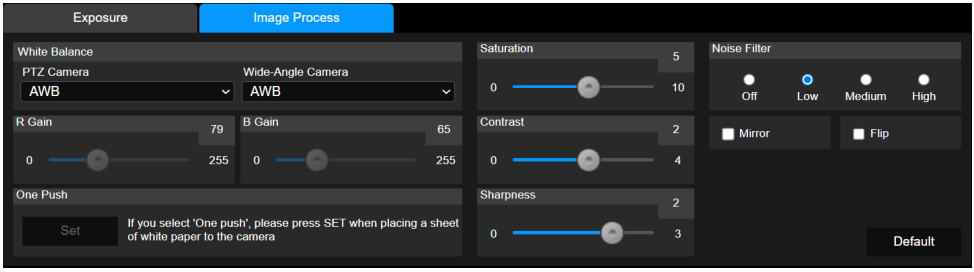
Exposure



Item	Description
Exposure Mode	Select an exposure mode to adjust image brightness: • Full Auto: Automatically adjusts shutter speed (ISO), iris (aperture), and gain for optimal brightness in most environments. • Iris Priority: You set the iris, and the camera adjusts shutter speed and gain. Useful for controlling depth of field. • Shutter Priority: You set the shutter speed, and the camera adjusts iris and gain. Ideal for capturing motion with minimal blur.

	• Manual: Manually adjust shutter speed, iris, and gain. • Bright: Drag the bright value slider to manually increase brightness by adjusting iris and gain.
Exposure Value	Fine-tunes overall image brightness.
Gain Limit Level	Sets the maximum gain the camera is allowed to use automatically. Helps balance between brightness and image noise.
BLC (Backlight Compensation)	Brightens subjects in front of bright backgrounds (like windows).
Slow Shutter	Makes the image brighter in low light by slowing down shutter speed. May cause motion blur.
WDR (Wide Dynamic Range)	Enhances visibility in scenes with both very bright and very dark areas so details aren't lost in shadows or highlights.
Default	Reset Exposure to factory default settings.

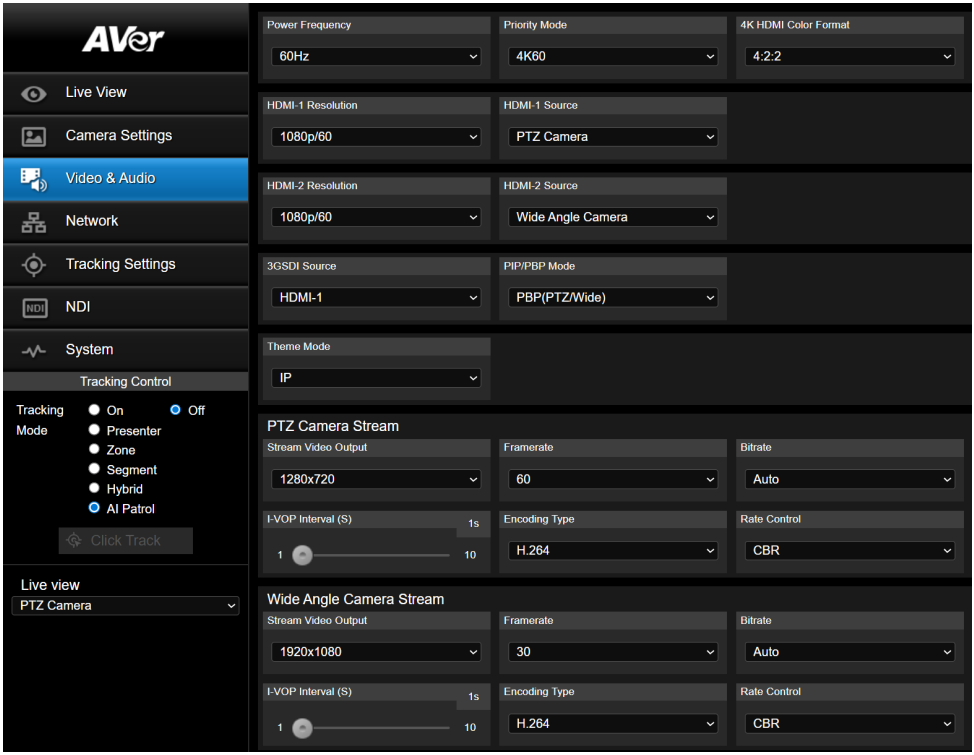
Image Process



Item	Description
White Balance	Select a white balance mode to match the lighting conditions and ensure accurate color: • AWB (Auto White Balance): Automatically adjusts white balance based on the current lighting. Best for stable indoor lighting. • ATW (Auto Tracking White Balance): Continuously adapts to changing lighting conditions. Ideal for dynamic or mixed lighting environments. • Indoor: Fixes red and blue gain for a color temperature of 3200 K. • Outdoor: Fixes red and blue gain for a color temperature of 5800 K. • One Push: Calibrates white balance using a white reference. Place a white sheet of paper in front of the lens and click **Set** to capture accurate color balance based on the current lighting. • Manual: Manually adjust the red and blue gain.
Saturation	Adjust saturation, contrast and sharpness.
Contrast	

Sharpness	
Noise Filter	Select a noise filtering level.
Mirror	Flip the image horizontally.
Flip	Flip the image vertically.
Default	Reset Image Process to factory default settings.

Video & Audio



Video Settings

Item	Description
Power Frequency (Hz)	Select **50Hz**, **59.94Hz** or **60Hz** based on your country or region.
Priority Mode	Apply video modes and set the maximum resolution based on the output interface: 1. Go to **Theme Mode** to select a video mode based on the output interface you want to use. 2. Then go to **Priority Mode** to set the maximum resolution for that video mode. **Note:** ● For details on resolution, please refer to <Output Interface and Resolution Table> 。

Theme Mode	• Zoom Mode: USB audio is disabled. Wide-angle video is unavailable. Teams Mode: USB audio is disabled. Wide-angle video is unavailable. Video is limited to USB output only.  • The **Teams app** supports only one video feed. Selecting IP, USB, or HDMI mode when using the Teams app sends both PTZ and wide-angle videos, which causes an error.
4K HDMI Color Format	Select a color mode for video. • 4:2:0: Recommended for 3G-SDI. • 4:2:2: Recommended for HDMI.
HDMI-1 Resolution	Select a resolution.
HDMI-1 Source	Select a video source.
HDMI-2 Resolution	Select a resolution.
HDMI-2 Source	Select a video source.
3G-SDI Source	Select a video source.
PIP/PBP Mode	Select a picture-in-picture (PIP) or picture-by-picture (PBP) layout.

PTZ Camera Stream

Item	Description
Stream Video Output	Choose a streaming output resolution for the live view.
Framerate	Choose a frame rate
Bitrate	Choose a bit rate.
I-VOP Interval (S)	Drag the slider to choose how often I-VOPs appear in a video stream. Shorter I-VOP intervals result in higher video quality but also larger file sizes.
Encoding Type	Select **H.264** or **H.265**.
Rate Control	Select Variable Bit Rate (**VBR**) or Constant Bit Rate (**CBR**).

Wide-Angle Camera Stream

Item	Description
Stream Video Output	Choose a streaming output resolution for the live view.
Framerate	Choose a frame rate
Bitrate	Choose a bit rate.

I-VOP Interval (S)	Drag the slider to choose how often I-VOPs appear in a video stream. Shorter I-VOP intervals result in higher video quality but also larger file sizes.
Encoding Type	Select **H.264** or **H.265**.
Rate Control	Select Variable Bit Rate (**VBR**) or Constant Bit Rate (**CBR**).

Audio Settings

Item	Description
Audio Input Type	Select **Line In** or **MIC In**.
Encoding Type	AAC
Audio Volume	Drag the slider to adjust the microphone volume.
Sampling Rate	48K
USB Audio Enable	Turn off to stop transmitting audio over USB.

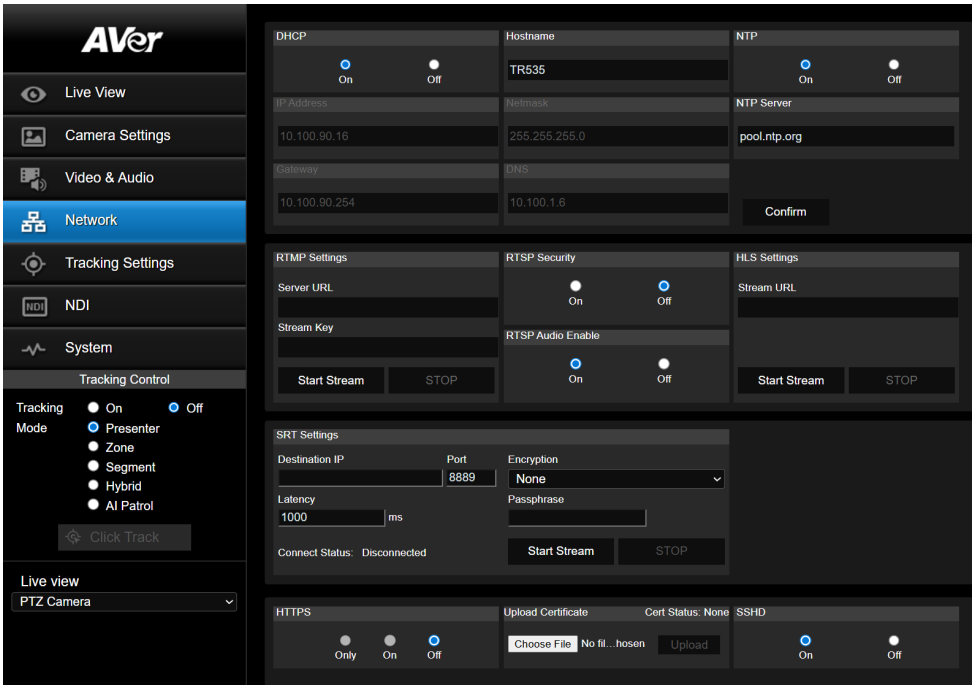
Output Interface and Resolution Table

Theme Mode	Video Quality	Output Interface	Comment
IP (default)	Standard	HDMI, SDI, IP, USB, NDI HX2	
HDMI	Standard	HDMI, SDI, IP, USB, NDI HX2	
USB	Standard	HDMI, SDI, IP, USB, NDI HX2	
Zoom	Zoom certified	HDMI, SDI, IP, USB, NDI HX2	The camera rotates towards the I/O ports (preset 20) when not streaming over USB. To change the sleep mode position, go to **System** > **Sleep to Preset** on the web interface.
Teams	Teams certified	USB	The camera rotates towards the I/O ports (preset 20) when not streaming over USB. To change the sleep mode position, go to **System** > **Sleep to Preset** on the web interface.
NDI	Standard	HDMI, SDI, IP, NDI High Bandwidth	
Dante	Standard	Dante	Requires a Dante license. To purchase, please visit the Dante website (https://www.getdante.com/).

