Manuals+ — User Manuals Simplified.

Lumens®

VC-TR40N Auto Tracking Camera

Lumens VC-TR40N Auto Tracking Camera User Manual

Contents

Lumens®

Lumens VC-TR40N Auto Tracking Camera

Important To download the latest version of Quick Start Guide, multilingual user manual, software, or driver, etc., please visit Lumens **https://www.MyLumens.com/support**

Package Contents

Camera	Remote Control	RS-232/RS-422 Connection Instruction
Power Cord	**Power Adapter**	**3-PIN to 2-PIN connector**
 Appearance may vary depending on country/ region		 (For Japan only)
USB 3.0 cable - 2 M (Type B to Type A)	**HDMI cable - 1.5 M**	
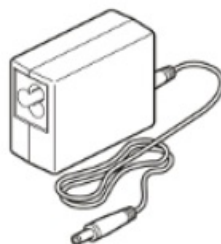
Product Appearance

I/O functions Introduction

Front View
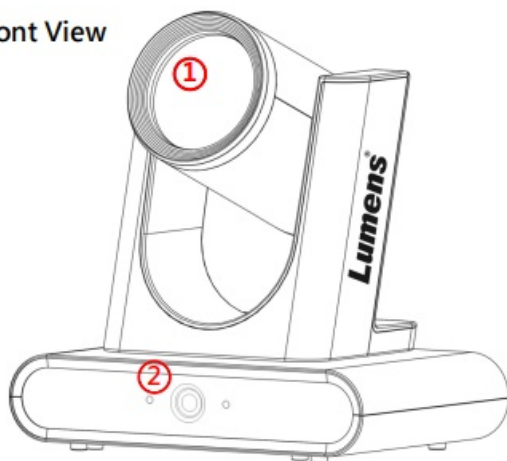
Back View
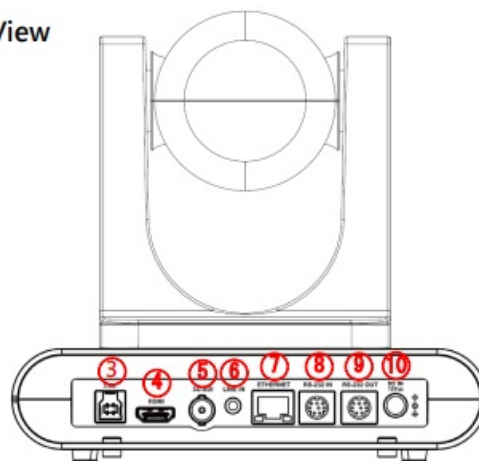
NO.	Item	Function Descriptions
1.	Main camera lens	HD camera lens
2.	Panoramic lens	Panoramic camera lens
3.	USB3.0 Port	The USB port is for connecting to the USB port of the computer and providing USB signal images
4.	HDMI output	HDMI output (Audio output supported)
5.	3G-SDI output	3G-SDI output(Audio output supported)
6.	Audio In	3.5 mm LINE IN
7.	Network port	Network cable port, supporting PoE (IEEE802.3af) power supply
8.	RS-232 input	RS-232 input port, at most 7 cameras can be connected in a serial connection
9.	RS-232 output	RS-232 output port, at most 7 cameras can be connected in a serial connection
10.	DC 12 V power Port	DC supply connecting port

Description of LED indicator

Status	Power	Standby
Startup in progress	Greenlight	Orange light
In use	Greenlight	No indicator
In standby mode	No indicator	Orange light
Tracking / Framing mode	Flickering green light	Flickering green light

Instruction for installation

Instruction for installation of TR40 and TR40,AT

- **Note:** The VC-TR40 comes in a standard version and an AT version. The AT version requires different firmware

for upgrades, which can be downloaded from the Lumens website.

- The AT version differs only in the tracking function; all other functions are the same.

Introduction

- **The TR40 and TR40**, AT have different Tracking functions. You can decide which version will suit your needs.
- **a. VC-TR40:** To track or frame the target in the tracking zone.
- **Available modes:** Everywhere Tracking, Stage Tracking, Partition Tracking, Auto Framing, Partition Framing
- **b. VC-TR40, AT:** Offers a choice between Presenter and Audience modes.
- **Presenter Mode:** The camera tracks the target within the tracking zone.
- **Audience Mode**: The camera starts tracking when it detects the target standing up.
- **Refer to the** 5.2.4 Tracking page for more information

**Scenario for TR40 and TR40, AT**

- **a.** Applicable distance range of VC-TR40/TR40,AT : 2 -14 m.
- **Best tracking target distance recommended:** 8 m
- The default maximum tracking distance is 12m, but it can changed to 14m via the webpage.
- Refer to 5.2.12 System Settings – Control
- **b. Mounting height**: 2 – 3 m, best height recommended: 2.4 m
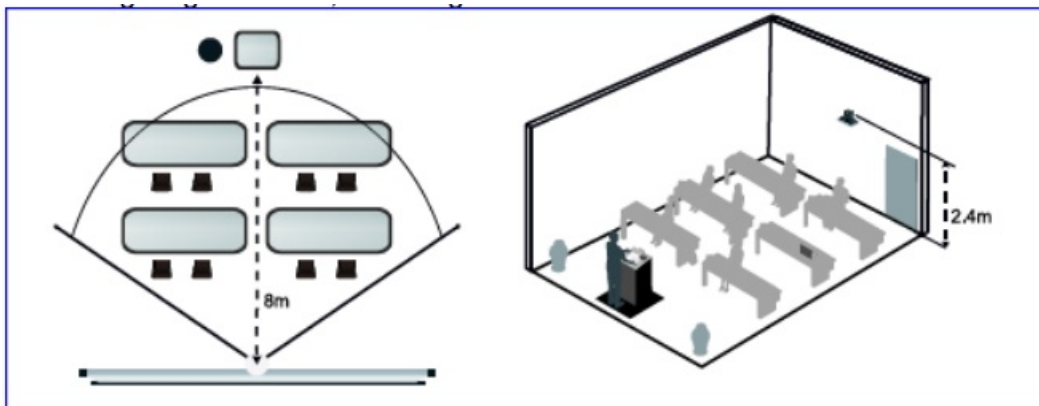
- **<Note>** To maintain the best tracking results, please avoid having images of people on posters, screens, monitors or TVs in the background

Scenario for VC-TR40,AT

- **VC-TR40, AT*1:** Install at the back of a room to capture the presenter.
- **VC-TR40, AT*2:** Install at the front of a room to capture the audience.

For Audience   Presenter tracking area   For Audience
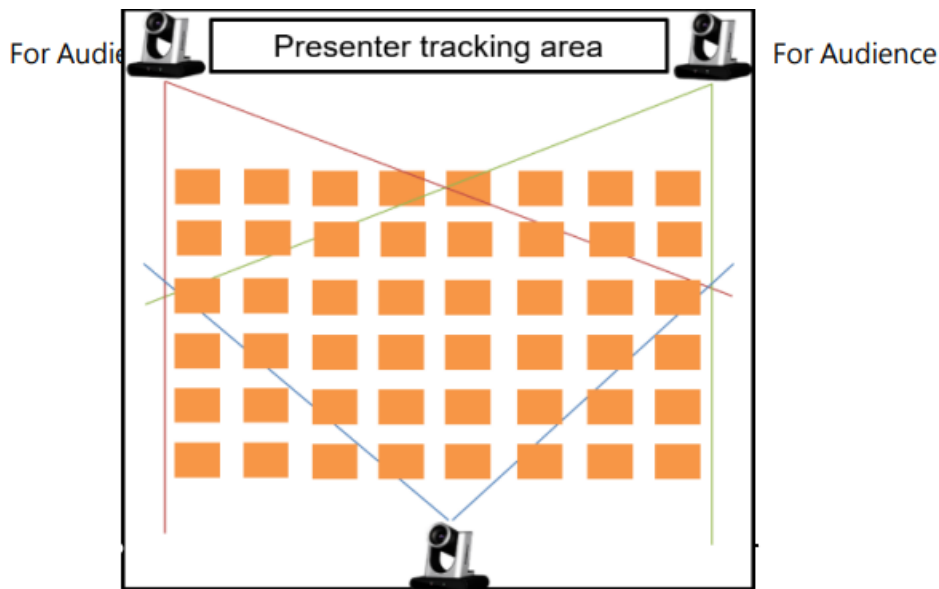
Preparation before installation

- Installation and connection of HD cameras require special skills. To install by yourself, please follow the necessary steps, ensure steady and tight installation of the device, and pay attention to your safety to avoid any accidents.
- Ensure the safety of the installation environment. Please do not install the device on an unstable ceiling or in a place where the device is in danger of falling to avoid any accident.
- Please check whether the accessories in the box are complete or not. Please contact the supplier for any shortage, and make sure to keep the accessories in the box intact.
- Please choose a proper place for the installation of the camera in advance. Please determine an installation place according to the following requirements
- **a.** Confirm the position for the object to be captured.
- **b.** Confirm whether the camera is set at a proper distance from other light sources.

Instruction for installation

I would like to install the camera on the desk

- Please install the machine on a flat desk
- Do not grab the camera head by hand when handling the device
- Do not rotate the camera head by hand. Improper rotation may result in the breakdown of the camera
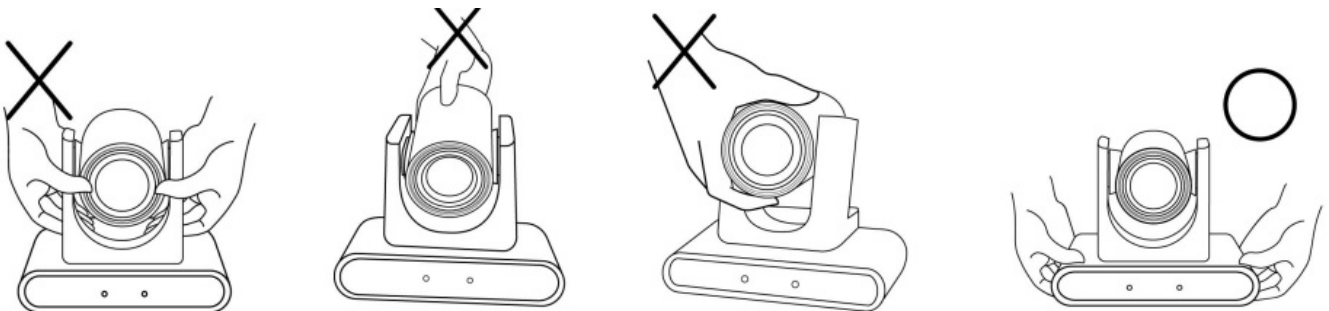
**I would like to install the camera on the ceiling/wall/TV stand**

