

infobit SDV-C
Video Over IP
Controller



infobit SDV-C Video Over IP Controller User Manual

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infobit SDV-C Video Over IP Controller



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Thank you for purchasing this product

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Introduction

This Video over IP Controller is used to control and manage SDVoE IP products. It supports dual 1G network ports, which can realize dual-network isolation of Control network and Multicast video distribution network. The product supports Web GUI/TCP/RS-232/IR/GPIO controls and POE function. Since the demand of IP products is daily increased in the current market, the IP Controller will be widely applied in more and more different scenarios.

Features

- Easy to create project, control and manage the system
- HTTPS, SSH security compatible
- Built-in Web GUI control interface, supporting Drag & Drop operations
- Support image preview
- Support video, audio, RS-232, IR, KVM control and management of the distributed system
- Dual network ports (VIDEO LAN port supports POE function) to isolate Controls and Multicast networks.
- Support LAN/RS-232 port control and third-party central control
- Support IR signal receiving and loop output (3.5mm audio jack, 12V level)
- 4 channel GPIO control ports (5V/12V optional level)
- Multiple circuits protection, lightning protection and ESD design
- Reliable system design, ensuring 7*24 hours reliable and stable work

Package Contents

1. 1 x Video over IP Controller

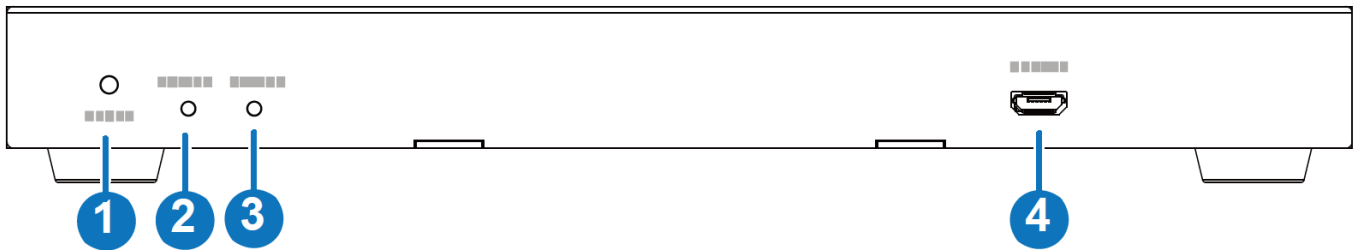
2. 1 x 20kHz-60kHz 12V IR Receiver Cable (1.5 meters)
3. 1 x IR Blaster Cable (1.5 meters)
4. 2 x 3-pin 3.81mm Phoenix Connector (Male)
5. 1 x 6-pin 3.81mm Phoenix Connector (Male)
6. 2 x Mounting Ears
7. 4 x Machine Screws (KM3*6)
8. 1 x 12V/1A Locking Power Adaptor
9. 1 x User Manual

Specifications

Technical	
Network Bandwidth	100M/1G
Transmission Distance	100m CAT 5E/6/6A/7
Control Ports	2 x 1G LAN [RJ45 connector] [VIDEO LAN support POE] 1 x IR IN [3.5mm audio jack, 12V level] 1 x IR OUT [3.5mm audio jack] 1 x DIGITAL I/O [6-pin 3.81mm phoenix connector] 2 x RS-232 [3-pin 3.81mm phoenix connector] 1x USB Host [Micro USB, 5-pin female]
Dimensions	204mm(W)×98.5mm(D)×21.5mm(H)
Housing	Metal Enclosure
Color	Black
Weight	508g
Power Supply	12V/1A
Power Consumption	8.4W
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Relative Humidity	20~90% RH (non-condensing)