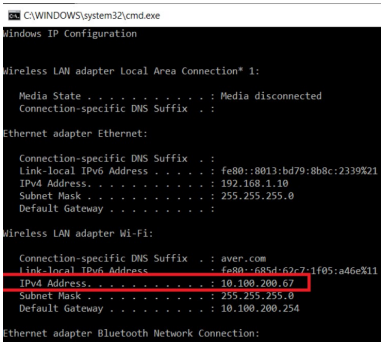
Theme Mode	Priority Mode	Output Interface			
		IP, NDI HX2	HDMI	USB	NDI High Bandwidth
		PTZ / Wide-Angle	PTZ / Wide-Angle	PTZ / Wide-Angle	PTZ
IP (default)	4K60	4K60 / 4K30	2K60	2K60 / 2K30	-
	4K30	4K30	2K30	2K30	-
	2K60	2K60	2K60	2K60	-
HDMI	4K60	2K60 / 2K30	4K60 / 4K30	2K60 / 2K30	-
	4K30	4K30	4K30	4K30	-
	2K60	2K60	2K60	2K60	-
USB	4K60	2K60 / 2K30	2K60	4K60 / -	-
	4K30	2K30	2K30	4K30 / -	-
	2K60	2K60	2K60	2K60	-
Zoom	4K60	2K60 / 2K30	2K60	4K30 / -	-
	4K30	2K30	2K30	4K30 / -	-
	2K60	2K60	2K60	2K60 / -	-
Teams	4K60	-	-	4K30 / -	-
	4K30	-	-	4K30 / -	-
	2K60	-	-	2K60 / -	-
NDI	4K60	4K60 / 4K30	2K60	-	4K30
	4K30	4K30	2K30	-	4K30
	2K60	2K60	2K60	-	4K30
Dante	4K60	4K60 / 4K30	2K60	2K60 / 2K30	-
	4K30	4K30	2K30	2K30	-
	2K60	2K60	2K60	2K60	-

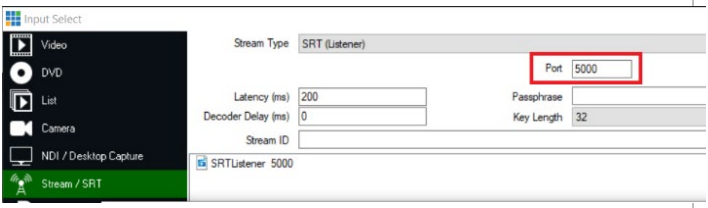
Note: Lens distortion correction (LDC) only supports up to Priority Mode 4K30。

Network

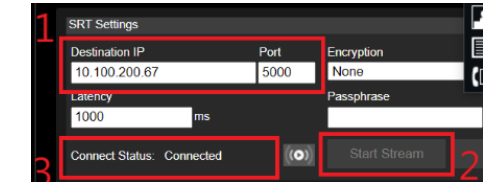


Item	Description
DHCP	Set the network to DHCP or Static IP. • DHCP: Turn on **DHCP** and click **Confirm** to save the setting. The camera will be assigned IP settings automatically. • Static IP: Turn off **DHCP**, enter **IP Address**, **Netmask**, **Gateway** and **DNS**, and click **Confirm** to save the settings.
Hostname	Enter a hostname that is displayed on devices such as an IP router. • The default is your model name.
NTP	Turn Network Time Protocol (NTP) on or off.
NTP Server	Enter your NTP server.
RTMP Setting	Stream live video to a video platform such as YouTube. 1. Enter the **Server URL** and **Stream Key** of your video platform. Please refer to the instruction of your platform to obtain the server URL and stream key. 2. Click **Start Stream** to start streaming, **Stop** to stop streaming.
RTSP Security	Protect your video stream on media players such as VLC, PotPlayer and QuickTime by ensuring that only authorized users can access it. • When **Security** is turned off:

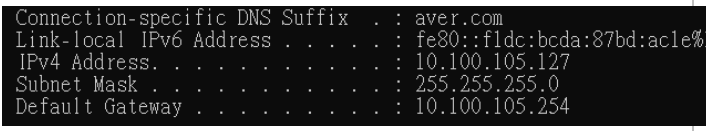
	1. Enter your camera's RTSP URL into the media player. 2. PTZ camera: rtsp://[camera IP address]:554/live_st1 Wide-angle camera: rtsp://[camera IP address]:8554/live_st2 Example: rtsp://192.168.1.100:554/live_st1 • When **Security** is turned on: 1. Enter your camera's RTSP URL, username and password into the media player. 2. PTZ camera: rtsp://[username:password]@[camera IP address] :554/live_st1 Wide-angle camera: rtsp://[username:password]@[camera IP address] :8554/live_st2 Example: rtsp://1:1@192.168.1.100:554/live_st1 3. Username and password: camera's web interface login
RTSP Audio Enable	Turn on to stream audio.
HLS Settings	Configure HTTP Live Streaming (HLS) settings to provide adaptive bitrate streaming, which ensures smooth playback and minimizes buffering. 1. Enter the stream URL obtained from the streaming service or server. 2. Click **Start Stream** to start streaming, **Stop** to stop streaming.
SRT Settings	• vMix 1. Make sure the vMix workstation and your camera are on same network. Copy the workstation's IP address.  2. Go to **Stream** tab > select **SRT (Listener)** from the **Stream Type** drop-down list. Copy the **Port** value.



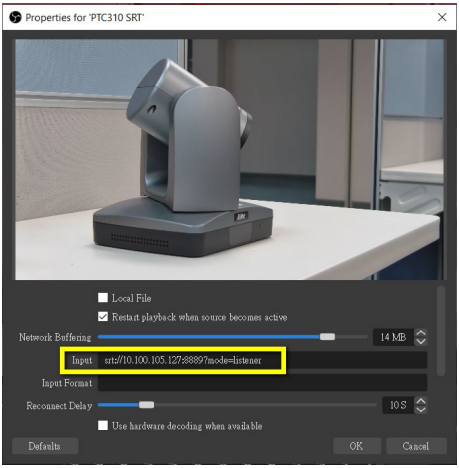
3. Paste the IP address and Port value into **SRT Settings** fields and click **Start Stream**. **Connect Status** will change to **Connected**.



- OBS (Open Broadcaster Software)
  1. Make sure the OBS workstation and your camera are on same network. Copy the workstation's IP address.



  2. Open OBS. Add a scene and a source.
  3. Enter "srt://[Workstation IP]:[port]?mode=listener" in the **Input** field.
     Example: srt://10.100.105.127:8889?mode=listener



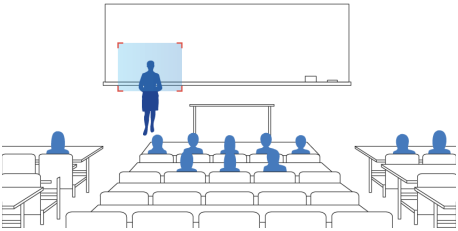
  4. If there is no image, right-click on the source > **Transform** > **Fit to screen** to re-scale image.

HTTPS	Enable HTTPS to establish a secure connection between your browser and your camera. To enable HTTPS access on your camera: 1. Obtain a SSL certificate for encryption and decryption in base-64 encoded format and use a private key in PKCS#8 format (unencrypted). 2. Package the required certificate content into PEM format. The SSL certificate uploaded to the camera must be in PEM format. 3. Click **Choose File** to select the certificate file, and then click **Upload**. 4. Turn on HTTPS.
SSHD	Turn remote debugging from AVer on or off.
Visca Port Mode	Select a VISCA port mode.
VIsca Port Number	Enter a VISCA port number.
802.1X Enable	Turn 802.1X Enable on or off.
Eap Method	When **802.1x Enable** is turned on, select an Eap method.
Eap Setting	Based on your Eap method, complete the authentication and click **Confirm**.
FreeD	Turn the FreeD protocol on to send camera positioning data to a virtual reality production system. When FreeD is turned on, enter the following information: • Your **Camera ID.** • The **IP Address** and **Port** of the device receiving your camera's positioning data. • Manually enter pan and tilt backlash amount to ensure accurate aiming.