- Lumens can provide the following optional accessories. Please contact your Lumens distributer if needed for purchase
- VC-WM14 3 in-1 Folding Bracket
- VC-WM15 Ceiling Mounted Bracket
- For installation of brackets, please download the VC-WM14/VC-WM15 Quick Installation Guide from the Lumens website
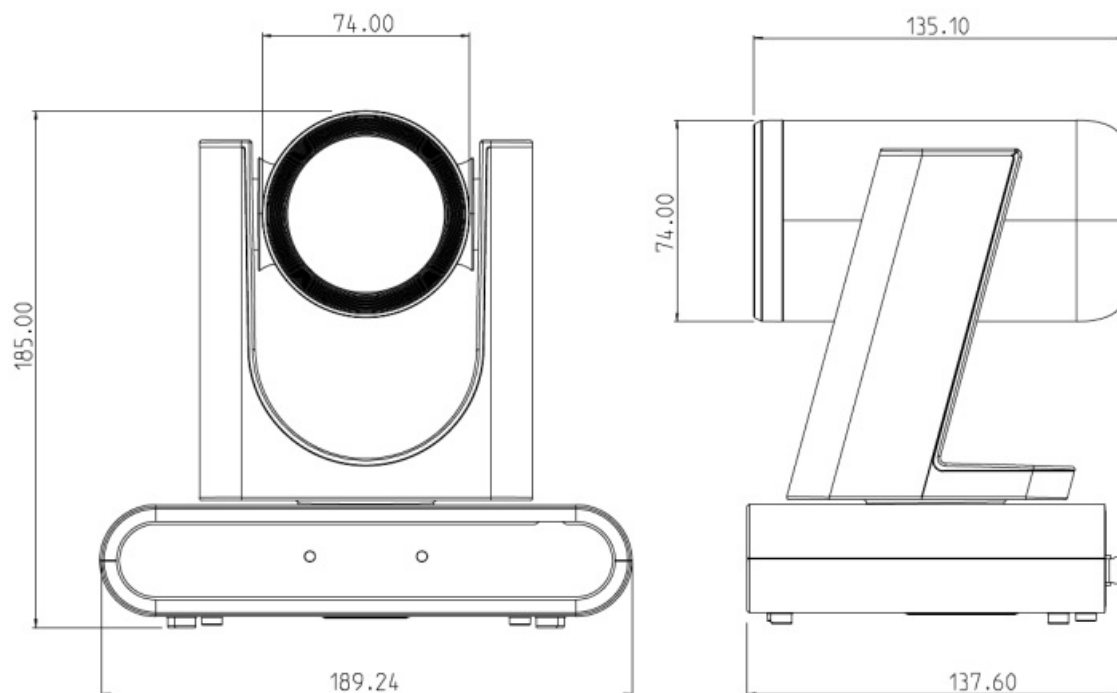- Install on the TV
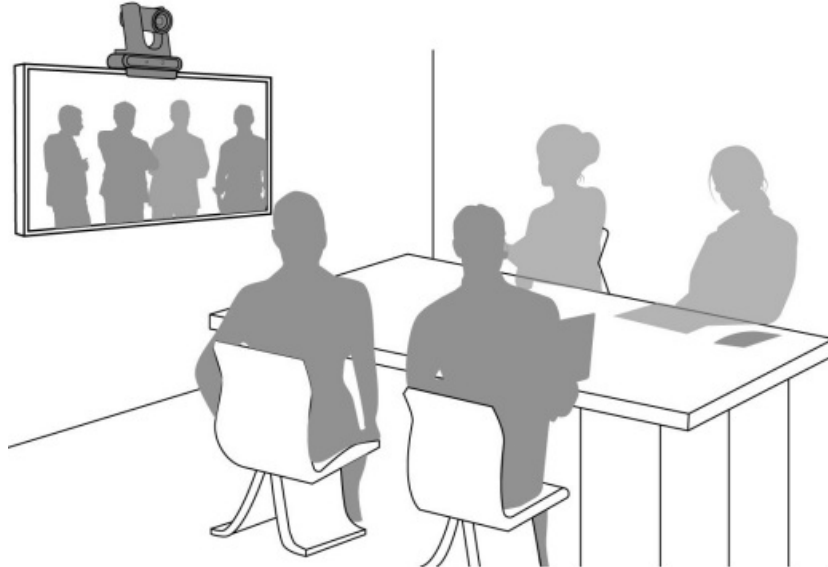
- Install on the ceiling
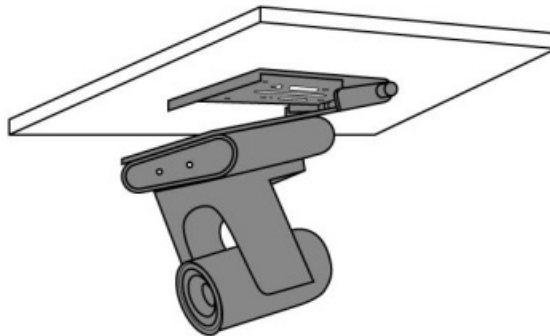
- Install on the wall
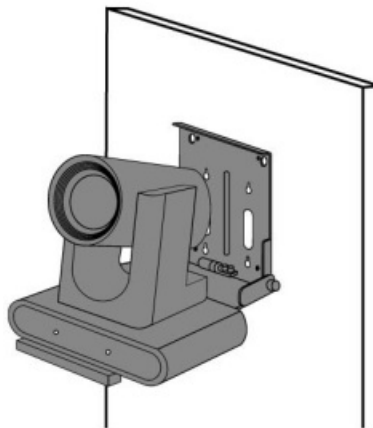
- **Note:** The camera will only track the target within the panoramic scene. Please ensure that the panoramic view covers the entire area you want to shoot.
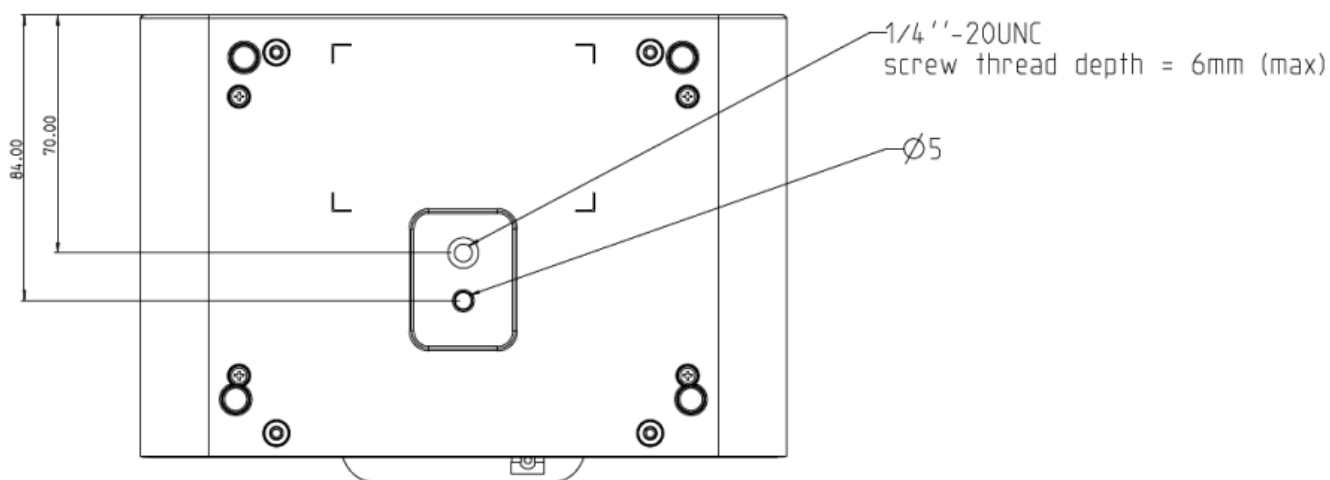
Camera Size

- **Length** x Width x Height: 190 x 138 x 185 mm
- **Weight:** 1.3 Kg

Dimensions of the bottom of the machine

- The camera can be mounted on a 1/4"-20 UNC PTZ tripod deck by using the lock holes on the bottom of the tripod

Connecting devices

USB 3.0 Port — Computer
3G-SDI Output — Display
Ethernet Port — Router / Hub
RS-232 Output — Camera (Serial)
HDMI Output — Display
Audio Input — Microphone
RS-232 Input — Computer / VS-KB30
DC Input

USB | HDMI | 3G-SDI | AUDIO IN | ETHERNET | RS-232 IN | RS-232 OUT | DC IN 12V
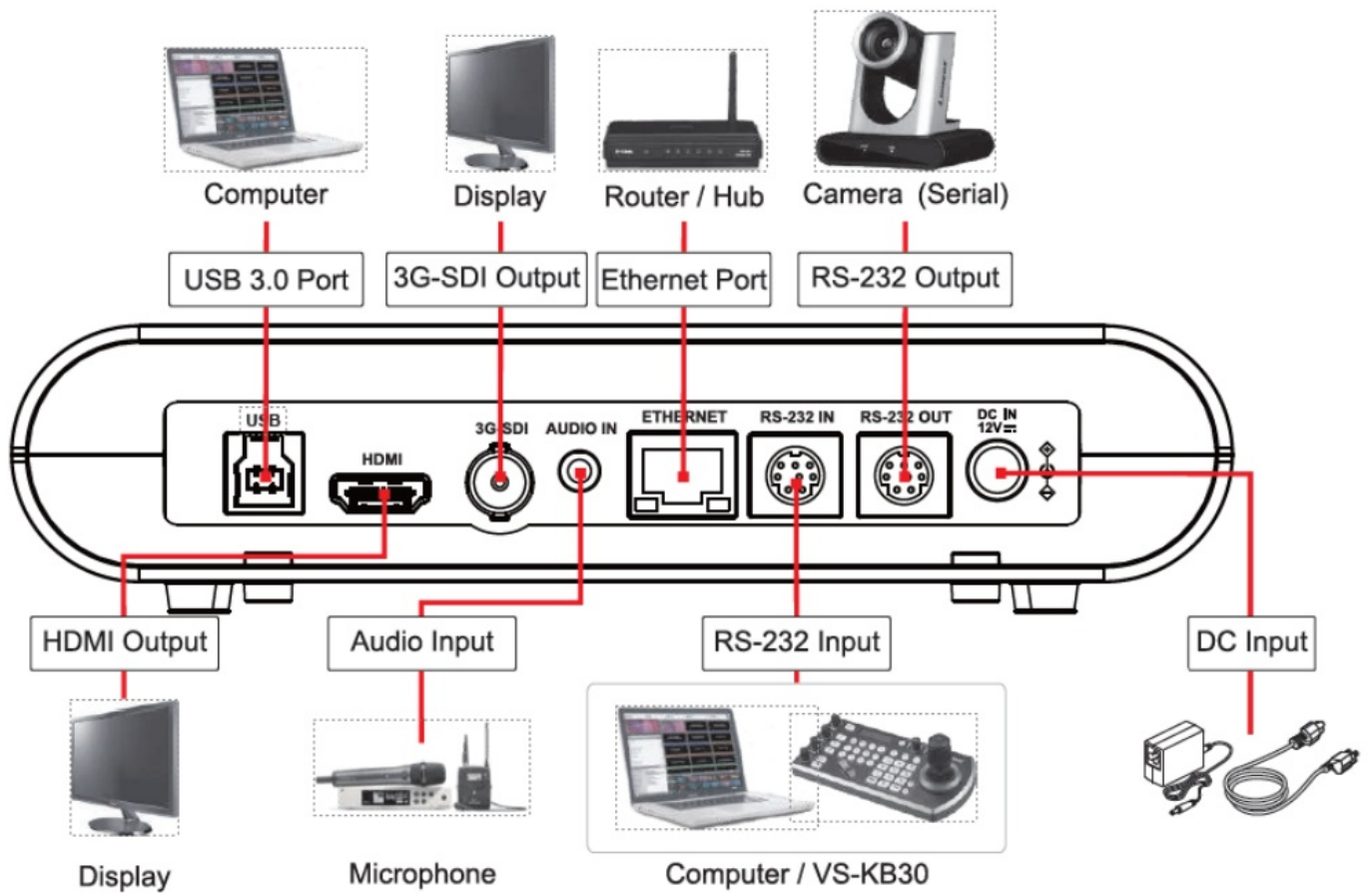
<Remark> Network cable port, supporting PoE (IEEE802.3af) power supply

RS-232 connection (up to 7 Lumens cameras)

RS-232 pins definition instructions

▼ RS-232 IN Pins Instructions

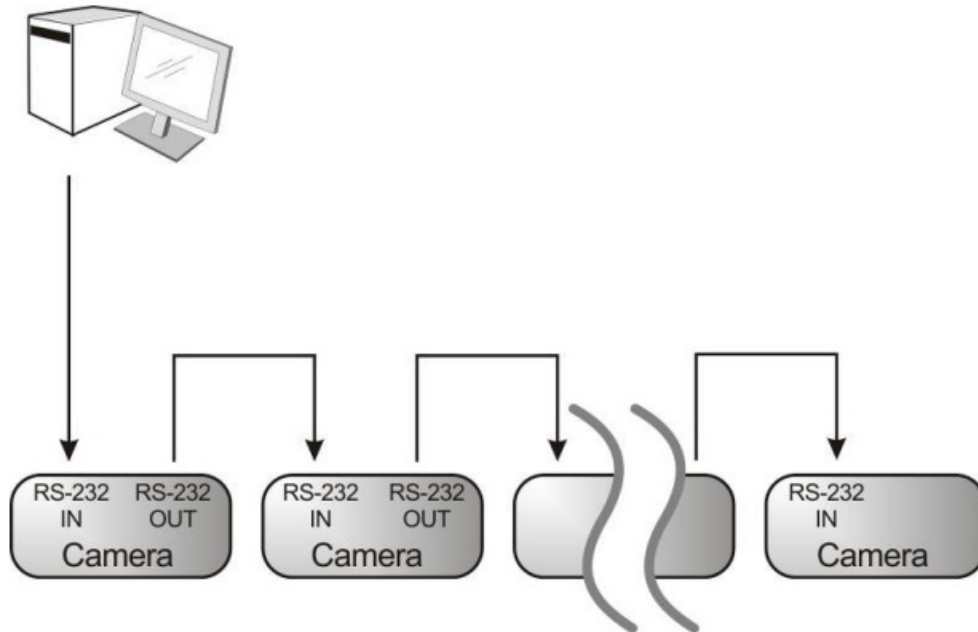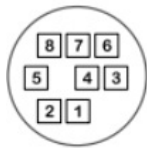| NO	Pins	Signals
1	DTR	Data Transmission Reade
2	DSR	Data Set Reade
3	TXD	Transmit Data
4	GND	Ground
5	RXD	Receive Data
6	GND	Ground
7	IR OUT	IR Commander Signal
8	N.C.	No Connection

▼ RS-232 OUT Pins Instructions
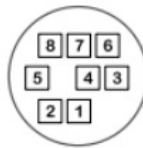
NO	Pins	Signals
1	DTR	Data Transmission Reade
2	DSR	Data Set Reade
3	TXD	Transmit Data
4	GND	Ground
5	RXD	Receive Data
6	GND	Ground
7	OPEN	Reserved
8	OPEN	Reserved

▼ RS-232 Connection Instructions

RS-232 IN of VC	RS-232 of PC
1. DTR	1. CD
2. DSR	2. RXD
3. TXD	3. TXD
4. GND	4. DTR
5. RXD	5. GND
6. GND	6. DSR
7. IR OUT	7. RTS
8. N.C.	8. CTS
	9. RI
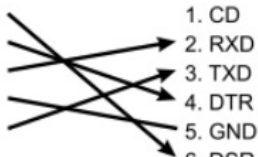
▼ RS-232 Connection Instructions

RS-232 IN of Next Camera	RS-232 OUT of Last Camera
1. DTR	1. DTR
2. DSR	2. DSR
3. TXD	3. TXD
4. GND	4. GND
5. RXD	5. RXD
6. GND	6. GND
7. IR OUT	7. OPEN
8. N.C.	8. OPEN
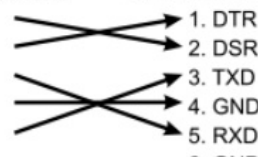
Remote Control and Setting Menu

Remote Control
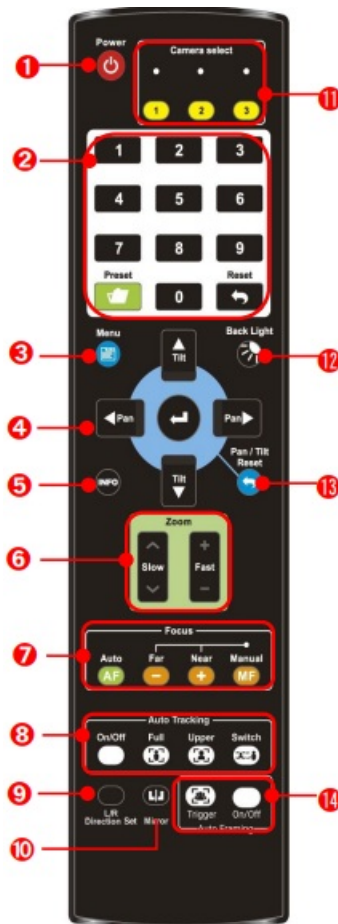
serial number	project	illustrate
1.	Power	Power Switch
2.	Preset	¡ Numeric Keys 0 – 9: Click to call the preset ¡ Preset: Appoint an ID (0 ~ 9) to save the current position data ¡ Reset: Appoint an ID (0 ~ 9) to delete the current position data
3.	Menu	Display OSD menu
4.	Pan/ Tilt/ Enter	¡ Pan/Tilt: Move the lens ¡ Home-Enter: Go back to the main page / Execute
5.	Info	Status information
6.	Zoom	¡ Fast: Adjust the image size ¡ Slow: Fine-tune image size
7.	Focus	¡ Auto: Autofocus ¡ Manual: Enable Manual Focus ¡ Far/Near: Adjust the focal length in Manual
8.	Auto Tracking	¡ On/Off: Enable/Disable Auto Tracking ¡ Full: Full body tracking ¡ Upper: Half-body tracking ¡ Switch: Switch tracking object
9.	L/R Direction Set	L/R Direction / Normal
10.	Mirror	Rotate the image (OFF / Mirror / Flip / Rotate)
11.	Camera select	Choose Camera ID 1 ~ 3
12.	Back Light	Turn on/off the backlight compensation
13.	Pan/Tilt Reset	Clear the Pan/Tilt setting
14.	Auto Framing	¡ On/Off: Enable/Disable auto framing ¡ Trigger: Manual framing correction Note VC-TR40, AT does not support the Framing function.