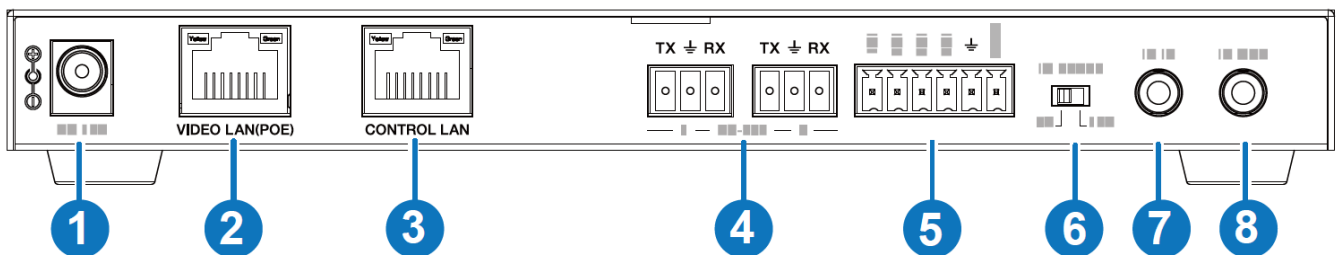
Operation Controls and Functions

Front Panel



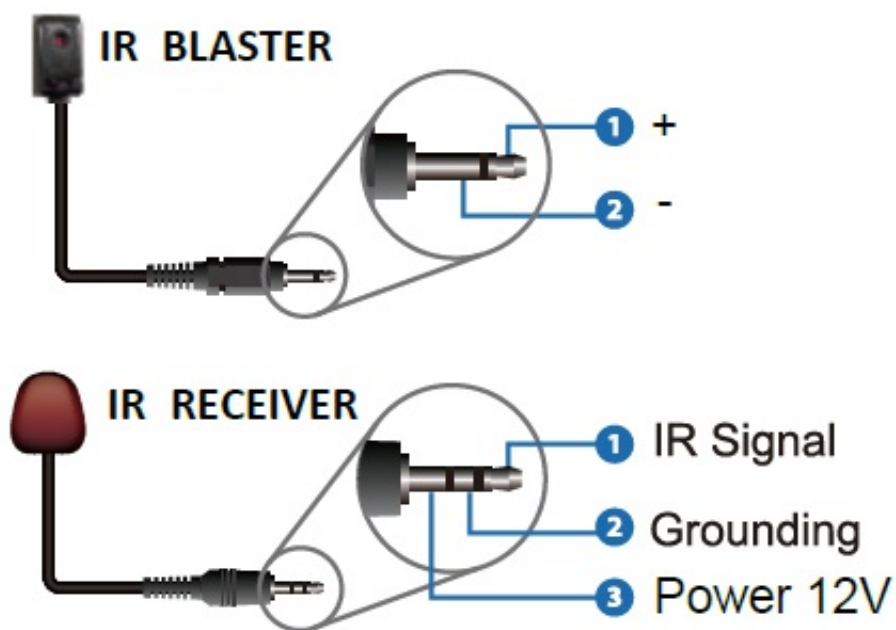
No.	Name	Function Description
1	RESET Button	Press and hold this button (about 10 seconds) until STATUS LED starts flashing, Controller will be reset automatically.
2	POWER LED	The red LED will light on when the Controller is powered on.
3	STATUS LED	The status LED will flash in yellowish-green every 1 second until Controller boots up completely and Control LAN is ready, then it becomes solid.
4	UPDATE	Firmware update port. <i>Note: Must keep no connection on this port when Controller works in normal mode.</i>

Rear Panel



No.	Name	Function Description
1	DC 12V	DC 12V/1A power input port.
2	VIDEO LAN (POE)	1G Video LAN port, supporting POE function. <i>Note: When POE is enabled, DC 12V/1A power supply is not required.</i>
3	CONTROL LAN	The TCP/IP control network port.
4	3-pin Phoenix Connectors	Two identical RS-232 serial communication ports.
5	6-pin Phoenix Connector	4 channel I/O level outputs, 1 channel grounding, 1 channel power supply (supports up to 12V/0.5A) to the outside.
6	IO LEVEL DIP Switch	Used to control I/O level output and VOUT voltage. Switch to left: 5V I/O level output, VOUT is 5V. Switch to right: 12V I/O level output, VOUT is 12V.
7	IR IN	12V IR signal input port.
8	IR OUT	IR signal output port.