Tracking Settings

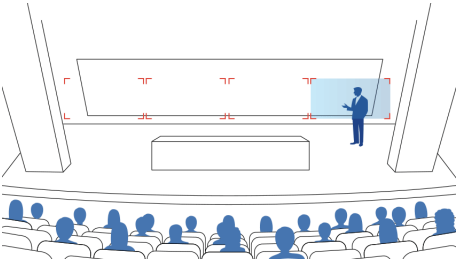
Tracking Modes Overview

For details on settings, please refer to their respective chapters.



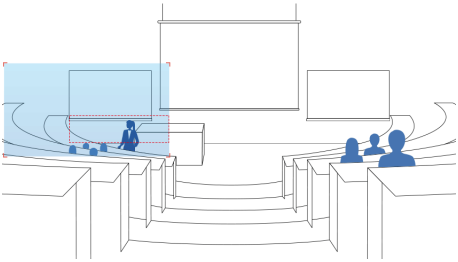
Presenter

Frames and follows the presenter on screen.



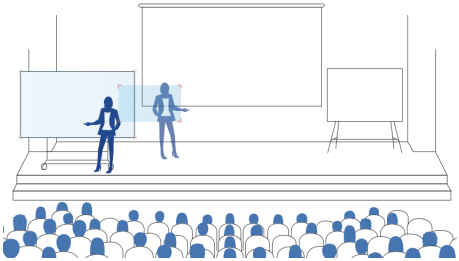
Zone

Frames and follows the presenter on screen using up to four presets. When the presenter exits the previous preset, the camera will follow and move to the next preset.



Segment

Segment Mode lets you define a detection area for each preset. When the presenter enters the detection area, the camera will move to the corresponding preset.



Hybrid

Combines Presenter Mode and Segment Mode.

Uses presets when the presenter is inside of presets' detection areas, frames and follows the presenter when they are outside of presets.

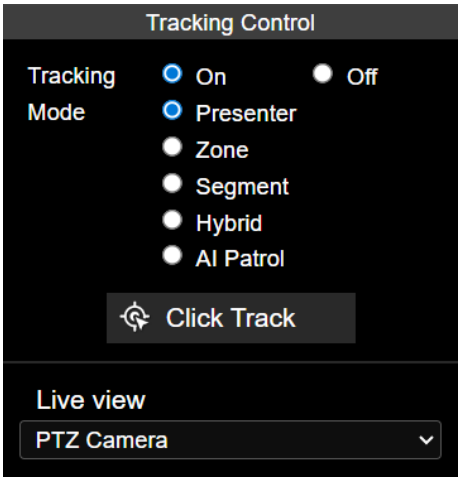
AI Patrol

Uses AI to analyze wide-angle footage and intelligently controls PTZ camera framing and movement, delivering dynamic scene coverage.

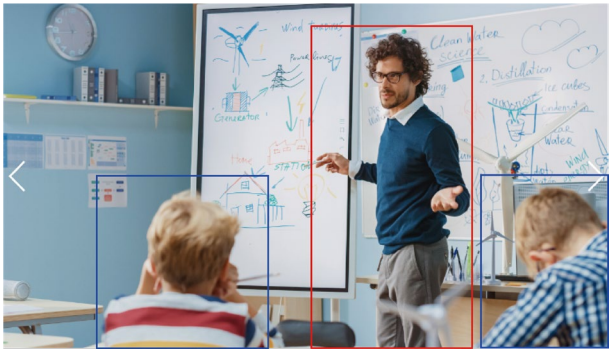
Compare Tracking Modes

Tracking Mode	Detection lens	Tracking Point	Available presets	Click Track
Presenter	PTZ	Preset 1	–	✓
Zone	PTZ	Preset 6	Presets 6–9	✓
Segment	Wide-angle (3–16 m)	–	Presets 14–17	–
Hybrid	PTZ + Wide-angle (3–16 m)	Preset 1	Presets 10–13	✓
AI Patrol	Wide-angle	–	–	–

Tracking Control Panel

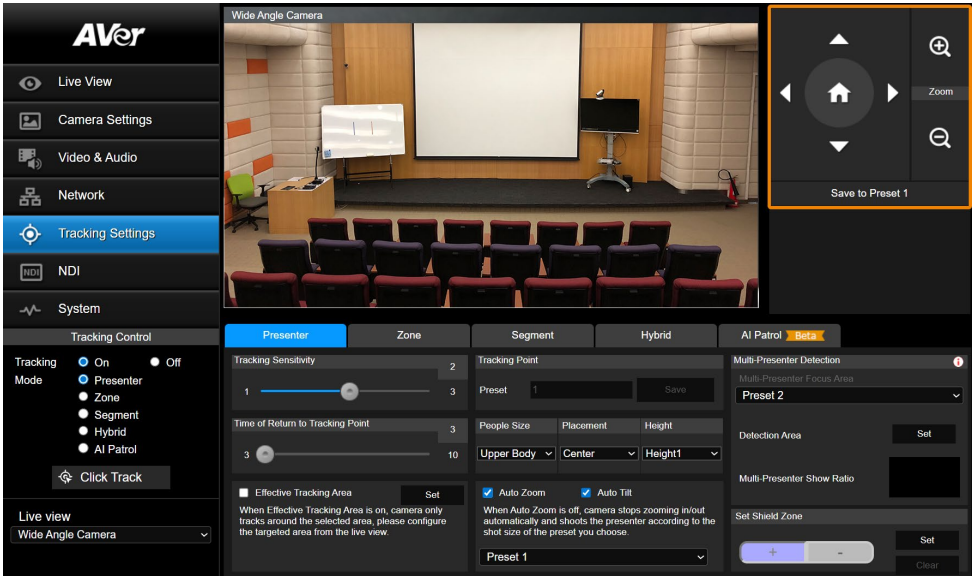


- **Tracking:** Turn tracking on or off.
- **Mode:** Select a tracking mode to frame and follow the presenter in real time as they move. For details on tracking settings, please refer to respective chapters.
- **Click Track:** Presenter Mode lets you switch the presenter you want to track. Click the **Click Track** button to frame everyone on screen in bounding boxes and click to select the presenter you want to track. Selected presenter will be in a red frame.



- **Live view:** Select the PTZ lens or the wide-angle lens.

Presenter Mode



Presenter Mode frames and follows the presenter on screen, and returns to the tracking point (Preset 1) when no one is on screen.

To set up Presenter Mode:

1. Go to **Tracking Settings** > **Presenter**.

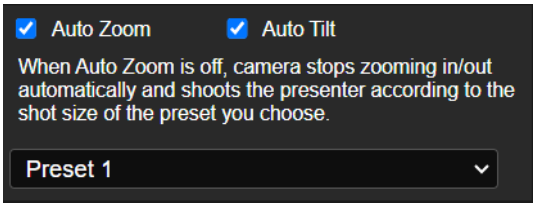
2. Use pan, tilt and zoom controls to position your camera and click **Save to Preset 1** to save the **Tracking Point**.

3. Configure additional settings:

Item	Description
Tracking Sensitivity	Drag the slider to adjust tracking sensitivity.
Time of Return to Tracking Point	Drag the slider to set an idle time (second) before the camera return to the tracking point.
Effective Tracking Area	Define an effective tracking area. The camera only tracks the presenter inside that area. 1. Select the checkbox and click **Set**. 2. Drag the upper-left or the lower-right corner of the red square to adjust the size of the tracking area.
Tracking Point	If no one is on screen, the camera will return to the tracking point (Preset 1).

<table>
<tr><td>People Size, Placement, Height</td><td>• Frame the presenter’s full body or upper body.
• Horizontally align the presenter to the left, center or right.
• Vertically align the presenter to the center or bottom.</td></tr>
<tr><td>Auto Zoom

Auto Tilt</td><td>• When Auto Zoom is turned off, the zoom ratio will be based on your selected preset from the drop-down list.
• When Auto Tilt is turned off, the tilt angle will be based on your selected preset from the drop-down list.

 
</td></tr>
<tr><td>Multi-Presenter Detection</td><td>The camera goes to your selected Multi-Presenter Detection preset when it detects multiple presenters, and returns to presenter tracking when only one presenter remains.

1. Go to Tracking Settings > Presenter.

2. Select a preset from the Multi-Presenter Focus Area drop-down list. The preset must be defined before selection.

Note: The preset should cover a wide area where multiple presenters may appear.

3. Click Set. Drag the upper-left or the lower-right corner of the red square on the wide-angle live view to adjust the size of the detection area.

4. Click Save. A thumbnail will appear and Multi-Presenter Detection will start automatically.

5. You can also define an exclusion zone in Set Shield Zone to avoid unwanted multi-presenter detection, such as when you have audience in the front row.</td></tr>
<tr><td>Set Shield Zone</td><td>Define an exclusion zone to avoid unwanted multi-presenter detection.

• To add a shield zone:
1. Click Set.
2. Select the plus icon, then drag a gray square over an area you want to shield on the live view with your mouse.</td></tr>
</table>

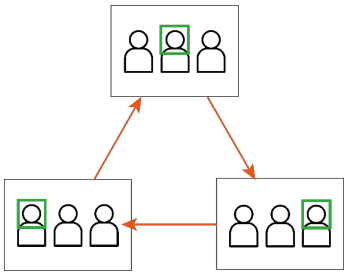
	3. Click **Save**. • To delete a shield zone: 1. Click **Set**. 2. Select the **minus** icon, then select a gray square you want to delete on the live view with your mouse. 3. Click **Save**. • To clear all shield zones: 1. Click **Set**. 2. Click **Clear** to clear all shield zones on the live view. 3. Click **Save**.