Setting Menu

<Remark> Press [MENU] on the remote control to enter the setting menu; the bold underlined values in the following table are defaults.

1st Level Major Items	2nd Level Minor Items	3rd Level Adjustment Values		Function Descriptions
Exposure	Mode	**Full Auto**/ Shutter Pri/ Iris Pri/ Manual/ White Board		Exposure mode setting
	Exposure Comp.	On/**Off**		Turn on/off Exposure Comp.
	Exposure Comp. Level	-6~**C**~4		Adjustable after **Exposure Comp.** is activated
	Spot Light	On/**Off**		Turn on/off the Spot Light
	Spot Light Position	X(0~6)Y(0~4)		Adjustable after **Spot Light** is activated
	Anti-Flicker	50Hz/ 60Hz/ Off		Enable/ Disable Anti-Flicker
	Shutter Speed	60/30mode	50/25mode	Adjustable when the **Exposure mode** is set to **Shutter Pri** or **Manual**
		1/10000~1/25		
	Iris Level	F1.6~**C**~F14/ Close		Adjustable when the **Exposure mode** is set to **IRIS Pri** or **Manual**
	Gain Limit	8~**30**dB		Max. limit value of electron gain
	Gain Level	**0**~30dB		Adjustable when the **Exposure mode** is set to **Manual**
	WDR	**Off**/ 1/ 2/ 3		WDR settings
White Balance	Mode	**1. Auto**		Select the color temperature mode 1. 4000k ~ 7000k
		2. Indoor		2. 3200k
		3. Outdoor		3. 5800k
		4. One Push WB		4. 1700k ~ 10000k
		5. ATW		5. 1700k ~ 10000k
		6. Manual 7.Sodium Lamp		6. Custom 7. 2800k
	One Push Trigger	**ENTER**		One push trigger
	Manual Red	0~ **C**~127		Adjustable when the white balance mode is set to **Manual**
	Manual Blue	0~ **C**~127		Adjustable when the white balance mode is set to **Manual**
Tracking	Type	**Auto Tracking** / Auto Framing		VC-TR40, AT does not support the Framing function.
	2D NR	Off/ **1**/ 2/ 3		2D noise reduction

Picture	3D NR	Off/ Low/ **Typ**/ Max	3D noise reduction
	Image Mode	**<u>Default</u>**/ Custom	The user may customize his/her desired image mode
	Brightness	0~ <u>**A**</u> ~15	Adjustable when the ***Image Mode*** is set to ***Custom***
	Hue	0~ <u>**A**</u> ~15	Adjustable when the ***Image Mode*** is set to ***Custom***
	Saturation	0~ <u>**A**</u> ~15	Adjustable when the ***Image Mode*** is set to ***Custom***
	Gamma	0~ <u>**A**</u> ~3	Adjustable when the ***Image Mode*** is set to ***Custom***
	Sharpness	0~<u>**A**</u>~14	Adjustable when the ***Image Mode*** is set to ***Custom***
Pan Tilt	**Pan/Tilt Limit**	On/**Off**	Turn on/off the angle limit setting

1st Level Major Items	2nd Level Minor Items	3rd Level Adjustment Values	**Function Descriptions**
Zoom	**Pan Right Limit**	0~**170**	Limit the right angle
	Pan Left Limit	**–170**~0	Limit the left angle
	Tilt UP Limit	0~**90**	Limit the upward angle
	Tilt Down Limit	**–30**~0	Limit the downward angle
	Pan Flip	On/**<u>Off</u>**	After it is activated, the Pan command will be reversed
	Tilt Flip	On/**<u>Off</u>**	After it is activated, the Tilt command will be reversed
	Preset Speed	5/ 25/ 50/ 80/ **120** deg/sec	Set the rotation speed of the cradle head when the Preset is executed
	PTZ Speed Comp	On/**<u>Off</u>**	After it is activated, the Pan/Tilt moving speed will vary from the zoom position
	D-Zoom Limit	**<u>x1</u>**~x12	Set the D-zoom limit
D-Effect	**Mirror**	**<u>Off</u>**/ Mirror/ Flip/ Mirror+Flip	Set the mode at which the image is turned
	AF Sensitivity	Low/ **<u>Middle</u>**/ High	For AF triggering speed, the higher the sensitivity is, the faster the AF is triggered

Auto Focus			
	AF Frame	Center/ Full Frame/ **Auto**	AF frame setting, when the *Center* is set as AF frame, focusing will be on the center of the screen. When Full Frame was set as AF frame, focusing will be calculated based on the full screen
Ethernet	DHCP	**On**/Off	Enable/Disable the dynamic host configuration
	IP Address	**192.168.100.100**	Configurable when *DHCP* is set to *Off*
	Subnet mask	**255.255.255.0**	
	Gateway	**192.168.100.254**	
Audio	Audio Enable	On/**Off**	Turn on/off the audio output
	Audio In	**Line In**/ Mic In	
	Audio Volume	0~**A**~10	Volume Setting
	Audio Delay	On/**Off**	When the audio is not synchronized with the video, enable this function to set the audio delay time
	Audio Delay Time(ms)	**-10**~-500ms	Set audio delay time
	Encode Sample Rate	**48 KHz(AAC)**	Set the encode type and sample rate
System	Prompt	On/**Off**	Turn on/off the prompt information on the display
	IR Receive	**On**/Off	Turn on/off the infrared reception When it is Off, the remote control will not be able to control the camera. At this moment, turn off and then turn on the power to restore control of the remote control.

1st Level Major Items	2nd Level Minor Items	3rd Level Adjustment Values	Function Descriptions

IR Select	1/ 2/ 3	Camera IR Select setting must be the same setting as the Camera Select of the remote control to control the camera
Tracking Led Status	On/ Off	When enabled, the LED on the front panel will flash green in a slow blinking while the camera is tracking.
Language	English/ Chinese	
Initial Position	Last MEM/ 1st Preset	After turning on the camera, you can select the lens to be returned to *Last MEM* or *1st Preset* <Remark> *1st Preset* =Preset 0
Motionless Preset	On/Off	When the function is enabled, the screen will Freeze when the *Preset* is executed. Freeze will be released after the *Preset* is completed
Privacy Mode	On/Off	Enable/Cancel Privacy Mode After the function is enabled when the camera is turned off via the remote control or software, the lens will automatically turn to the bottom right to ensure the user's privacy
Protocol	VISCA	Supporting VISCA protocol
Baud Rate	9600/38400	Choose the transmission speed of the control signal
VISCA Address	1~7	The camera ID address can be assigned. Select 0 for automation.
Output Mode	1080p 60/50/30/25 720p 60/50/	Choose the output resolution

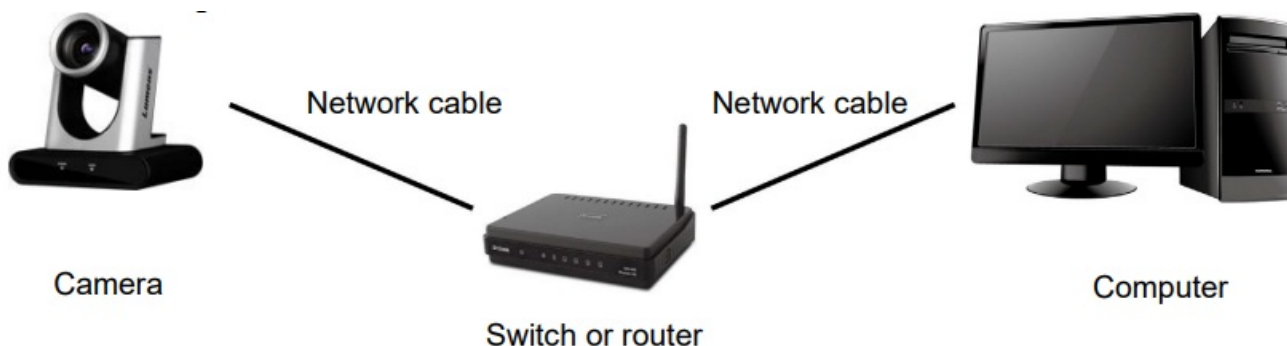|	Factory Reset)	On/**Off**	Resume the factory default setting
Status			Display the current setting status

Network Function Settings Description

Connecting Camera to Network

Connecting to Internet

Two common connection methods are shown below

1. **Connecting via switch or router**

2. To connect directly through the network cable, the IP address of the computer should be changed so that it is on the same network segment as the camera E.g.:
    - The factory-preset default IP address of the camera is 192.168.100.100. The computer IP address must be set with the same network segment, such as 192.168.100.101 so that the computer can be connected correctly to the camera
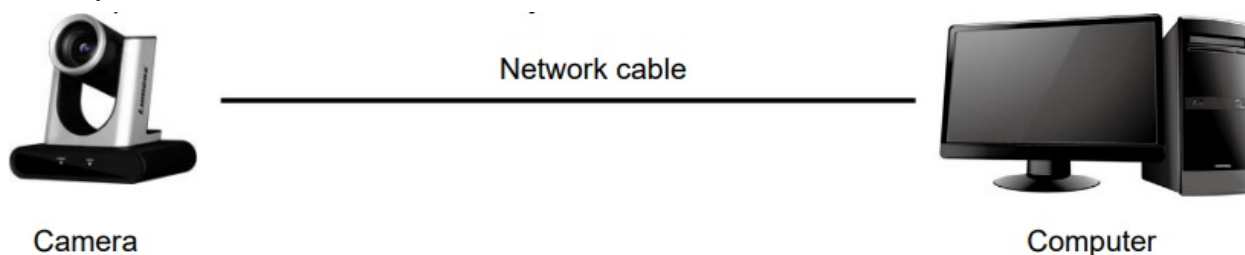
    - **Change network settings**
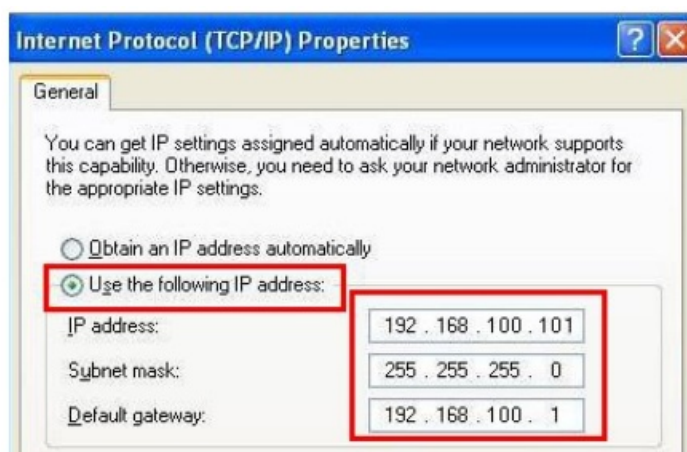
Using the Browser to View the Images

- Open the browser, and enter the IP address of the camera in the address bar E.g.: **http://192.168.100.100** (default IP address)
- Enter the administrator's account and password

<Remark> For the first-time login, please refer to5.2.10System Settings – User to change the default password
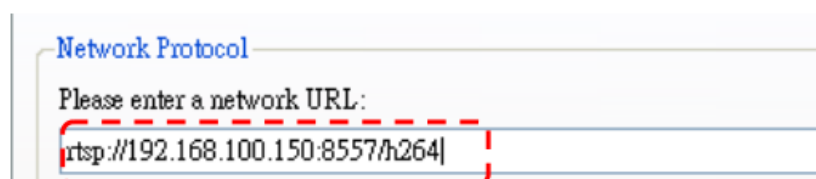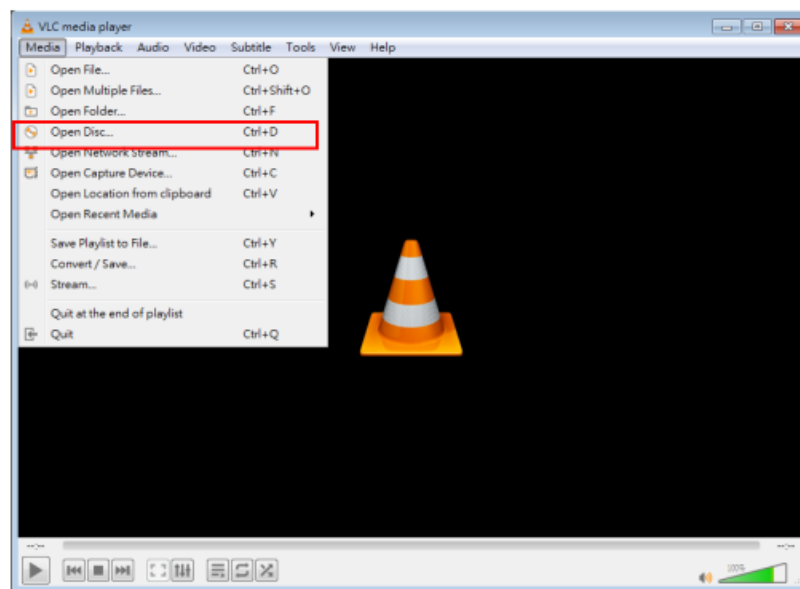

Using RTSP Player to View the Images

- Free software can be used for RTSP connection, such as VLC, Quick Time, and PotPlayer

RTSP connection address formats are as follows:

- **RTSP Stream** 1 => rtsp://camera IP:8557/h264
- **RTSP Stream** 2 => rtsp://camera IP:8556/h264
- **RTSP Stream3** => rtsp://camera IP:8553/h264
- Stream 3 is for the Panoramic image.