4. Turn on **Tracking** and select **Presenter Mode** on the **Tracking Control** panel.

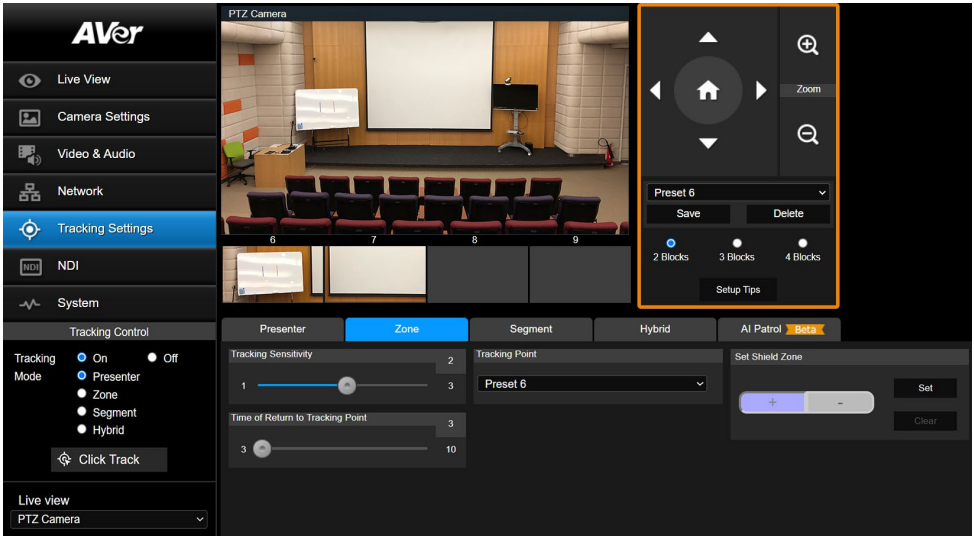
Note: Presenter Mode lets you switch the presenter you want to track. Click the **Click Track** button to frame everyone on screen in bounding boxes and click to select the presenter you want to track. Selected presenter will be in a red frame.

To set up Presenter Mode with the remote control:

1. Use directional buttons to position your camera. Press and hold **Preset**, then press **Number button 1** to save the tracking point (Preset 1).
2. Press **Auto Tracking ON** to turn on Presenter Mode.
3. Press **Upper Body** or **Full body**.
4. To switch presenters, press **Switch**. With each press, cycle through presenters clockwise, starting from the center.



Zone Mode



Zone Mode uses up to 4 presets to frame and follow the presenter on screen. When the presenter exits the previous preset, the camera will follow and move to the next preset.

When no one is in the presets, the camera returns to the tracking point (Preset 6 or selected preset).

Note:

- Zone Mode detects any faces or human silhouettes entering the presets. Beside the presenter, make sure there are no other faces or human silhouettes on a poster in the presets to avoid interference.
- If you are framing both the presenter and the audience, we recommend using Segment Mode.

To set up Zone Mode:

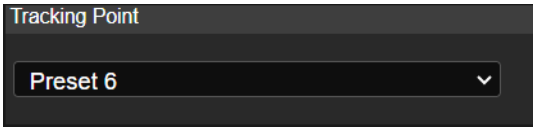
1. Go to **Tracking Settings** > **Zone**.
2. Select the number of **Blocks** (presets) you want to track.
3. Select the presets you want to save from the drop-down list. Presets 6–9 are available.

2 Blocks	3 Blocks	4 Blocks
Preset 6, 7	Preset 6, 7, 8	Preset 6, 7, 8, 9

4. Use pan, tilt and zoom controls to position your camera and click **Save** to save that position. A thumbnail will appear in the preview. Repeat these steps for all presets.

Note: Define overlapping presets from left to right for a smooth transition. When the presenter exits the previous preset, the camera will follow and move to the next preset.

5. Configure additional settings:

Item	Description
Tracking Sensitivity	Drag the slider to adjust tracking sensitivity.
Time of Return to Tracking Point	Drag the slider to set an idle time (second) before the camera return to the tracking point.
Tracking Point	If no one is in the presets, the camera will return to the tracking point (Preset 6 or selected preset). 
Set Shield Zone	Define an exclusion zone. • To add a shield zone: 1. Click **Set**. 2. Select the **plus** icon, then drag a gray square over an area you want to shield on the wide-angle live view with your mouse. 3. Click **Save**. • To delete a shield zone: 1. Click **Set**. 2. Select the **minus** icon, then select a gray square you want to delete on the wide-angle live views with your mouse.

	3. Click **Save**. • To clear all shield zones: 1. Click **Set**. 2. Click **Clear** to clear all shield zones on the live view. 3. Click **Save**.

6. Turn on **Tracking** and select **Zone Mode** on the **Tracking Control** panel.

To set up Zone Mode with the remote control:

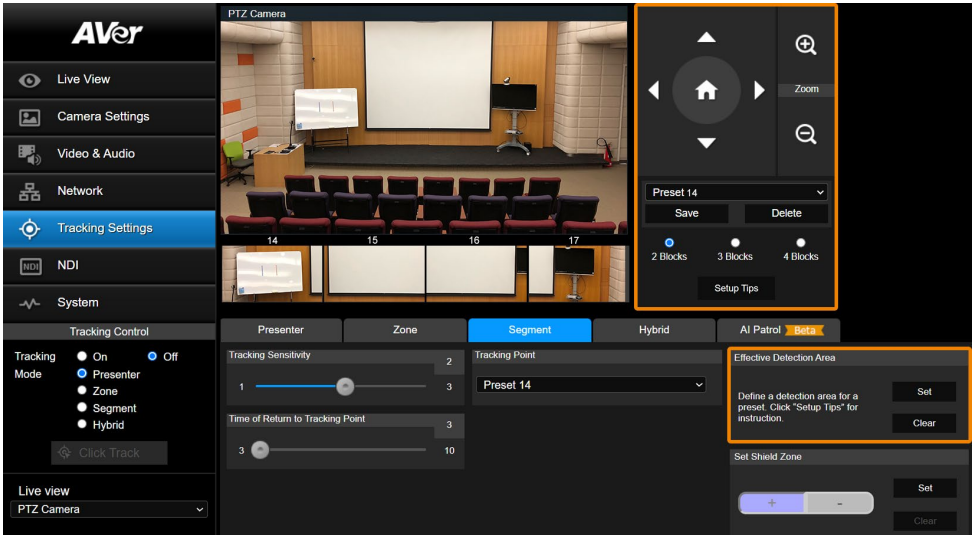
1. Use directional buttons to position your camera. Press and hold **Preset**, then press **Number button 6** to save Preset 6. Repeat these steps for Preset 7.

   Note: Zone Mode has 2 blocks by default. To select more blocks, access the web interface.

2. Press **Auto Tracking ON** to turn on Presenter Mode

3. Then press and hold **Tracking Point** to switch tracking mode from Presenter Mode to Zone Mode.

Segment Mode



Similar to Zone Mode, Segment Mode uses up to 4 presets to frame and follow the presenter on screen, but lets you define a detection area for each preset for added precision.

When the presenter enters the detection area, the camera will move to the corresponding preset. When no one is in the detection areas, the camera returns to the tracking point (Preset 14 or selected preset).

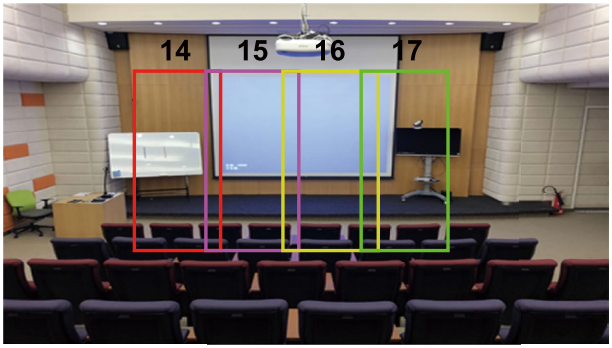
Note:

- Segment Mode detects any faces or human silhouettes entering the detection areas. Apart from the presenter, make sure there are no other faces or human silhouettes on a poster in the detection areas to avoid interference.
- The camera uses the wide-angle lens to cover detection areas, and the PTZ lens for presets; the live view will automatically switch between lenses as you save detection areas and presets.
- The wide-angle lens offers a detection distance of 8-16 m.

To set up Segment Mode:

1. Go to **Tracking Settings** > **Segment**.
2. First, define detection areas. Click **Set** in the **Effective Detection Area** section.
3. Drag a square over the area you want the camera to detect on the wide-angle live view.

4. Select the number of **Blocks** (presets) you want to track. Then click **Save**.
   Detection areas will be equally divided based on the number of blocks you select and appear on the wide-angle live view.



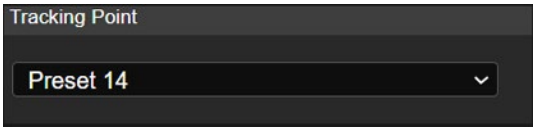
Note:

- The number on top of each color square represents the corresponding preset.
- Drag the edge of the color square to resize. The detection areas must overlap—ideally by about the width of one person, to prevent the camera from jumping between presets.

5. Second, define presets. Select the presets you want to save from the drop-down list, and the camera live view will switch to the PTZ lens. Presets 14–17 are available.

6. Use pan, tilt and zoom controls to position your camera and click **Save** to save that position. A thumbnail will appear in the preview. Repeat these steps for all presets.

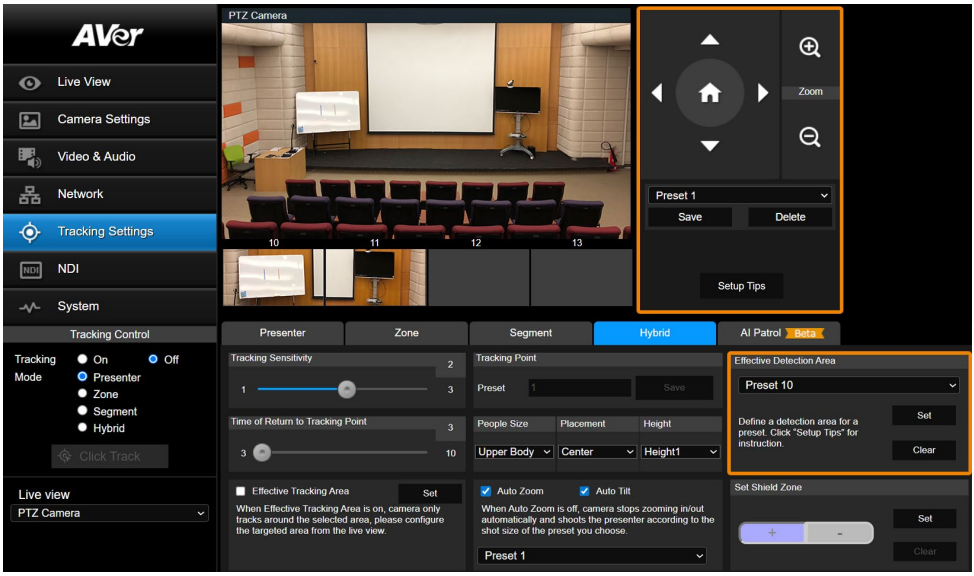
7. Configure additional settings:

Item	Description
Tracking Sensitivity	Drag the slider to adjust tracking sensitivity.
Time of Return to Tracking Point	Drag the slider to set an idle time (second) before the camera returns to the tracking point.
Tracking Point	If no one is in the detection areas, the camera will return to the tracking point (Preset 14 or selected preset). 
Set Shield Zone	Define an exclusion zone. • To add a shield zone: 1. Click **Set**.

	2. Select the **plus** icon, then drag a gray square over an area you want to shield on the wide-angle live view with your mouse. 3. Click **Save**. • To delete a shield zone: 1. Click **Set**. 2. Select the **minus** icon, then select a gray square you want to delete on the wide-angle live views with your mouse. 3. Click **Save**. • To clear all shield zones: 1. Click **Set**. 2. Click **Clear** to clear all shield zones on the live view. 3. Click **Save**.

8. Turn on **Tracking** and select **Segment Mode** on the **Tracking Control** panel.

Hybrid Mode



Hyrbid Mode combines Presenter Mode and Segment Mode, and lets you define a detection area for each preset. Defining a detection area will allow a smoother transition, but you can also define a preset without one.

When the presenter enters the detection area, the camera will move to the corresponding preset. When the presenter leaves the detection area, the camera frames and follows the presenter.

When no one is on screen, the camera returns to the tracking point (Preset 1).

Note:

- The camera uses the wide-angle lens to cover detection areas, and the PTZ lens for presets; the live view will automatically switch between lenses as you save detection areas and presets.
- The wide-angle lens offers a detection distance of 8-16 m.

To set up Hybrid Mode:

1. Go to **Tracking Settings** > **Hybrid**.

2. First, define detection areas. Detection areas are saved individually for each preset.
   From the **Effective Detection Area** drop-down menu, select a preset you want to save the detection area for. Presets 10–13 are available.

3. Click **Set**. Then drag a square over the area you want the camera to detect on the wide-angle live view.

4. Click **Save**. The camera will automatically switch to the PTZ live view around that detection area.

5. Second, define presets. Use pan, tilt and zoom controls to position your camera and click **Save** to save that position. A thumbnail will appear in the preview. Repeat steps 2–5 for all presets.

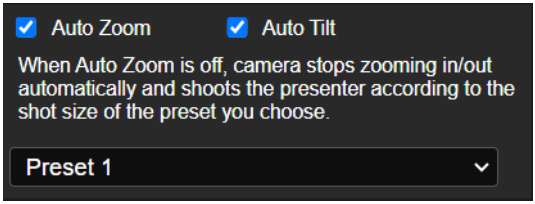
Note:

- Do not overlap presets. Leave ample room between presets for a smooth transition.
- The preset must be larger and covers the detection area.

6. Select **Preset 1** from the drop-down list to save the tracking point. Use pan, tilt and zoom controls to position your camera and click **Save** to save that position

7. Configure additional settings:

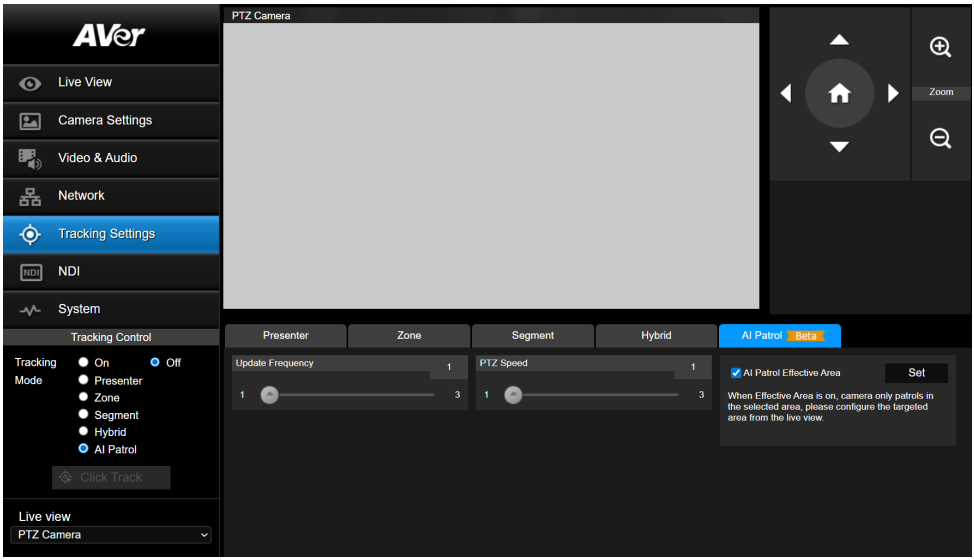
Item	Description
Tracking Sensitivity	Drag the slider to adjust tracking sensitivity.
Time of Return to Tracking Point	Drag the slider to set an idle time (second) before the camera returns to the tracking point.
Effective Tracking Area	Define an effective tracking area. Only presenters inside the area will be tracked. 1. Select the checkbox and click **Set**. 2. Drag the upper-left or the lower-right corner of the red frame to adjust the size of the tracking area.
Tracking Point	If no one is on screen, the camera will return to the tracking point (Preset 1).
People Size, Placement, Height	• Frame the presenter's full body or upper body. • Horizontally align the presenter to the left, center or right. • Vertically align the presenter to the center or bottom.
Auto Zoom	• When **Auto Zoom** is turned off, the zoom ratio will be based on your selected preset from the drop-down list. • When **Auto Tilt is** turned off, the tilt angle will be based on your selected preset from the drop-down list.

Auto Tilt	
Set Shield Zone	Define an exclusion zone to avoid unwanted multi-presenter detection. • To add a shield zone: 1. Click **Set**. 2. Select the **plus** icon, then drag a gray square over an area you want to shield on the wide-angle live view with your mouse. 3. Click **Save**. • To delete a shield zone: 1. Click **Set**. 2. Select the **minus** icon, then select a gray square you want to delete on the wide-angle live view with your mouse. 3. Click **Save**. • To clear all shield zones: 1. Click **Set**. 2. Click **Clear** to clear all shield zones on the live view. 3. Click **Save**.

8. Turn on **Tracking** and select **Hyrbid Mode** on the **Tracking Control** panel.

Note: Presenter Mode lets you switch the presenter you want to track. Click the **Click Track** button to frame everyone on screen in bounding boxes and click to select the presenter you want to track. Selected presenter will be in a red frame.

AI Patrol



Uses AI to analyze wide-angle footage and intelligently controls PTZ camera framing and movement, delivering dynamic scene coverage.

To set up AI Patrol:

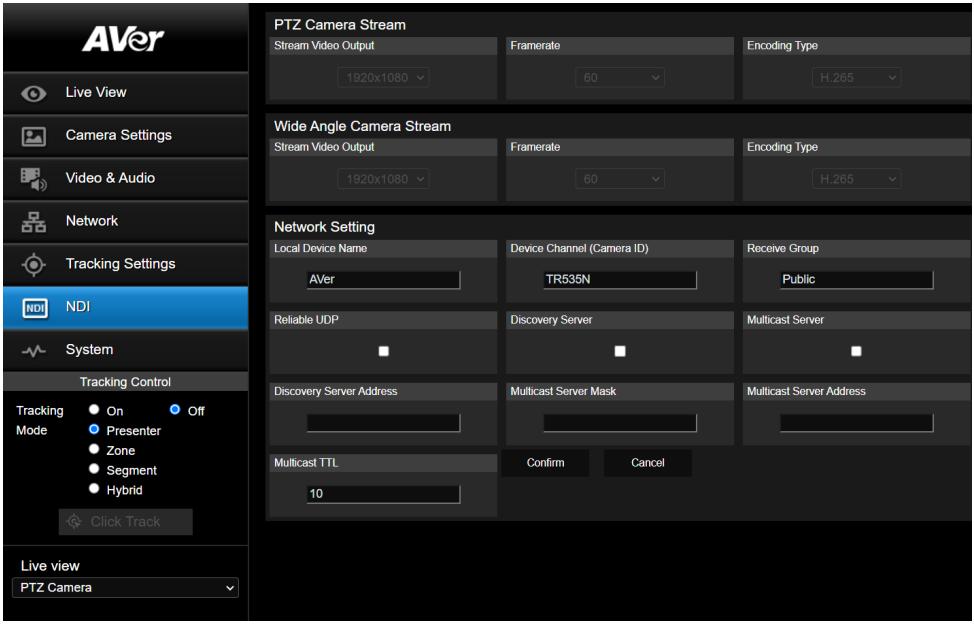
1. Go to **Tracking Settings** > **AI Patrol**.