If password authentication is enabled, the RTSP connection address is as follows:

- rtsp://Username: Password@VC IP address: port/h264
- To enable the password authentication function, please refer to5.2.8 System Setting – Network
- **Example:** Open the VLC software, click [Open Network Streaming], and enter the URL: **rtsp://192.168.100.150:8557/h264**.

Web Page Menu Function Description

Login Screen

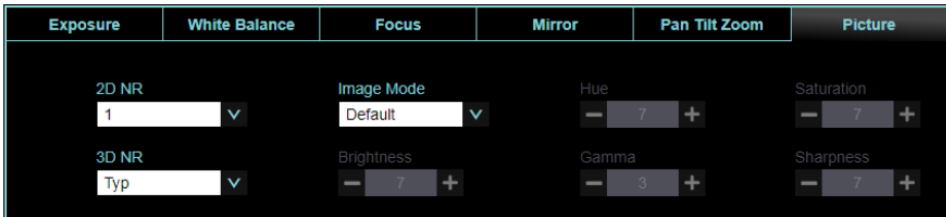| No	Item	Function Descriptions
1	User Login Account	Enter user login account (default: admin)
2	User Password	Enter user password (default: 9999) **<Remark>** For the first-time login, please refer to ***5.2.10 System Settings – User*** to change the default password
3	Remember the user account and password	Save the user login account and password to the browser. When you log in next time, there is no need to re-enter them
4	Language	Supporting English/Traditional Chinese/Simplified Chinese
5	Login	Log into the administrator screen on the website

Live Video – PTZ Control
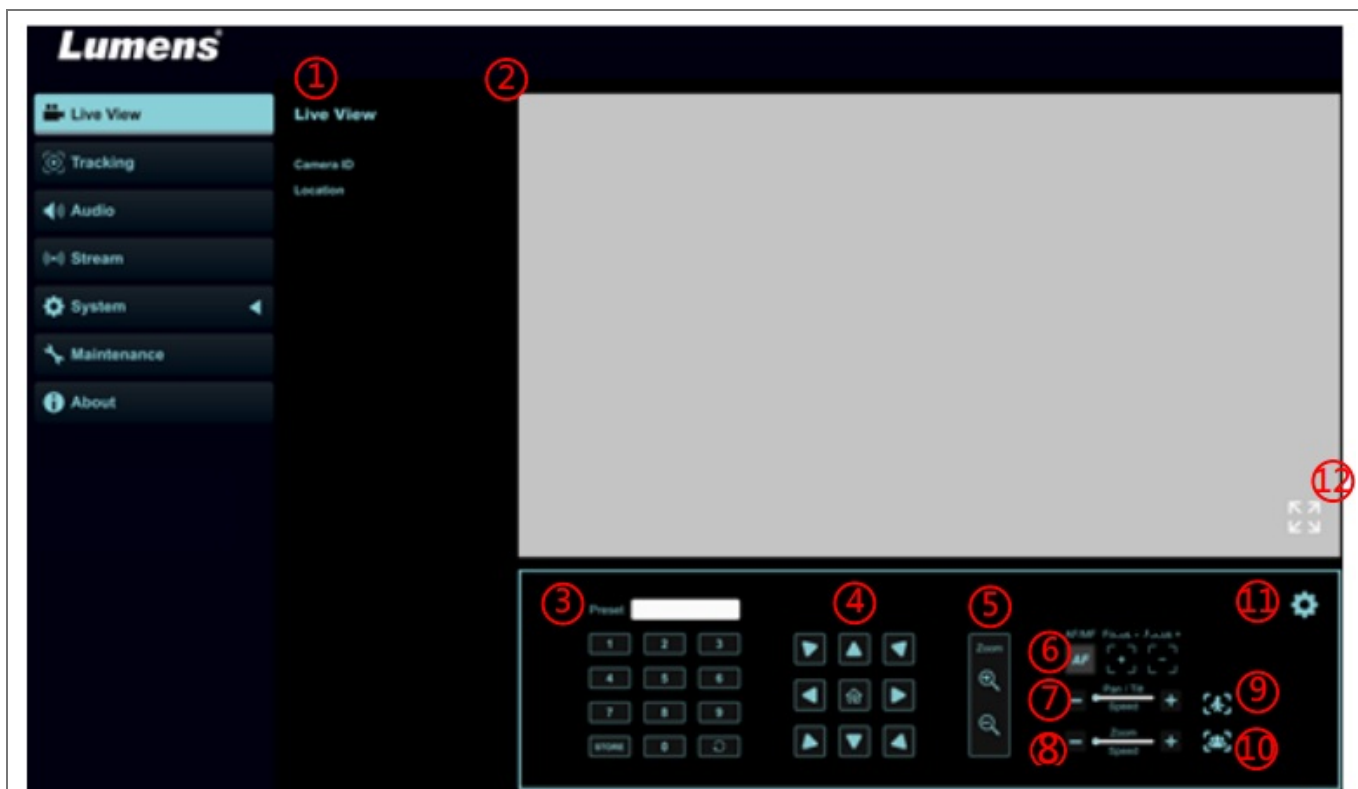
No	Item	Function Descriptions
1	Camera ID/location	Display camera ID/location Please refer to **_5.2.7 System Settings – Output Setting_**
2	Preview window	Display the screen currently captured by the camera

3	Preset setting	Select the number first and then select SAVE or LOAD
4	Pan/Tilt setting	Adjust the Pan/Tilt position of the camera screen
5	Zoom	Zoom In/Zoom Out ratio
6	AF/MF	Switch AF/MF
7	Pan/ Tilt Speed	Adjust the horizontal/vertical moving speed of the lens
8	Zoom speed	Adjust the zoom speed
9	Auto Tracking	Enable/Disable Auto Tracking
10	Auto Framing	Enable/Disable Auto Framing
11	Camera Setting	Please refer to *5.2.3 Live Video – Camera Setting* for related settings
12	Enlarge the preview window	Zooming in/out the preview image

Live Video – Camera Setting

No	Item	Function Descriptions
1	Exposure	Mode: Select exposure mode (Full Auto/Shutter Pri/Iris Pri/Manual/ White Board) Gain Level: Adjust the gain level (adjustable only under the "Manual") Gain Limit: Adjust the gain limit (adjustable only under the "Manual") Exposure Comp. Level: Select exposure compensation level WDR: Set the level of wide dynamic range (WDR) to obtain better images Iris Level: Adjust the size of the aperture (adjustable only under the "Manual" or "Aperture Priority" Shutter Speed: Adjust the shutter speed (adjustable only under the "Manual" or "Shutter Priority" Anti-Flicker: Enable Anti-flicker function(adjustable 50Hz or 60Hz)
2	White Balance	 Mode: Select the color temperature mode Open Push WB: Single color temperature execution adjustment (adjustable only under the "One Push WB" Manual Red/Blue: Manually adjust blue/red color temperature
3	Focus	 AF Sensitivity: Set automatic focus sensitivity AF Frame: Set automatic focus range

4	Mirror	
		Mirror: Set image mirroring
		Flip: Set image flip

5	Pan Tilt Zoom(PTZ)	Pan/Tilt limit: Enable, and set the pan/tilt limit
		Preset Speed: Set the rotation speed of the cradle head when the Preset is executed Initial Position: Set the camera lens to return to **_Last MEM_** or **_1st Preset_** after POWER ON **<Remark>** **_1st Preset_** = Preset 0
		D-Zoom Limit: Set the D-Zoom Limit
		PTZ Speed Comp: After it is activated, the Pan/Tilt moving speed will vary from the zoom position
		Initial Position: Set the camera lens to return to the last operated position or the first preset position after POWER ON
		Motionless Preset: When the function is enabled, the screen will Freeze when the Preset is executed. Freeze will be released after the Preset is completed

6.	Photo	2D noise reduction: 2D noise reduction settings
		3D noise reduction: 3D noise reduction settings
		Image Mode: The user may customize his/her desired image mode
		Hue: Hue adjustment of the image; Adjustable when the image mode is set to Custom

		Saturation: Saturation adjustment of the image; Adjustable when the image mode is set to Custom
		Brightness: Brightness adjustment of the image; Adjustable when the image mode is set to Custom
		Gamma: Gamma Level adjustment; Adjustable when the image mode is set to Custom
		Sharpness: Sharpness adjustment of the image; Adjustable when the image mode is set to Custom
7	PTZ Control	Go back to the PTZ Control page

Tracking
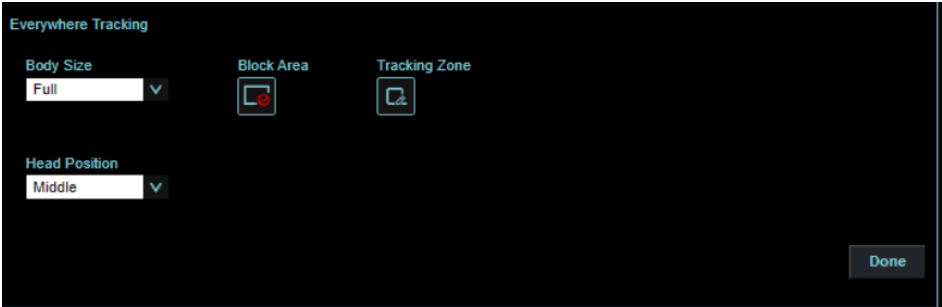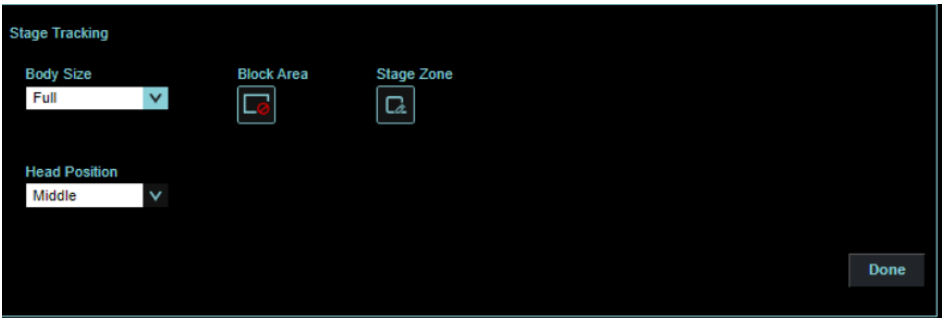
(This Tracking section is for the VC-TR40. For the TR40, AT version, please refer to section 5.2.4.A)
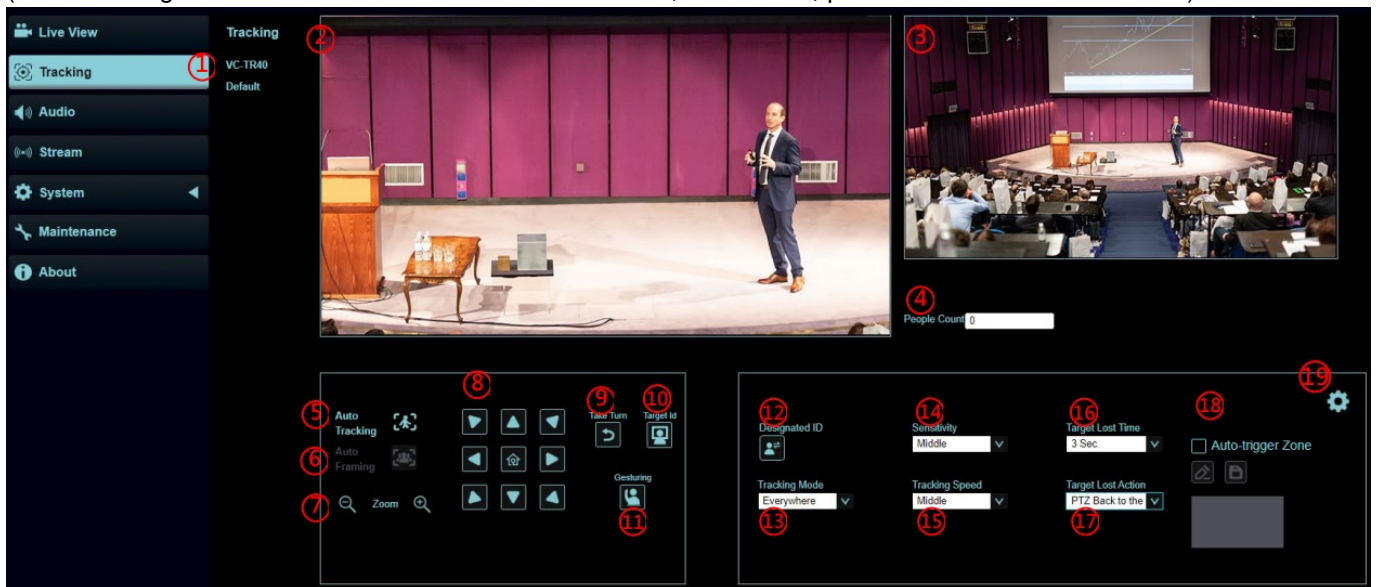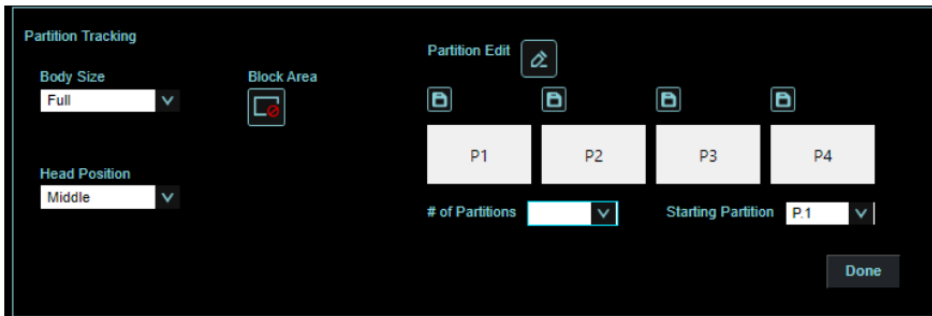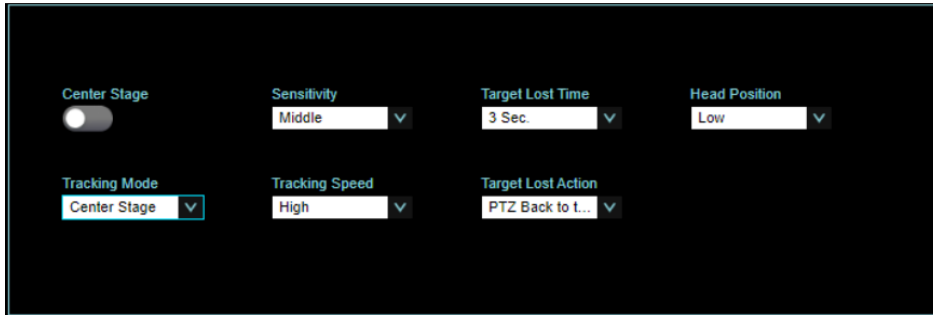
No	Item	Function Descriptions
1	Camera ID/location	Please refer to **_5.2.7 System Settings – Output Setting_** to display camera ID/Location
2	Preview the main window	Display the screen currently captured by the main camera lens **<Remark>** Left-click the detected person on the screen to switch the tracking object. The tracking object is depicted with a green bounding box
3	Panoramic preview window	Display the screen currently captured by the panoramic lens
4	People Count	Display the number of people on the screen automatically calculated by the system

5	Auto Tracking	Start/Stop Auto Tracking **<Remark>** Auto Tracking / Auto Framing (Select one only)
6	Auto Framing	Start/Stop Auto Framing The camera will automatically detect the locations of people, and automatically adjust the zoom to the most appropriate size to accommodate all the participants according to the change in the number of people at the conference **<Remark>**Auto Tracking / Auto Framing (Select one only)
7	Zoom ratio	Zoom In/Zoom Out ratio
8	Pan/Tilt setting	Adjust the Pan/Tilt position of the camera screen **<Remark>** When Auto Tracking / Auto Framing is enabled, PTZ settings are not supported
9	Take Turn	Switch the targets one by one from left to right. It will be switched once the button is pressed
10	Target Id	Display Target Id
11	Gesturing	On/ Off Gesturing function. Support the following gesture, the tracking target will automatically switch when the speaker raises both hands.