2. Turn on **Tracking** and select **AI Patrol** on the **Tracking Control** panel.

3. (Optional) Configure additional settings:

Item	Description
Update Frequency	Drag the slider to adjust patrol speed: 1 = Slow, 3 = Fast.
PTZ Speed	Drag the slider to adjust pan, tilt, and zoom speed: 1 = Slow, 3 = Fast.
AI Patrol Effective Area	Define an effective tracking area. Only presenters inside the area will be tracked. 1. Select the checkbox and click **Set**. 2. Drag the upper-left or the lower-right corner of the yellow frame to adjust the size of the tracking area. 3. Click **Save**.

NDI



PTZ Camera Stream, Wide-Angle Camera Stream

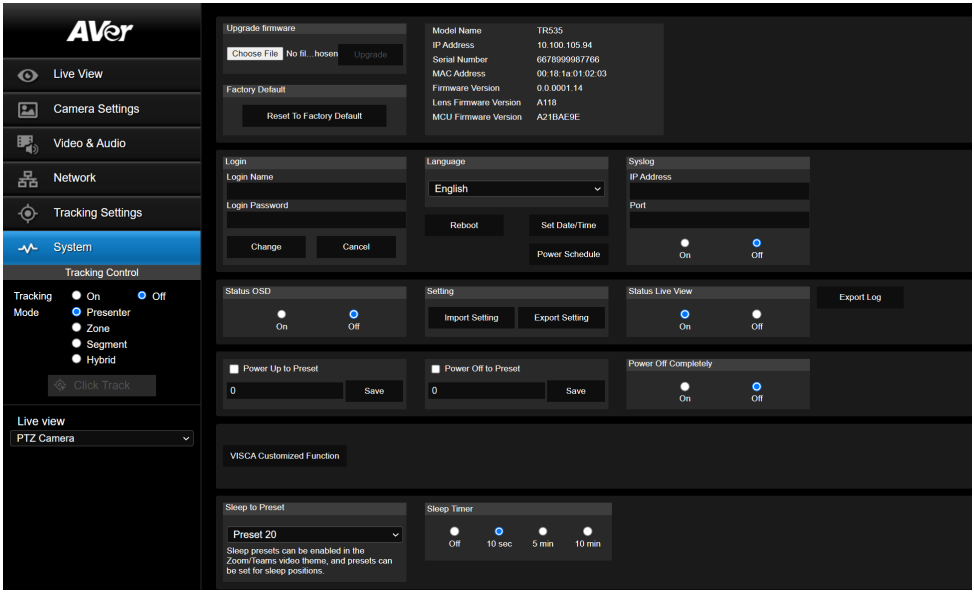
Item	Description
Stream Video Output	Choose a streaming output resolution for the live view.
Framerate	Choose a framerate.
Encoding Type	Select **H.264** or **H.265**.

Network Settings

Item	Description
Local Device Name	Enter a name that identifies your camera group on the NDI software. • The default is AVer.
Device Channel (Camera ID)	Enter a name that identifies your camera on the NDI software. • The default is your model name. • A name must have no more than 10 characters. Use number, upper and lower case letter, or special character (! @ % ^ , . / : + ? [ ] { } - _ ~).
Receive Group	Enter a name for a receive group. • All devices in the receive group receive the same NDI streams. • The receive group should remain **public**. If this is changed,

	you will need to join the group through NDI® Access Manager.
Reliable UDP	Select the checkbox to enable Reliable User Datagram Protocol (RUDP).
Discovery Server	Select the checkbox to enable discovery server to allow devices to discover and connect to each other on a network automatically.
Multicast Server	Select the checkbox to enable multicast server to allow efficient distribution of NDI streams to multiple receivers without overwhelming the network.
Discovery Server Address	Enter the IP address of a server running a discovery server application.
Multicast Server Mask	Enter the network mask to specify the range of IP addresses that are eligible to receive NDI streams.
Multicast Server Address	Enter the IP address of a group of recipients that receive NDI streams from a multicast server.
Multicast TTL	Enter a multicast time to live (TTL) value between 1-255 to control the distance multicast packets can travel.

System



Item	Description
Upgrade firmware	To upgrade the firmware: 1. Download the latest firmware from AVer Download Center (https://www.aver.com/Download-Center/professional-ptz-camera) 2. On the web interface, go to **System** > **Upgrade firmware**. 3. Click **Choose File** to select the firmware. 4. Click **Upgrade**. 5. Refresh the browser after the upgrade is complete. **Note:** Keep your camera connected to a power source during firmware upgrade. Network connection will be lost during the process and camera will reboot automatically after upgrading.
Factory Default	Reset the camera to factory default settings.
Login	Change the web interface login.
Language	Change the web interface language.
Reboot	Restart your camera.
Set Date/Time	Set the camera date and time.
Power Schedule	Schedule specific times for the camera to reboot or shut down.
Syslog	Turn on to receive technical supports.

	Enter the **IP Address** and **Port** of the receiving device for debug and problem analysis.
Status OSD	Turn on to display preset and zoom ratio on HDMI output.
Setting	Import or export your camera settings
Status Live View	Turn the camera live view on or off.
Export Log	Export system log.
Power Up to Preset	Move the camera to the defined preset after powering on. To enable: 1. Make sure the preset has been defined. 2. Select **Power Up to Preset** > enter a preset number > click **Save**.
Power Off to Preset	Move the camera to the defined preset before powering off. To enable: 1. Make sure the preset has been defined. 2. Select **Power Off to Preset** > enter a preset number > click **Save**.
Power Mode	Select how the camera powers off: • Power off completely OFF (Standby): Power consumption: **12.9 W**, faster startup. • Power off completely ON (Full Shutdown): Power consumption: **1.24 W**, designed for certain IP-connected devices. • Energy-related product (ERP): Power consumption: **0.478 W**, energy-saving.
VISCA Customized Function	Set VISCA customized functions and click **OK**.
Sleep to Preset	Set up to move the camera to a preset after a delay time, when you are not streaming video on Zoom/Teams over USB for enhanced privacy. ● To enable: 1. Make sure you have defined the selected preset. 2. Go to **Video & Audio** > **Theme Mode** > select **Zoom** or **Teams**. 3. Go to **Systems** > **Sleep to Preset** > select a preset or use the default (preset 20, towards I/O ports). 4. Go to **Systems** > **Sleep Timer** > select a delay time. ● To disable, select **Off** from the **Sleep to Preset** drop-down list.
Sleep Timer	
Help Improving AVer Camera	Opt-in or opt-out of providing anonymous usage data.
LED Indicator Brightness	Drag the slider to adjust the brightness.
P/T Reset	Reset the pan-tilt position to the center.

Panning Direction	Invert or reset the pan direction.
Wide-Angle Camera Setting	Adjust the wide-angle lens tilt angle.

Appendix

VISCA RS-232 Commands

Command Set	Command	Command Packet	Comments
CAM_Power	On	8x 01 04 00 02 FF	Power ON/OFF
	Off	8x 01 04 00 03 FF	
CAM_Zoom	Stop	8x 01 04 07 00 FF	
	Tele(Variable)	8x 01 04 07 2p FF	p=0 (Low) to 7 (High)
	Wide(Variable)	8x 01 04 07 3p FF	
	Direct	8x 01 04 47 0p 0q 0r 0s FF	pqrs: Zoom Position
CAM_Focus	Stop	8x 01 04 08 00 FF	
	Far (Standard)	8x 01 04 08 02 FF	Each 'Far/Near' needs a 'stop'
	Near (Standard)	8x 01 04 08 03 FF	
	Auto Focus	8x 01 04 38 02 FF	
	Manual Focus	8x 01 04 38 03 FF	
	One Push	8x 01 04 18 01 FF	
	Direct	8x 01 04 47 0p 0q 0r 0s FF	pqrs: Zoom Position
CAM_WB	Auto	8x 01 04 35 00 FF	Normal Auto
	ATW	8x 01 04 35 04 FF	
	Indoor	8x 01 04 35 01 FF	
	Outdoor	8x 01 04 35 02 FF	
	One Push WB	8x 01 04 35 03 FF	One Push WB mode
	Manual	8x 01 04 35 05 FF	Manual Control mode
	One Push	8x 01 04 10 05 FF	One Push WB Trigger
CAM_RGain	Up	8x 01 04 03 02 FF	Manual Control of R Gain
	Down	8x 01 04 03 03 FF	
CAM_Bgain	Up	8x 01 04 04 02 FF	Manual Control of B Gain
	Down	8x 01 04 04 03 FF	
CAM_AE	Full Auto	8x 01 04 39 00 FF	Automatic Exposure mode
	Manual	8x 01 04 39 03 FF	Manual Control mode
	Shutter Priority	8x 01 04 39 0A FF	Shutter Priority Automatic Exposure mode
	Iris Priority	8x 01 04 39 0B FF	Iris Priority Automatic Exposure mode
	Bright	8x 01 04 39 0D FF	Bright Mode (Manual control)
CAM_Shutter	Up	8x 01 04 0A 02 FF	Shutter Setting

	Down	8x 01 04 0A 03 FF	
CAM_Iris	Up	8x 01 04 0B 02 FF	Iris Setting
	Down	8x 01 04 0B 03 FF	
CAM_Gain	Up	8x 01 04 0C 02 FF	Gain Setting
	Down	8x 01 04 0C 03 FF	
CAM_Bright	Up	8x 01 04 0D 02 FF	Bright Setting
	Down	8x 01 04 0D 03 FF	
CAM_Exposure Compensation	Up	8x 01 04 0E 02 FF	Exposure Compensation Amount Setting
	Down	8x 01 04 0E 03 FF	
CAM_Backlight	On	8x 01 04 33 02 FF	Back Light Compensation ON/OFF
	Off	8x 01 04 33 03 FF	
CAM_Preset	Reset	8x 01 04 3F 00 pp FF	pp: Preset Number 0x00~0xFF
	Set	8x 01 04 3F 01 pp FF	
	Recall	8x 01 04 3F 02 pp FF	
CAM_Menu	On/Off	8x 01 06 06 10 FF	Display ON/OFF
Pan-tilt Drive	Up	8x 01 06 01 VV WW 03 01 FF	VV: Pan speed setting 0x01 (low speed) to 0x18 (high speed) WW: Tilt speed setting 0x01 (low speed) to 0x18 (high speed)
	Down	8x 01 06 01 VV WW 03 02 FF	
	Left	8x 01 06 01 VV WW 01 03 FF	
	Right	8x 01 06 01 VV WW 02 03 FF	
	UpLeft	8x 01 06 01 VV WW 01 01 FF	
	UpRight	8x 01 06 01 VV WW 02 01 FF	
	DownLeft	8x 01 06 01 VV WW 01 02 FF	
	DownRight	8x 01 06 01 VV WW 02 02 FF	
	Stop	8x 01 06 01 VV WW 03 03 FF	
	Home	8x 01 06 04 FF	
	Reset	8x 01 06 05 FF	
CAM_WDR	On	8x 01 04 3D 02 FF	Wdr ON/OFF
	Off	8x 01 04 3D 03 FF	
CAM_MenuEnter		8x 01 7E 01 02 00 01 FF	Enter Submenu

Tally Lamp	ON (RED)	8x 01 7E 01 0A 00 02 FF	
	OFF	8x 01 7E 01 0A 00 03 FF	
	ON (Green)	8x 01 7E 01 0A 00 04 FF	8x 01 7E 01 0A 00 04 FF
	ON (Amber)	8x 01 7E 01 0A 00 05 FF	
Freeze	Freeze On	81 01 04 62 02 FF	Freeze On Immediately
	Freeze Off	81 01 04 62 03 FF	Freeze Off Immediately
	Preset Freeze On	81 01 04 62 22 FF	Freeze On When Running Preset
	Preset Freeze Off	81 01 04 62 23 FF	Freeze Off When Running Preset
Auto Tracking	On	8x 01 04 7D 02 FF	Auto tracking ON/OFF
	Off	8x 01 04 7D 03 FF	
CAM_Memory Special	Set	8x 01 04 3F 01 pp FF	These are changeable depending on VISCA Customized Functions web setting: pp: 0x00 To 0xFF normal preset pp: 0x5F => Turn on OSD menu pp: 0xA0 => Full Body pp: 0xA1 => Upper Body pp: 0xA2 => Tracking Point pp: 0xA3 => Switch pp: 0xA4 => Presenter mode pp: 0xA5 => Zone mode pp: 0xA6 => Hybrid mode pp: 0xA7 => Switching to the next tracking mode pp: 0xAF => Segment Mode
Absolute Position	Set	8x 01 06 02 VV WW 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	VV: Pan speed setting 0x01 (low speed) to 0x18 (high speed) WW: Tilt speed setting 0x01 (low speed) to 0x18 (high speed) YYYY: Pan Position ZZZZ: Tilt Position
Auto zoom	On	8x 01 04 A0 02 FF	
	Off	8x 01 04 A0 03 FF	
Effective Tracking area	On	8x 01 04 A1 02 FF	
	Off	8x 01 04 A1 03 FF	
RTMP	On	8x 01 04 A2 02 FF	
	Off	8x 01 04 A2 03 FF	
sys_theme_mode	IP	8x 01 04 A3 00 FF	

	HDMI	8x 01 04 A3 01 FF	
	USB	8x 01 04 A3 02 FF	
	ZOOM	8x 01 04 A3 03 FF	
	Teams	8x 01 04 A3 04 FF	
	NDI	8x 01 04 A3 05 FF	
Reboot	On	8x 01 04 A4 FF	
Preset Affects PTZ & Focus Values Only	On	8x 01 04 A5 02 FF	
	Off	8x 01 04 A5 03 FF	
Relative Zoom Ratio	On	8x 01 04 A6 02 FF	
	Off	8x 01 04 A6 03 FF	
Auto Tilt	On	8x 01 04 A7 02 FF	
	Off	8x 01 04 A7 03 FF	
Auto Zoom/Tilt preset	Set	8x 01 04 A8 pp FF	pp: 0x00 To 0xFF normal preset
Multi presenter	On	8x 01 04 A9 02 FF	
	Off	8x 01 04 A9 03 FF	
Multi presenter preset	Set	8x 01 04 AA pp FF	pp: 0x00 To 0xFF normal preset
HDMI 1 source	PTZ Camera	8x 01 36 69 07 01 00 FF	
	Wide Angle Camera	8x 01 36 69 07 01 01 FF	
	PIP/PBP	8x 01 36 69 07 01 02 FF	
HDMI2 source	PTZ Camera	8x 01 36 69 07 02 00 FF	
	Wide Angle Camera	8x 01 36 69 07 02 01 FF	
	PIP/PBP	8x 01 36 69 07 02 02 FF	
PIP/PBP Mode	Set	8x 01 36 69 08 mm FF	mm: 0x01 To 0x08 pip/pbp mode select

Inquiry Command	Command Packet	Reply Packet	Comments
CAM_PowerInq	8x 09 04 00 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_WBModeInq	8x 09 04 35 FF	y0 50 00 FF	Auto
		y0 50 01 FF	In Door
		y0 50 02 FF	Out Door
		y0 50 03 FF	One Push WB
		y0 50 04 FF	ATW
		y0 50 05 FF	Manual
CAM_RGainInq	8x 09 04 43 FF	y0 50 00 00 0p 0q FF	pq: R Gain
CAM_BGainInq	8x 09 04 44 FF	y0 50 00 00 0p 0q FF	pq: B Gain
CAM_AEModeInq	8x 09 04 39 FF	y0 50 00 FF	Full Auto
		y0 50 03 FF	Manual
		y0 50 0A FF	Shutter Priority
		y0 50 0B FF	Iris Priority
		y0 50 0D FF	Bright
CAM_ShutterPosInq	8x 09 04 4A FF	y0 50 00 00 0p 0q FF	pq: Shutter Position
CAM_IrisPosInq	8x 09 04 4B FF	y0 50 00 00 0p 0q FF	pq: Iris Position
CAM_GainPosInq	8x 09 04 4C FF	y0 50 00 00 0p 0q FF	pq: Gain Position
CAM_BrightPosInq	8x 09 04 4D FF	y0 50 00 00 0p 0q FF	pq: Bright Position
CAM_ExpCompPosInq	8x 09 04 4E FF	y0 50 00 00 0p 0q FF	pq: ExpComp Position
CAM_FocusModeInq	8x 09 04 38 FF	y0 50 02 FF	Auto Focus
		y0 50 03 FF	Manual Focus
CAM_FocusPosInq	8x 09 04 48 FF	y0 50 0p 0q 0r 0s FF	pqrs: Focus Position
zoom_Pos_Inq	8x 09 04 47 FF	y0 50 0p 0q 0r 0s FF	pqrs: Zoom Position
PT_Pos_Inq	8x 09 06 12 FF	y0 50 0Y 0Y 0Y 0Y 0Z 0Z 0Z 0Z FF	YYYY: Pan Position ZZZZ: Tilt Position
CAM_Preset Inq	8x 09 04 3F FF	y0 50 pp FF	Return the last preset number which has been operated pp:01-FF
CAM_Tracking status	8x 09 36 69 02 FF	y0 50 01 FF	On
		y0 50 00 FF	Off
CAM_Tracking_mode	8x 09 36 69 01 FF	y0 50 01 FF	Presenter
		y0 50 02 FF	Zone

		y0 50 03 FF	Hybrid
		y0 50 04 FF	Segment
		y0 50 05 FF	AI Patrol
CAM_Tracking body size	8x 09 36 69 03 FF	y0 50 01 FF	Full body
		y0 50 02 FF	Upper body
CAM_OSD MENU on/off	8x 09 7E 04 76 01 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_Tally	8x 09 7E 01 0A FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_WDR mode	8x 09 04 3D FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_BLC mode	8x 09 04 33 FF	y0 50 02 FF	On
		y0 50 03 FF	Off
CAM_Live Freeze	8x 09 04 62 01 FF	y0 50 02 FF	Freeze On
		y0 50 03 FF	Freeze Off
CAM_Preset Freeze	8x 09 04 62 02 FF	y0 50 02 FF	Preset Freeze On
		y0 50 03 FF	Preset Freeze Off
Firmware version	8x 09 36 69 04 FF	y0 50 0p 0q 0r 0s 0t 0u 0v 0w FF	fw_ver: p.q.rstu.vw
USB Status	8x 09 36 69 05 FF	y0 50 00 FF	USB cable plug out
		y0 50 01 FF	USB cable plug in
UVC Status	8x 09 36 69 06 FF	y0 50 00 FF	UVC stream off
		y0 50 01 FF	UVC stream on
HDMI 1 source	8x 09 36 69 07 01 FF	y0 50 00 FF	PTZ Camera
		y0 50 01 FF	Wide Angle Camera
		y0 50 02 FF	PIP/PBP
HDMI 2 source	8x 09 36 69 07 02 FF	y0 50 00 FF	PTZ Camera
		y0 50 01 FF	Wide Angle Camera
		y0 50 02 FF	PIP/PBP
PIP/PBP Mode	8x 09 36 69 08 FF	y0 50 mm FF	mm: 0x01 To 0x08 pip/pbp mode select