12	Designated ID	Press it to activate this function. You can switch the ID by clicking the targeted frame with the mouse.

13	Tracking Mode	Set the Tracking Mode (Everywhere Tracking/Stage Tracking/Center Stage/Partition Tracking/Auto-Framing/Partition Framing)
14	Sensitivity	Set tracking sensitivity
15	Tracking Speed	Set tracking speed
16	Target Lost Time	Set a delay for taking action after a tracking object is lost
17	Target Lost Action	Set the action after a tracking object is lost
18	Auto-trigger zone	When people walk into the trigger zone you have set, the auto-tracking will be turned on.
19	Tracking Mode Setting	VC-TR40 supports 6 kinds of tracking mode
19.1	Settings – Everywhere tracking	 Body Size: Set Full/Half Body Head Position: Set the head position of the person on the screen Block Area: Click into the Edit mode, frame by holding the left mouse button, and set the block area Tracking Zone: Set a specific tracking range.
19.2	Settings – Stage Tracking	 Body Size: Set Full/Half Body Head Position: Set the head position of the person on the screen Block Area: Click into the Edit mode, frame by holding the left mouse button, and set the block area Stage Zone: Click into the Edit mode, frame by holding the left mouse button, and determine the tracking range

19.3	Settings – Partition Tracking	Set Partition Tracking. Up to 4 zones can be set When a person enters the zone of a partition, the camera switches to the partition. Tracking is not performed in the zone, but everywhere outside the partition Please refer to **5.2.4.2 Partition Tracking** for the setting steps

|		Body Size: Set Full/Half Body
		Head Position: Set the head position of the person on the screen
		Block Area: Click into the Edit mode, frame by holding the left mouse button, and set the block area
		Partition Edit: Edit, save partition positions, and preview the partition image.
		Click to enlarge the partition image, and then click the enlarge icon to cancel the preview.
		Partition amount: Display the total stored number of Partition.
		Starting Partition: Initiating the partition position
19.4	Setting – Center Stage	Enable Center Stage allows the camera to keep the target in the center of the frame frame-based image in the PTZ lens after calling a new preset. Center Stage: on/off Head Position: Set the head position of the person on the screen

19.5	Settings – Auto -Framing	**Auto Framing** Body Size: Full Block Area Head Position: Middle Framing Size: Medium Body Size: Set Full/Half Body Head Position: Set the head position of the person on the screen Block Area: Click into the Edit mode, frame by holding the left mouse button, and set the block area Framing Size: Tight / Medium / Wide
19.6	Setting – Partition Framing	**Partition Framing** Partition Edit P1 P2 P3 P4 # of Partitions Done Partition Edit: Edit, save partition positions, and preview the partition image. Click to enlarge the partition image, and then click the enlarge icon to cancel the preview. Partition amount: Display the total stored number of Partition.

Stage

1. Select [Stage] for Tracking Mode, and click 🔧 to access the settings

Designated ID
Sensitivity: Middle
Target Lost Time: 3 Sec.

Tracking Mode: Stage
Tracking Speed: High
Target Lost Action
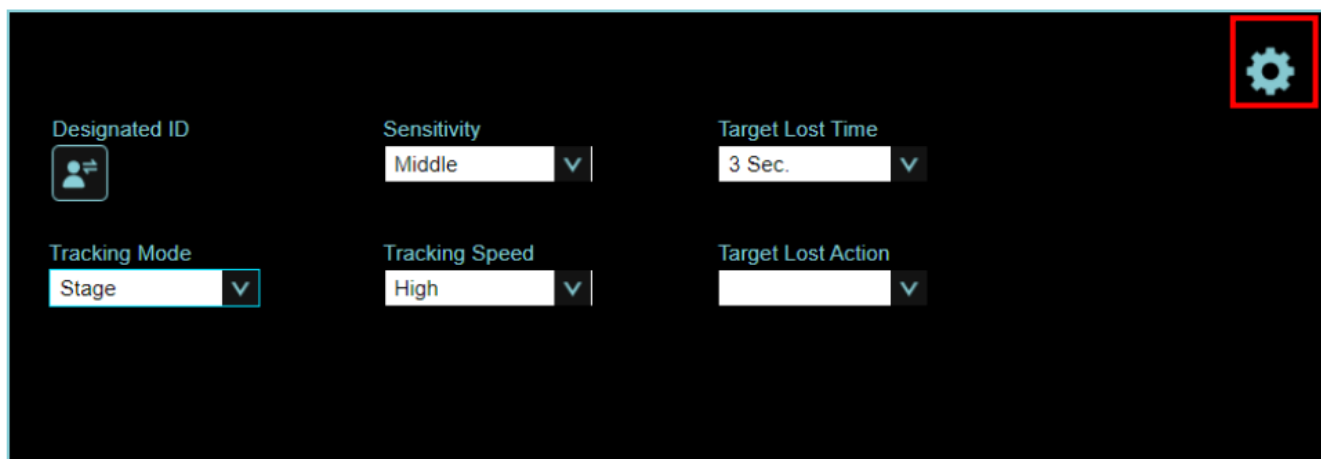
2. Select 🔲 Zone to enter Edit mode, and click the left mouse button to frame it (yellow frame) in the

panoramic preview window, determining the area and moving range. After framing, use the mouse to click the frame line to move or delete it.
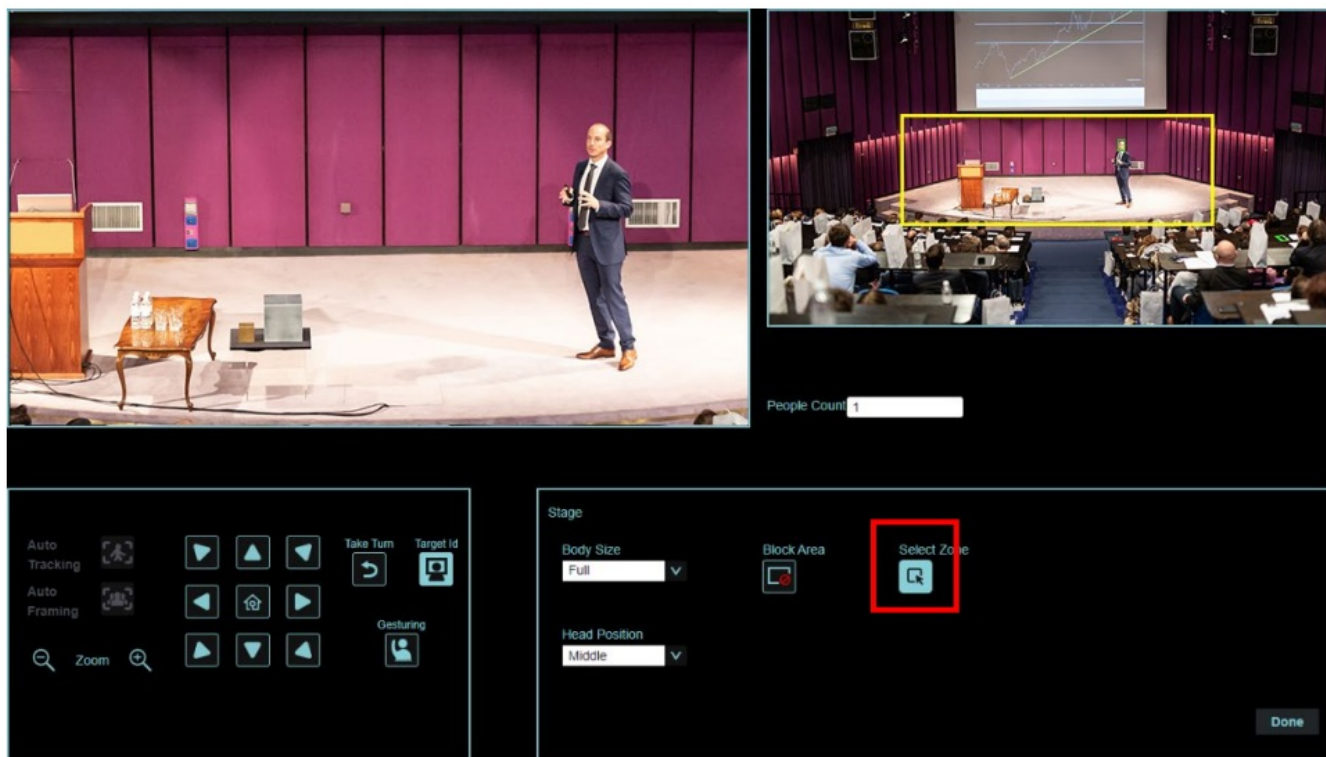
3. Select to click the left mouse button to frame it (red frame) in the panoramic preview window, and set the block area
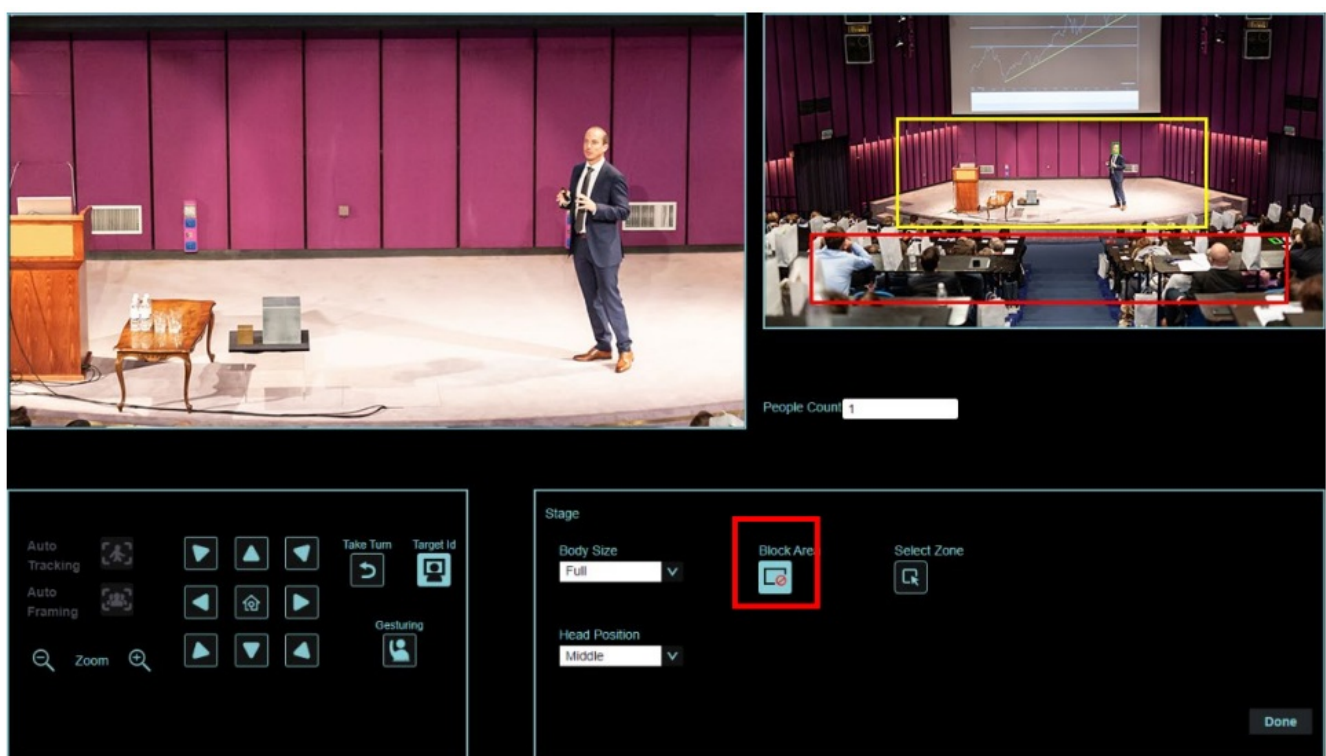