VISCA over IP Settings

PORT

Internet protocol	IPv4
Transport protocol	UDP
Port address	52381

FORMAT

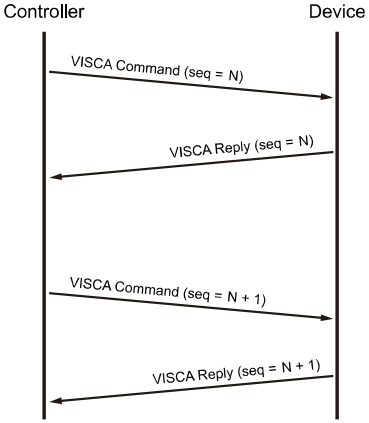
	byte 0	byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	byte 7	byte8 ~~~ byte23
func	Payload type		Payload length		Sequence number				Payload (1 to 16 bytes)
data	Value1	Value2	1~16 (0x0001~0x0010)		0X00000000 ~ 0XFFFFFFFF				VISCA Packet (see page VISCA)

Payload type

Name	Value1	Value2	Description
VISCA command	0x01	0x00	Stores the VISCA command.
VISCA inquiry	0x01	0x10	Stores the VISCA inquiry.
VISCA reply	0x01	0x11	Stores the reply for the VISCA command or VISCA inquiry

For VISCA over IP command strings, **8x** represents a command from the controller, with x as the socket number—typically 1 (**x = 1 → 81**).

Command Set	Command	Command Packet	Comments
Pan-tilt Drive	Left	8x 01 06 01 VV WW 01 03 FF Example : 01 00 00 09 00 00 00 01 81 01 06 01 07 07 01 03 FF	VV: Pan speed setting 0x01 (low speed) to 0x18 (high speed) WW: Tilt speed setting 0x01 (low speed) to 0x18 (high speed)



CGI Commands

CGI List for Video Transmission

CGI item name	URL	Command	Parameter Name	Parameter value	Description
Get MJPEG stream	/snapshot/snapshot?action=	get&(random)			1280x720
Get RTSP stream	rtsp://ip:554/live_st1				
GET JPEG	/snapshot/snapshot?action=	get			

CGI List for Camera Control

CGI item name	URL	Command	Parameter Name	Parameter value	Description
up start	/cgi-bin?SetPtzf=	1,0,1&(random)			
up end	/cgi-bin?SetPtzf=	1,0,2&(random)			
down start	/cgi-bin?SetPtzf=	1,1,1&(random)			
down end	/cgi-bin?SetPtzf=	1,1,2&(random)			
left start	/cgi-bin?SetPtzf=	0,1,1&(random)			
left end	/cgi-bin?SetPtzf=	0,1,2&(random)			
right start	/cgi-bin?SetPtzf=	0,0,1&(random)			
right end	/cgi-bin?SetPtzf=	0,0,2&(random)			
zoom_in start	/cgi-bin?SetPtzf=	2,0,1&(random)			
zoom_in end	/cgi-bin?SetPtzf=	2,0,2&(random)			
zoom_out start	/cgi-bin?SetPtzf=	2,1,1&(random)			
zoom_out end	/cgi-bin?SetPtzf=	2,1,2&(random)			
set preset:	/cgi-bin?ActPreset=	1,N&(random)			N : position
load preset:	/cgi-bin?ActPreset=	0,N&(random)			N : position

CGI List for Various Settings

CGI item name	URL	Command	Parameter Name	Parameter value	Description
exposure value	/cgi-bin?Set=	img_expo_expo ,3,N&(random)	value	1 ~ 9	N : value
saturation	/cgi-bin?Set=	img_saturation, 3,N&(random)	value	0 ~ 10	N : value
contrast	/cgi-bin?Set=	img_contrast,3, N&(random)	value	0 ~ 4	N : value
Tracking on:	/cgi-bin?Set=	trk_tracking_on ,3,1&(random)			
Tracking off:	/cgi-bin?Set=	trk_tracking_on ,3,0&(random)			
Reboot	/cgi-bin?OnePush=! &_=X				X : random value
Factory Reset	/cgi-bin?OnePush= d&_=X				X : random value
Tracking On/Off Get	/cgi-bin?Get=trk_tracking_on,3&_=X	PTC	- Reply	On trk_tracking_on ,3=1 Off trk_tracking_on ,3=0	X : random value
RTMP Start streamming	/cgi-bin?Set=	vdo_rtmp_enable,3,1			
RTMP Stop streamming	/cgi-bin?Set=	vdo_rtmp_enable,3,0			
Save RTMP server URL	/cgi-bin?SaveRtmpUrl=		streaming URL string (empty for clearing up the field)		
Save RTMP stream Key	/cgi-bin?SaveRtmpKey=		streaming key string (empty for clearing up the field)		
Inquiry for RTMP status	/cgi-bin?Get=vdo_rtmp_status		Reply	2: Streaming 0: Stopped	
Get RTMP server URL	/cgi-bin?GetRtmpUrl		Reply	streaming URL string	
Get RTMP stream key	/cgi-bin?GetRtmpKey		Reply	streaming key string	

Pelco-P Commands

PAN AND TILT COMMANDS P/T bit(byte4.0) = 0

	byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	byte 7	byte 8
func	STX	ADDR	data1	data2	data3	data4	ETX	checksum
data	0xA0	0~7F	cmd 1	cmd 2	Pan speed	Tilt speed	0xAF	1~7 XOR

note : speed = 0x00~0x30

byte3 : command 1

bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
NA	CAM ON	NA	CAM ON/OFF	NA	NA	NA	NA

note : power off : byte3.6 = 0 & byte3.4 = 1

byte4: command 2

bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
NA	ZOOM Wide	ZOOM Tele	TILT Down	TILT Up	PAN Left	PAN Right	P/T bit 0(always)

EXTENDED COMMAND SET P/T bit(byte4.0) = 1

	byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	byte 7	byte 8
func	STX	ADDR	data1	data2	data3	data4	ETX	checksum
Set Preset XX	0xA0	0~7	0x00	0x03	0x00	Preset #	0xAF	1~7 XOR
Go To Preset XX	0xA0	0~7	0x00	0x07	0x00	Preset #	0xAF	1~7 XOR
Track ON	0xA0	0~7	0x00	0x65	0x00	0x00	0xAF	1~7 XOR
Track OFF	0xA0	0~7	0x00	0x67	0x00	0x00	0xAF	1~7 XOR
WOL ON	0xA0	0~7	0x00	0x69	0x00	0x00	0xAF	1~7 XOR
WOL OFF	0xA0	0~7	0x00	0x6B	0x00	0x00	0xAF	1~7 XOR
Read Profile XX	0xA0	0~7	0x00	0x6D	0x00	Profile #	0xAF	1~7 XOR
Save To Profile XX	0xA0	0~7	0x00	0x6F	0x00	Profile #	0xAF	1~7 XOR

note : Preset # : 0x01 ~ 0xFF

Profile # : 0x01 ~ 0x05

Pelco-D Commands

PAN AND TILT COMMANDS — P/T bit(byte4.0) = 0

	byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	byte 7
func	SYNC	ADDR	cmd 1	cmd 2	data1	data2	checksum
data	0xFF	1~80	cmd 1	cmd 2	Pan speed	Tilt speed	2~6 SUM

note : speed = 0x00~0x30

byte3 : command 1

bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
SENSE ON	NA	NA	NA	CAM ON/OFF	NA	NA	NA

note : power off : byte3.7 = 0 & byte3.3 = 1

byte4: command 2

bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
NA	ZOOM Wide	ZOOM Tele	TILT Down	TILT Up	PAN Left	PAN Right	P/T bit 0(always)

EXTENDED COMMAND SET — P/T bit(byte4.0) = 1

	byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	byte 7
func	SYNC	ADDR	data1	data2	data3	data4	checksum
Set Preset XX	0xFF	1~8	0x00	0x03	0x00	Preset #	2~6 SUM
Go To Preset XX	0xFF	1~8	0x00	0x07	0x00	Preset #	2~6 SUM
Track ON	0xFF	1~8	0x00	0x65	0x00	0x00	2~6 SUM
Track OFF	0xFF	1~8	0x00	0x67	0x00	0x00	2~6 SUM
WOL ON	0xFF	1~8	0x00	0x69	0x00	0x00	2~6 SUM
WOL OFF	0xFF	1~8	0x00	0x6B	0x00	0x00	2~6 SUM
Read Profile XX	0xFF	1~8	0x00	0x6D	0x00	Profile #	2~6 SUM
Save To Profile XX	0xFF	1~8	0x00	0x6F	0x00	Profile #	2~6 SUM

note : Preset # : 0x01 ~ 0xFF
Profile # : 0x01 ~ 0x05