4. After framing, click on the setting

5. Click to enable the Stage feature
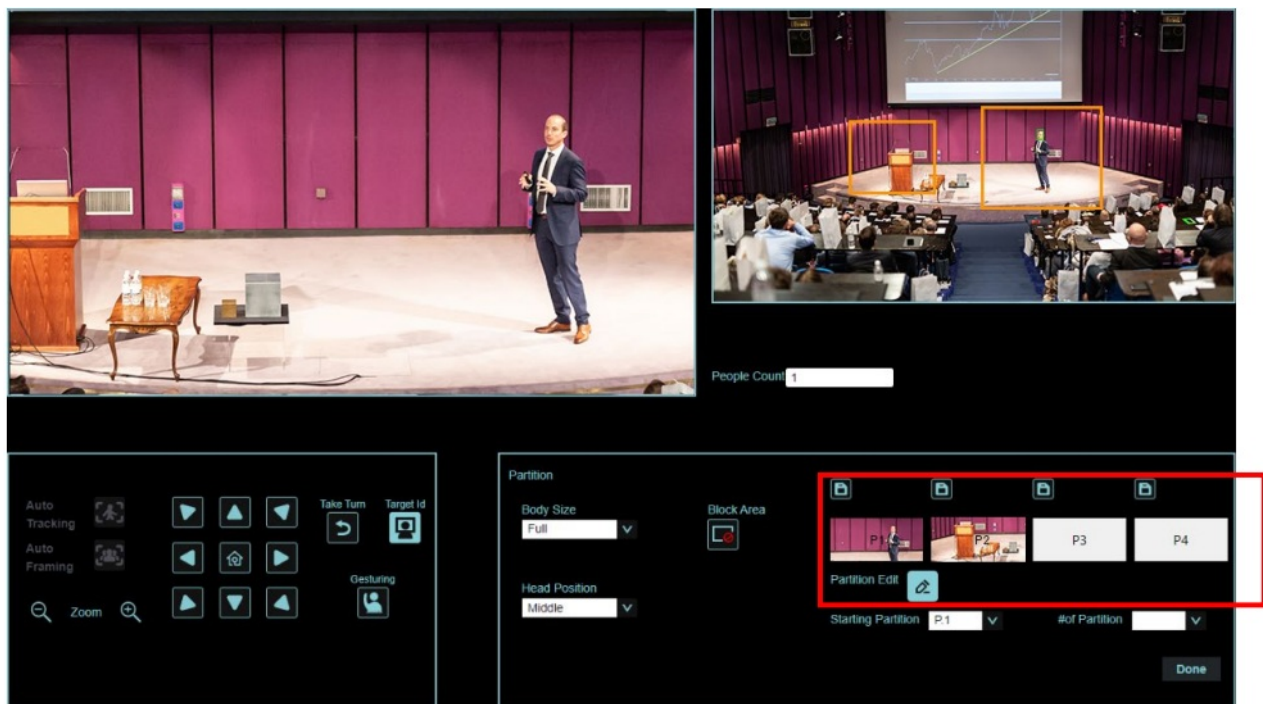
Partition

1. Select [Partition] for Tracking Mode, and click ⚙ to access the settings
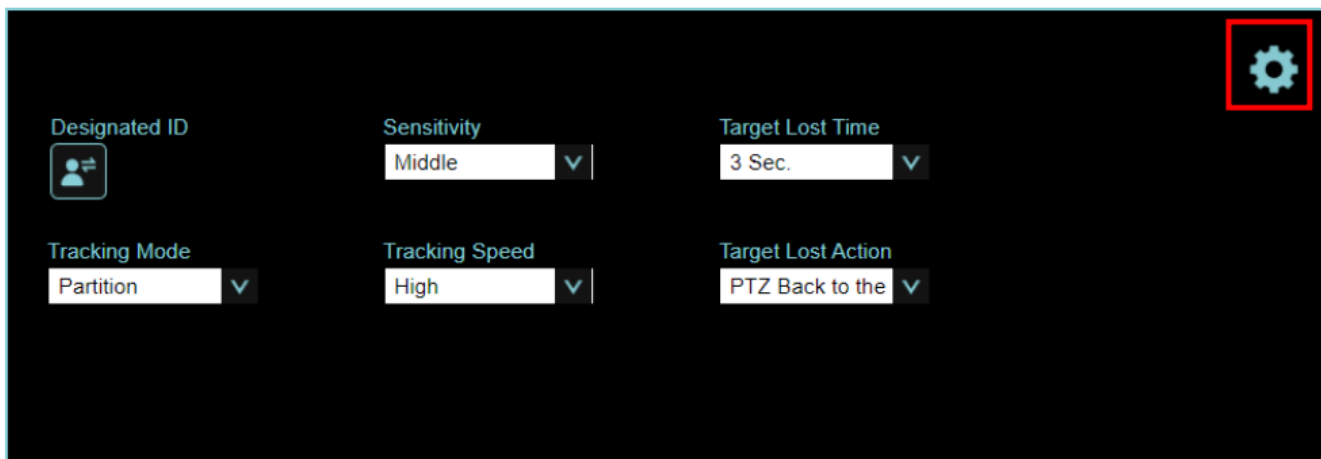
2. Click ✎ to enable the Partition edit, click the left mouse button to frame it (orange frame) in the panoramic preview window, determine the area, and click 💾 to save. The partition icon below will be changed to the saved position
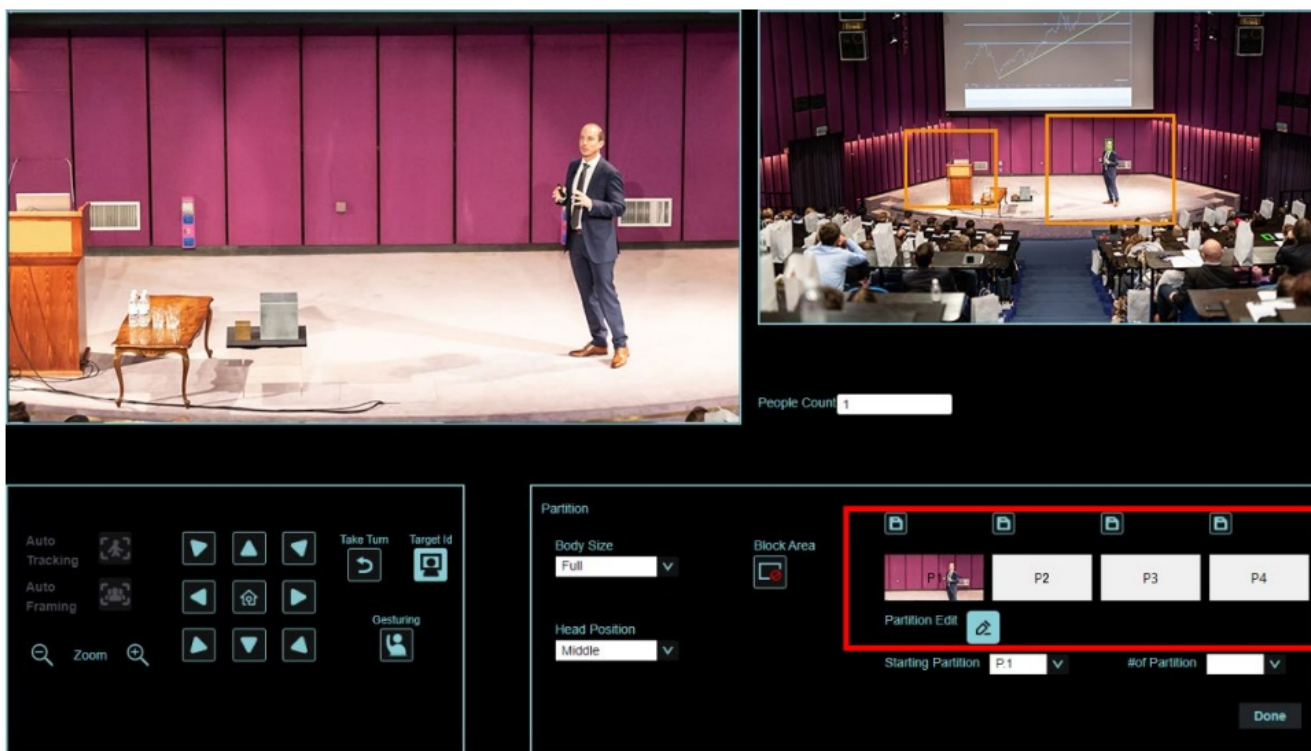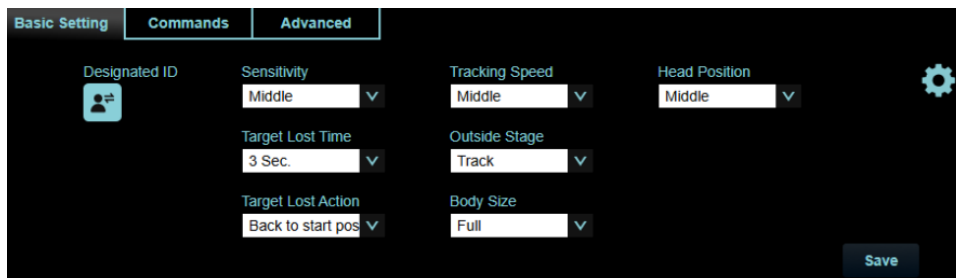
3. If you need to set other partitions, please continue framing, and then click 💾 to save
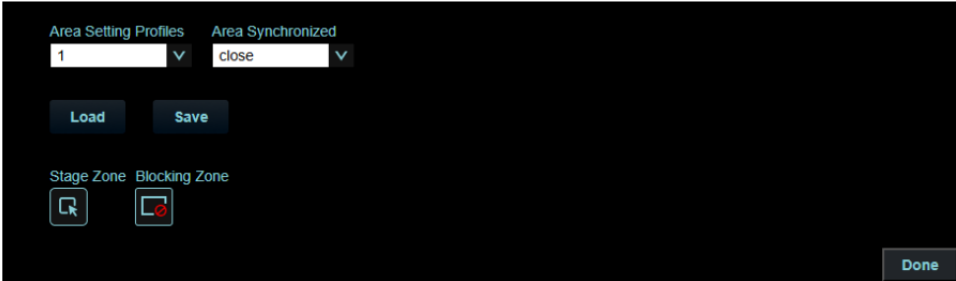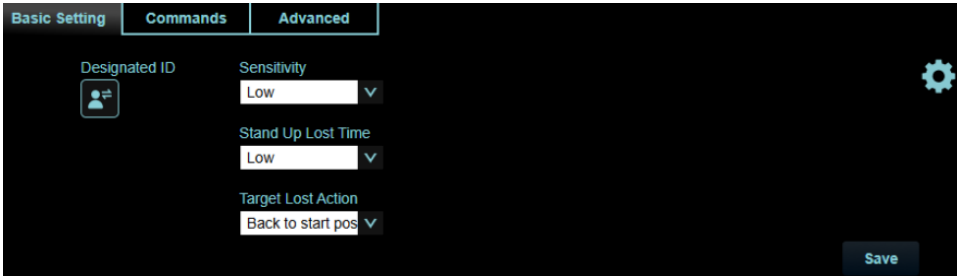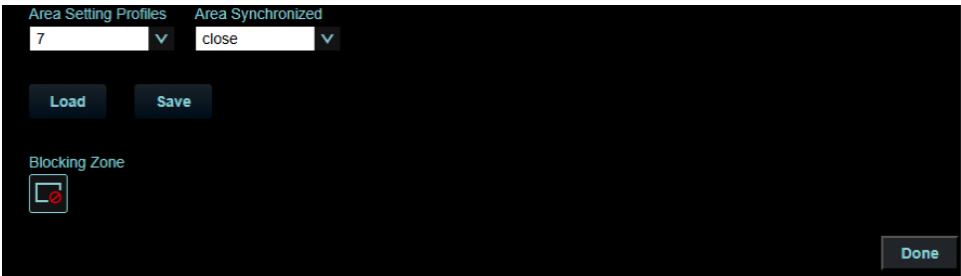   - **<Remark>** Overlapping partition positions may cause abnormal tracking behavior
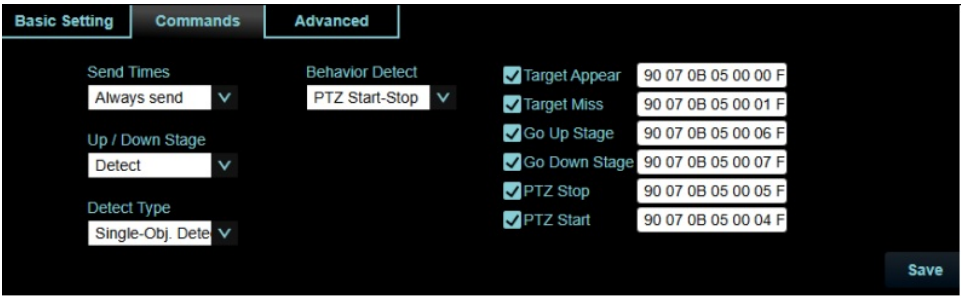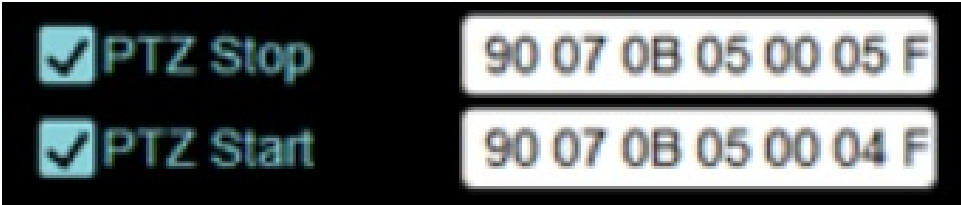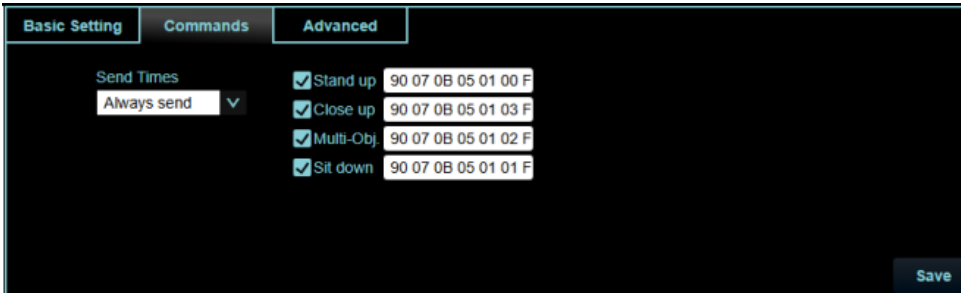
4. Click ![icon] to enable the Partition feature

Tracking (For VC-TR40,AT version)

No	Item	Function Description				
1	Camera ID/ location	Display the camera ID and location. Refer to **_5.2.7 System-Output_**				
2	Preview window	Display the image from the Lens.				
3	Panoramic preview window	Display the image from the Panoramic Lens. **Note** Left-clicking the target with the green icon on head by the mouse to track the desired target in the panoramic scene				
4	Mode	Presenter: Track the target on the stage. Audience: Track the audience when an audience does the corresponding movement.				
5	Auto Tracking	On / Off	Auto Tracking			
6	Zoom ratio	Zoom In/Out				
7	Pan/Tilt setting	Pan / Tilt the camera to your desired angle. **Note** When the auto-tracking is enabled, the PTZ is uncontrollable				
8	Take Turn	Change the tracking target from left to right in order one at a time after clicking the button. **Note** Not supported in Audience mode.				
9	Setting Area	To display the Stage zone and Blocking zone you have drawn in a panoramic field.				
10	Basic setting-Presenter	 **Designated ID:** The targets detected in the panoramic scene will display a green indicator for easier identification. **Sensitivity:** Low/Middle/High. **Target lost time:** Set how long the camera will take to act after losing the target **Target lost Action:** what action will be done after losing the target: Back to start position/Stay in the last position/PTZ back to the center and wide				

		Tracking speed: Low/Middle/High
		Outside Stage: Whether the camera will keep tracking after leaving the Stage area.
		Body Size: Full/Upper
		Head position: Set the individual's head will be in which position in the scene. Low/ Middle/ High
		Area Setting Profiles and Synchronized: Save or Load the zone profile you have drawn.
		Stage Zone: Click it then start editing. Use the left button of the mouse to draw a tracking zone in the panoramic scene. The camera will then track the target in this area.
		Blocking Zone: Click it then start editing. Use the left button of the mouse to draw a blocking zone in the panoramic scene. The camera will then not track the target in this area.
		Remark: <Please note that the Stage and Blocking zone can overlap if needed.>
10	Basic Setting-Audience	
		Designated ID: The targets detected in the panoramic scene will display a green indicator for easier identification.
		While tracking, click on a different indicator to switch to a different target.
		Sensitivity: Low/Middle/High
		Stand Up Lost Time: After triggering, how long the camera will keep tracking the target?
		Target Lost Action: What the camera will do after losing the target?
		PTZ back to the enter and wide/ Stay in the last position/ Back to start position.

11		
		Area Setting Profiles and Synchronized: Save or Load the zone profile you have drawn. Blocking Zone: Click it then start editing. Use the left button of the mouse to draw a blocking zone in the panoramic scene. The camera will then not track the target in this area.
11	Commands-Press enter (To be used with Lumens LC300)	**Noted: To use the camera with the Lumens LC300 intelligent director function, the checkbox above needs to be checked.** Send Times: Once/ Always Send Up/Down Stage: Configure that the camera will only track the target when the individual is on stage. Detect Type: Single Object / Mutlple Object. Behavior Detect: Normal: Will not send the PTZ start and Stop command. PTZ Start-Stop: The PTZ Stop and PTZ Start command will be sent.
11	Command-Audience (To be used with Lumens LC300)	**Noted: To use the camera with the Lumens LC300 intelligent director function, the checkbox above needs to be checked.** Send Times: Once / Always send

12	Advanced-Audience/ Presenter (To be used with Lumens LC300)	 **Noted: To use the camera with the Lumens LC300 intelligent director function, the setting here needs to be configured correctly.** Connect by: Network/ Serial port Protocol: UDP/ TCP Director IP: Enter the LC300 IP address.
		Director Port: 52382
13	People Count	Displays how many people have been detected in the panoramic scene.

How to use the VC-TR40, AT with the Lumens LC300 Intelligent Director function

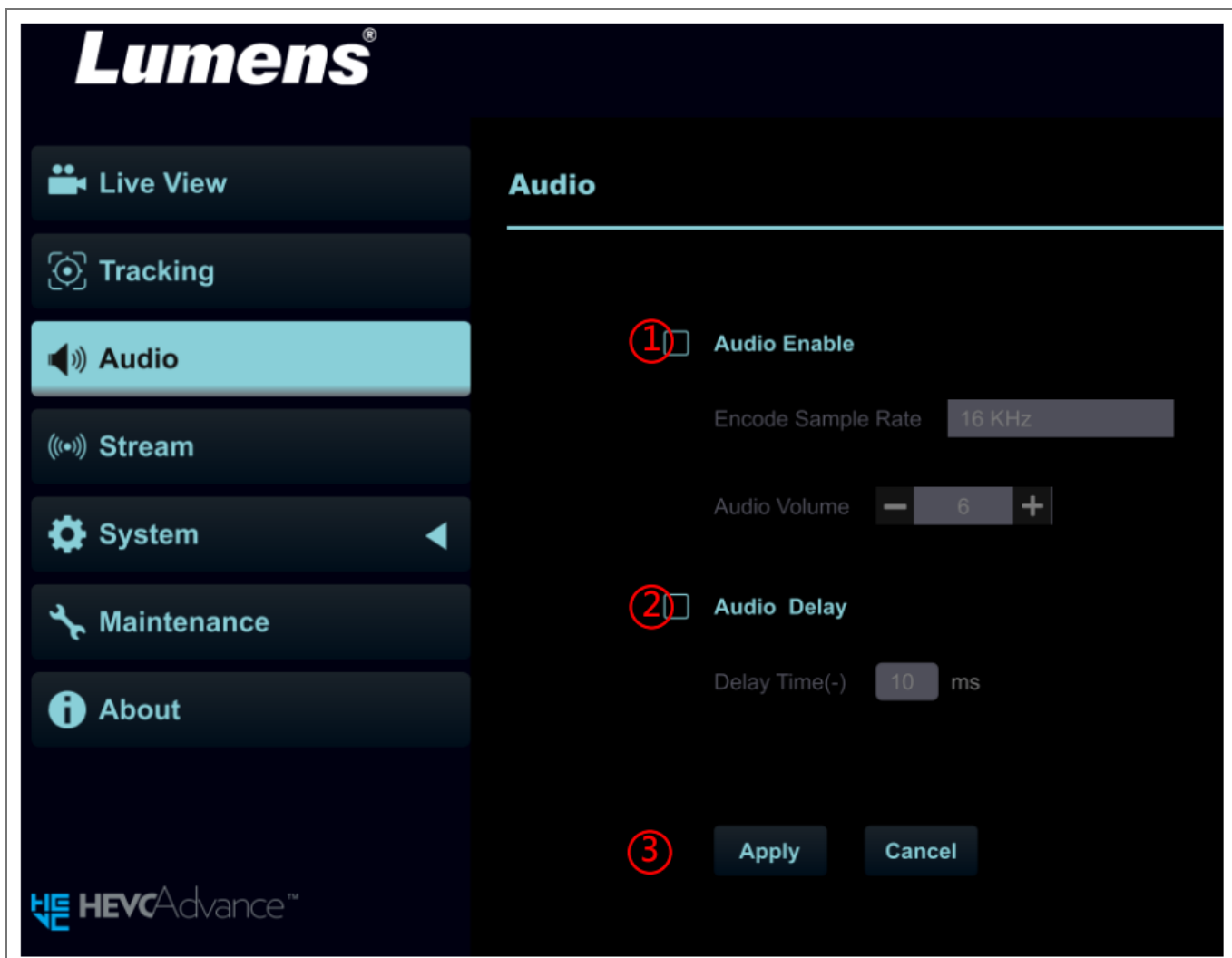| No	Item	Function Description
1	Target lost action	Allows you to choose which scene will be displayed when the target is lost
2	Presenter/Audience Settings	Allows you to choose which scene will be displayed and what action will trigger the scene change.
3	Priority	When two events are triggered, you can choose which one should take priority.
4	On/Off	Enable or disable the Intelligent Director.
5	Apply	Apply the settings

Please remember to complete the Command and Advanced sections' settings to link the VC-TR40, AT, and LC300.

Basic Setting	Commands	Advanced

Send Times
Always send ∨

☑ Stand up — 90 07 0B 05 01 00 F
☑ Close up — 90 07 0B 05 01 03 F
☑ Multi-Obj. — 90 07 0B 05 01 02 F
☑ Sit down — 90 07 0B 05 01 01 F

Save

Basic Setting	Commands	Advanced

Connect by
Network ∨

Director IP
192.168.4.127

Protocol
UDP ∨

Director Port
52382

Audio

No	Item	Function Descriptions
1	Audio Enable	Select to enable the Audio function Audio In: Set Line In / Mic In Encode sample rate: Encode type and sample rate (48KHz(AAC) Volume: Adjust Audio Volume
2	Audio Delay	After checking the box, set the audio delay time (10 ~ -500 ms)
3	Apply/Cancel	Apply/Cancel Audio Setting

Streaming

No	Item	Function Descriptions
1	Streaming 1/ Streaming 2	Supporting 2-way streaming output
2	Streaming parameter setting	Please refer to **5.2.6.1 Streaming Parameter Setting** for relevant settings
3	RTSP	Select to enable RTSP Enable/Disable Multicast It is suggested to enable Multicast when the number of users online watching the live image simultaneously is more than 4 Enable/Disable Password Authentication RTSP connection format can be found in **5.1.3 Using RTSP Player** **To view the Images** The username/password is the same as the web login password of the camera, please refer to **5.2.10 System Settings – User** to add/modify account information
4	RTMP/ RTMPS	Copy the RTMP web address provided by the RTMP service platform and paste it to the RTMP connection address to publish the camera images on the RTMP service platform To upload to YouTube for live streaming, please refer to **5.2.5 Audio** to turn on the audio function

| 5 | SRT | Check to enable and set SRT streaming

After the SRT streaming is opened, it will be connected automatically upon startup

The port number must be set in the range above 1024 with a maximum value of 9999

<Remark> The following port is to be used by the camera. The setting of the said port may not connect correctly 8554, 8555, 8557, 8080, 9090, 1935

The delay time is 20 to 8000 microseconds. The default value is 120 microseconds |
| 6 | NDI | For VC-TR40N only. Please refer to **5.2.7 Streaming – NDI**. |

Streaming parameter setting

Function		Streaming 1	Streaming 2
Encode Format		H.264	
Resolution		1080p / 720p	720p
Bit rate	Range	2,000~20,000	2,000~20,000
	Factory Default	7,000	3,000
Rate Control		CBR / VBR	
Frame Rate		Setting according to the supported resolution	
Group of Pictures		Setting according to the supported resolution	

Stream – NDI (For VC-TR40N only)

No	Item	Function Descriptions
1	Camera ID/ Location	Displaying ID/location according to [System] > [Output] settings

2	Group Name	The group name can be modified here and set with Access Manager – Receive in NDI Tool
		If no group is assigned, the machine belongs to the Public. As the default of Access Manager includes Public, Studio Monitor can discover this machine.
		If a group is assigned, but this group is not added to Access Manager, Studio Monitor cannot discover this machine.
		If a group is assigned and this group is added to Access Manager, Studio Monitor can discover this machine.
		<Remark> The name can contain commas (,) to distinguish different groups
		Example: "default, 123, ABC" means this machine belongs to three groups at the same time (default/ 123/ ABC)
3	NDI|HX	HX2/HX3 can be set on VC-TR40N
		n HX2: HX2 is supported
		n HX3: HX3 is supported (Stream 1/ 2 will be disabled.)
4	Multicast	Multicast Settings.
		It is recommended to enable this feature when there are more than 4 viewers online simultaneously
5	Discovery Server	Check to enter the Server IP address
6	Apply	After the setting has been modified, click this button to apply the settings

System – Output Setting

No	Item	Function Descriptions
1	Camera name	Change the camera name here Supporting 1 – 32 characters for the camera name Please mix uppercase and lowercase letters or numbers for characters. Special symbols such as "**/**" and "**space**" cannot be used **<Remark>** Modifying this field will modify the Onvif device name synchronously

2	Camera Location	Modify the location of the camera, such as Room 1 Supporting 1 -32 characters for the camera location Please mix uppercase and lowercase letters or numbers for characters. Special symbols such as "/" and "space" cannot be used **<Remark>** Modifying this field will modify the Onvif device location synchronously
3	Resolution	Set the resolution of the camera After switching the resolution, the camera will restart. Please refresh the browser
4	HDMI format	Select YUV444/RGB
5	Privacy Mode (UVC)	Enable/Cancel Privacy Mode After the function is enabled when the camera is turned off via the remote control or software, the lens will automatically turn to the bottom right to ensure the user's privacy
6	Apply/Cancel	Apply/Cancel Setting

System – Network

No	Item	Function Descriptions
1	DHCP	Network setting of the camera. Change of setting is available when the DHCP function is closed
2	HTTP port number	Set HTTP port. The default Port value is 80
3	HTTPS port number	Set HTTPS port. The default Port value is 81
4	Apply/Cancel	Apply/Cancel Setting

System – Date & Time
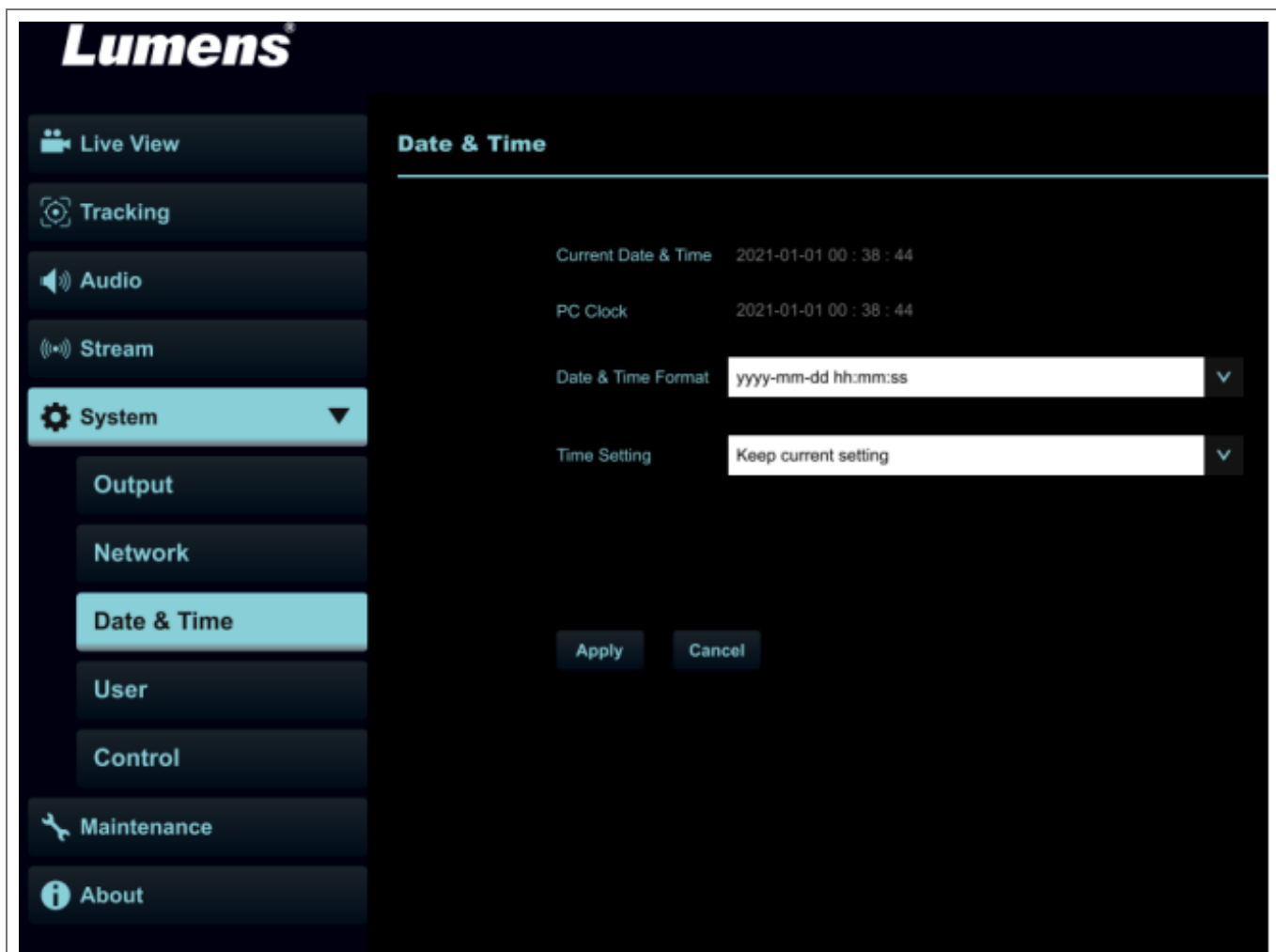
Function Descriptions

Display the current camera/PC date and time, and set the display format and synchronization way

When Manually Set is selected for [Time Settings], Date & Time can be customized

System – User

Function Descriptions

Add/Modify/Delete user account

Supporting 4 – 32 characters for username and password

Please mix uppercase and lowercase letters or numbers for characters. Special symbols or the underlined cannot be used

Authentication Mode: Set the new account management permissions

User Type	Administrator (**Admin**)	Operator (**Operator**)	Viewer (**Viewer**)
View images	**V**	**V**	**V**
Settings	**V**	**V**	**X**
Account management	**V**	**X**	**X**

System Settings – Control
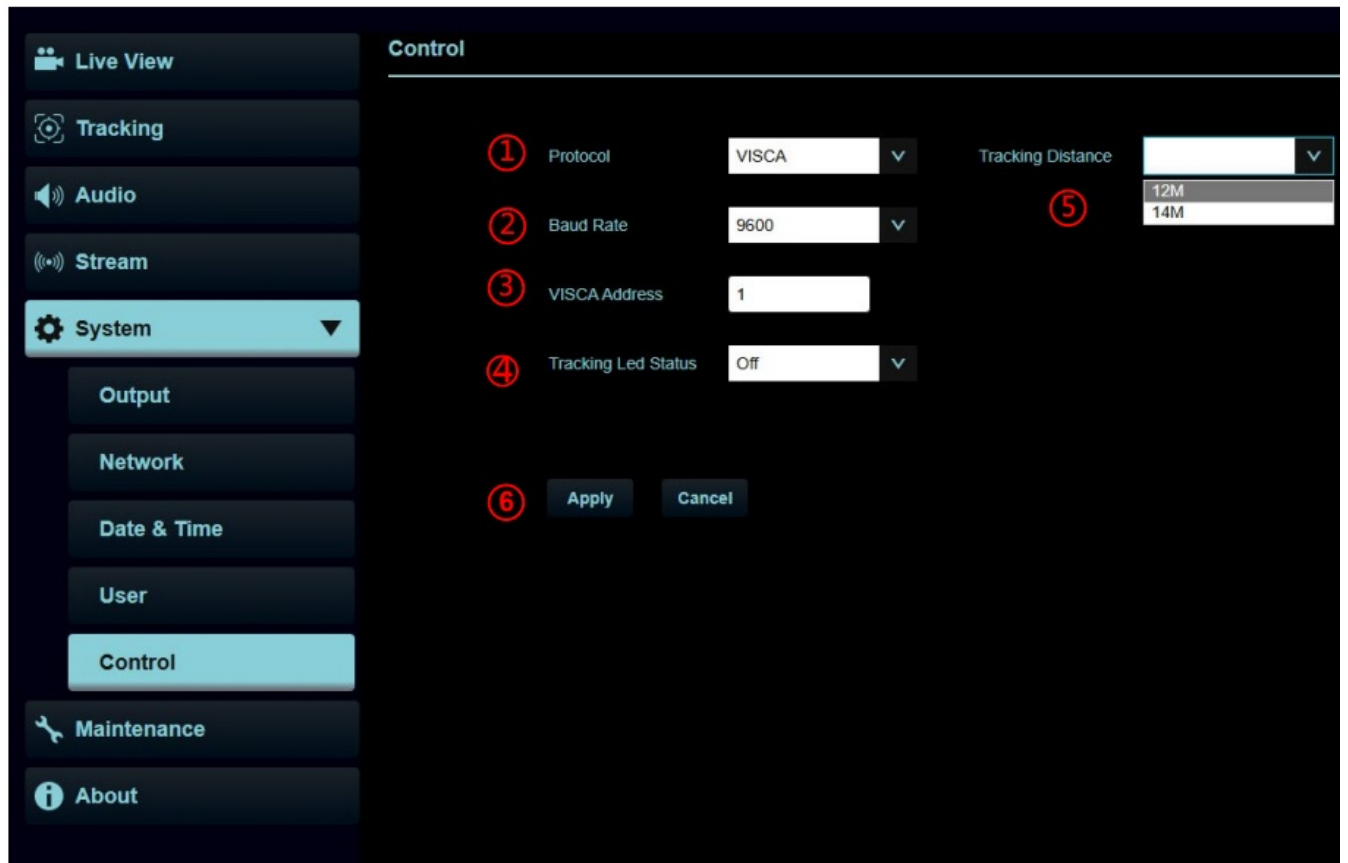
No	Item	Function Descriptions
1	Protocol	Supporting VISCA protocol
2	Baud Rate	Choose the transmission speed of the control signal as 9600/38400
3	VISCA address	The camera ID addresses 1 ~ 7 can be assigned. Select 0 for automation
4	Tracking LED status	Enable/Disable the LED in the front panel flick when tracking is triggered.
5	Tracking Distance	Change the longest tracking distance to either 12 or 14 meters. (The camera will reboot itself after switching)
6	Apply/Cancel	Apply/Cancel Setting

Maintenance

No	Item	Function Descriptions

1	Firmware Upgrade	Select the firmware file, and click [Upgrade] to update the firmware. **\<Remark\>**Update takes about 2-3 minutes. **\<Remark\>** Please do not operate or turn off the power of the device during the update to avoid firmware update failure.
2	Factory Reset	Reset all configurations to factory default settings Except for the Network Setting after reset
3	System Settings	Save setup parameters as a Profile, and users can download and upload camera setup parameters
4	Error Log	If the camera operates abnormally, please export the error log and provide it to L umens for confirmation
5	Reboot	· Reboot: Conduct the reboot immediately. · Daily Reboot Time: Choose the desired exact time for the camera to reboot. **\<Remark: Can only be configured when SNTP is on.\>** · Reboot Timing: Choose how many hours later the camera will reboot: 1HR~24HR.

About

Function Descriptions

Display the firmware version, serial number, and other related information of the camera
For technical support, please scan the QR code at the bottom right.

Troubleshooting

This chapter describes problems you may encounter while using VC-TR40. If you have questions, please refer to related chapters and follow all the suggested solutions. If the problem still occurs, please contact your distributors

or the service center.

No.	Problems	Solutions
1.	**Boot without power signal**	1. Make sure you have plugged in the power cord. 2. When using a PoE connection, ensure that the power supply supports PoE (IEEE802.3af) hubs
2.	**There is no image output from the camera**	1. Check the power supply or PoE supply functions. 2. Confirm the output signals are in streaming output. 3. Confirm whether the camera resolution can be used together with the monitor equipment 4. Replace the cables and make sure they are not faulty.
3.	**The camera image is severely delayed**	Please use 1080p or 720p 60/50 fps rather than 25/30 fps signals.
4.	**RS-232 cannot be controlled**	1. Confirm the connection is correct (RS-232 In/ Out) 2. Please make sure the Baud rate setting is the same as the control equipment
5.	**Whether the Internet can be used for operation**	**Please refer to <u>Chapter 5 Network Function Setting</u> <u>Description</u> of the Internet Usage**
6.	**The ONVIF software cannot find the machine**	Please make sure that [System] > [Output] > [Camera ID] / [Location] on the web page uses only English letters or numbers. The ONVIF software cannot find the machine if you use special characters and space.
7.	**The camera does not save the relevant parameters (PTZ, AWB …) after reboot**	Please make sure that the Initial Position is set to Last MEM from the settings menu or web page 1. Setting Menu: System – Initial Position 2. Web page: Live View-Setting　Camera Setting – PTZ – Initial Position
8.	**How to log in to the portal when you forget your account password**	Please contact your Lumens distributor or service center
9.	**Tracking performance is inconsistent, likely due to long distances.**	Ensure that the distance between the tracking target and the camera is within the recommended range. Refer to **5.2.12　System Settings – Control** to adjust the maximum tracking distance. You can select between 12 and 14 meters.

10.	**Tracking Performance is Poor**	If the distance is within the recommended range, check the following factors that might affect performance: 1. The environment is too dark. 2. The individual is too obscured or covered by other objects in a panoramic view. 3. The camera is installed too high (above 3 meters).

Safety Instructions

Always follow these safety instructions when setting up and using the VC-TR40 PTZ Video Camera:

1. **Operation**
   - Please use the product in the recommended operating environment, away from water or sources of heat
   - Do not place the product on a tilted or unstable trolley, stand, or table.
   - Please clean the dust on the power plug prior to usage. Do not insert the product's power plug into a multiplug to prevent sparks or a fire.
   - Do not block the slots and openings in the case of the product. They provide ventilation and prevent the product from overheating.
   - Do not open or remove covers, otherwise it may expose you to dangerous voltages and other hazards. Refer all servicing to licensed service personnel.
   - Unplug the product from the wall outlet and refer servicing to licensed service personnel when the following situations happen:
   - If the USB port becomes damaged or frayed.
   - If liquid is spilled into the product or the product has been exposed to rain or water.
2. **Installation**
   - For security considerations, please make sure the standard mount you use is in line with UL or CE safety approbations and installed by technician personnel approved by agents.
3. **Storage**
   - Do not place the product where the cord can be stepped on as this may result in fraying or damage to the lead or the plug.
   - Unplug this product during thunderstorms or if it is not going to be used for an extended period.
   - Do not place this product or accessories on top of vibrating equipment or heated objects.
4. **Cleaning**
   - Disconnect all the cables before cleaning and wipe the surface with a dry cloth. Do not use alcohol or volatile solvents for cleaning.
5. **Batteries (for products or accessories with batteries)**
   - When replacing batteries, please only use similar or the same type of batteries.
   - When disposing of batteries or products, please adhere to the relevant instructions in your country or region for disposing of batteries or products.

Precautions

- This symbol indicates that this equipment may contain dangerous voltage which could cause electric shock. Do not remove the cover (or back). No user-serviceable parts inside. Refer servicing to licensed service personnel.

- This symbol indicates that there are important operating and maintenance instructions in this User Manual with this unit.

FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, under 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.
Notice: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
This equipment has been tested and found to comply with the limits for a Class A digital device, under 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.

IC Warning

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of Industry Canada.

EN55032 CE Warning

- Operation of this equipment in a residential environment could cause radio interference.
- **Warning:** Operation of this equipment in a residential environment may cause radio interference

Extron IP Link Compatible

- Extron has developed and tested an IP Link driver for this product. Using IP Link technology, this device can be monitored, controlled, and supported over a standard Ethernet network.
- To enable IP Link network connectivity and control, you must install and configure an IP Link-enabled device such as a MediaLink controller or IP Link Ethernet control interface. For more information, please see www.extron.com/iplc**".**

Supplier's Declaration of Conformity

47 CFR § 2.1077 Compliance Information

- **Manufacturer: Lumens Digital Optics Inc.**
- **Product Name: VC-TR40**
- **Model Number: PTZ Video Camera**
- **Responsible Party – U.S. Contact Information**
- **Supplier: Lumens Integration, Inc.**

- **4116 Clipper Court, Fremont, CA 94538, United States**
- **e-mail support@mylumens.com**

FCC Compliance Statement

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,
2. this device must accept any interference received, including interference that may cause undesired operation

Copyright Information

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Documents / Resources

VC-TR40/ VC-TR40N Auto Tracking Camera (PTZ Video Camera) (The TR40 has a standard version and an N1 version. This manual also contains information on the N1 version) **User Manual - English** [Important] To download the latest version of Quick Start Guide, multilingual user manual, software, or driver, etc., please visit Lumens https://www.MyLumens.com/support Lumens®	**Lumens VC-TR40N Auto Tracking Camera** [pdf] User Manual VC-TR40, VC-TR40N, VC-TR40N Auto Tracking Camera, VC-TR40N, Auto Tracking Camera, Tracking Camera

References

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- **User Manual**