IR Pin Definition

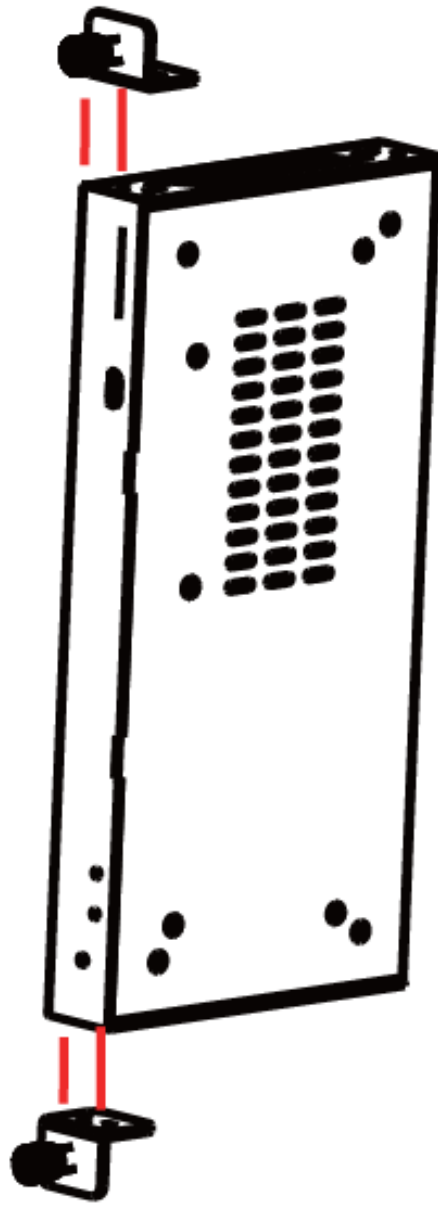


Rack Mounting Instruction

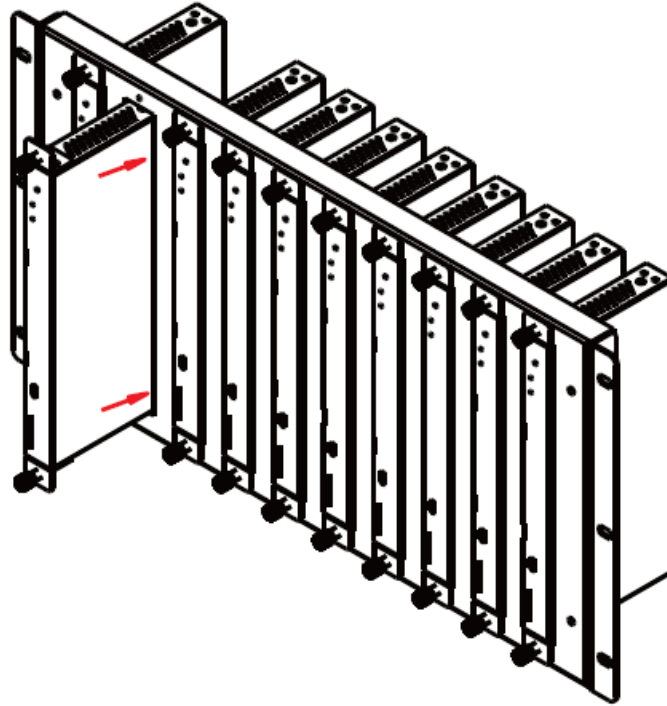
6U Rack Mounting

This Controller can be mounted in a standard 6U rack (Please contact your supplier for 6U rack sale). The mounting steps are as follows:

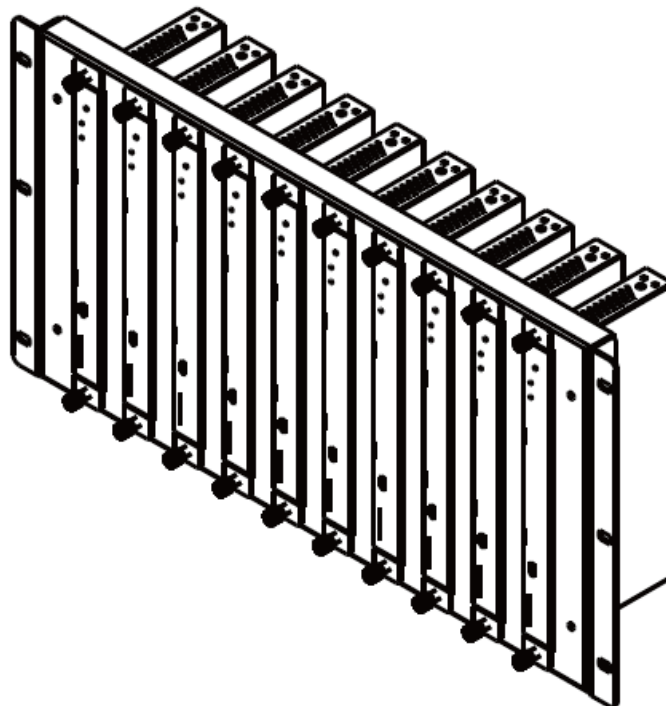
Step 1: Use included screws to fix two mounting ears on the Controller, as shown in the figure below:



Step 2: Insert the Controller with mounting ears into a 6U rack (up to 10 units can be installed vertically), as shown in the figure below:



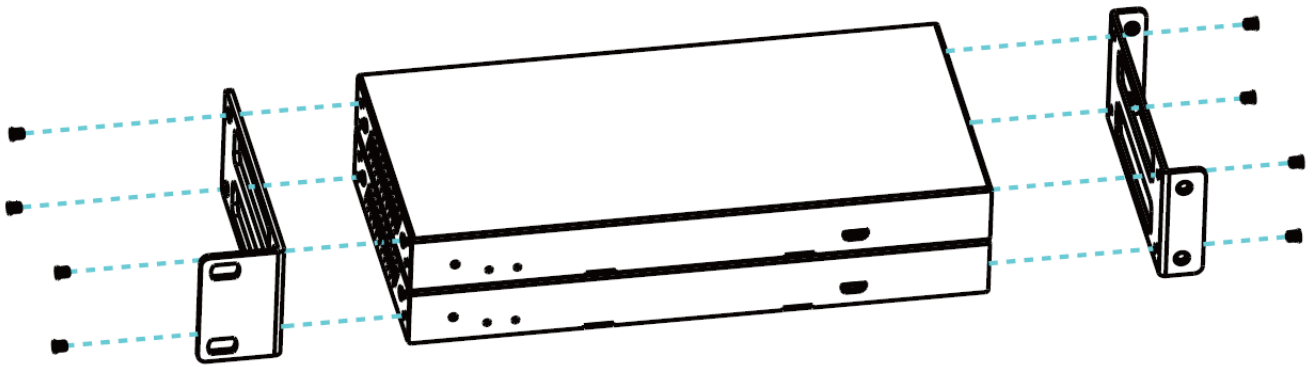
Step 3: Use screws to fix mounting ears on the rack to complete the mounting, as shown in the figure below:



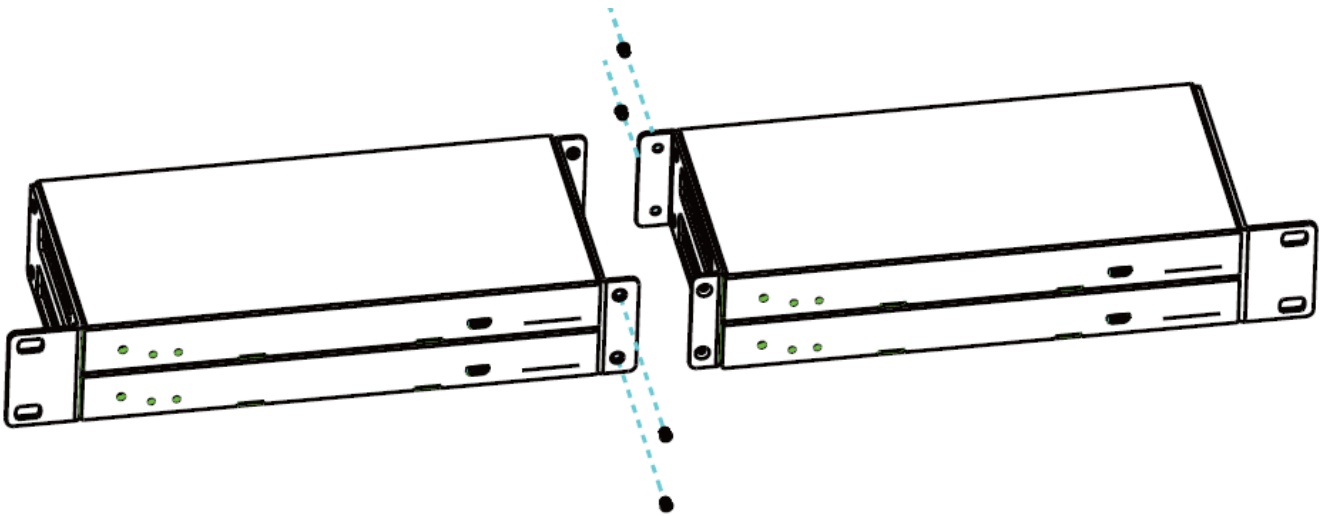
1U Rack Mounting

This Controller also can be mounted in a standard 1U rack (up to 4 units can be installed horizontally). The mounting steps are as follows:

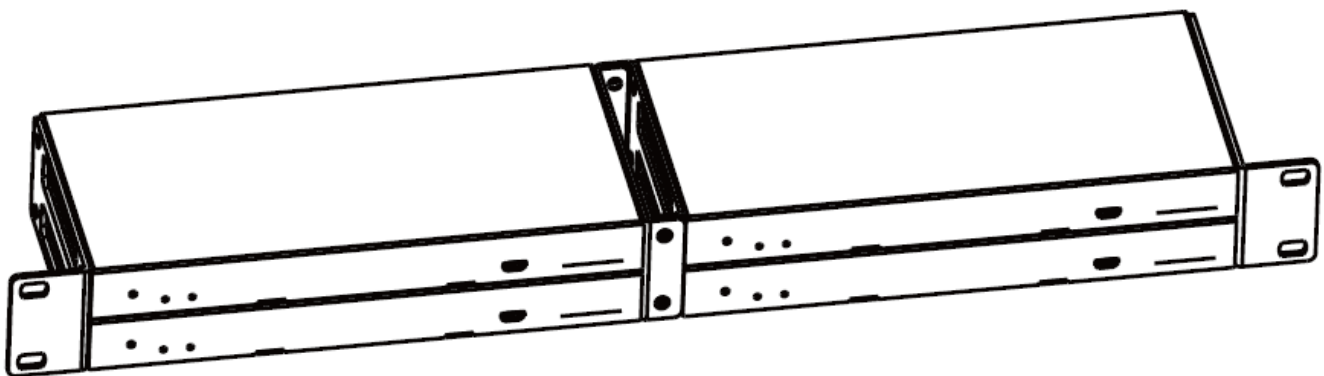
Step 1: Stack two Controllers on top of each other, then use included screws to fix two 1U rack panels on the Controllers, as shown in the figure below:



Step 2: Fix two 1U rack panels on another two stacked Controllers in the same way, then use screws to fix two 1U rack panels together, as shown in the figure below:



Step 3: Fasten screws between two 1U rack panels, so that four Controllers are mounted in a 1U rack, as shown in the figure below:



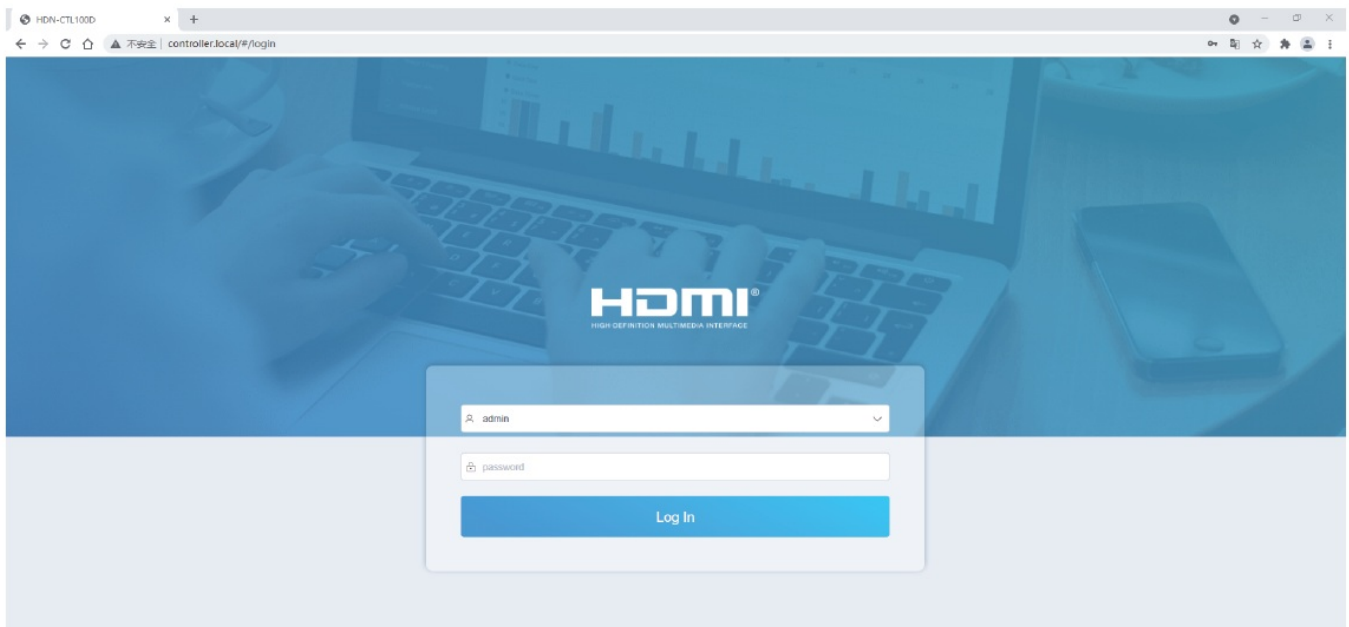
Web GUI User Guide

Preparation before Entering the System

You can use Controller's Web GUI to control all IP products at the Switch.

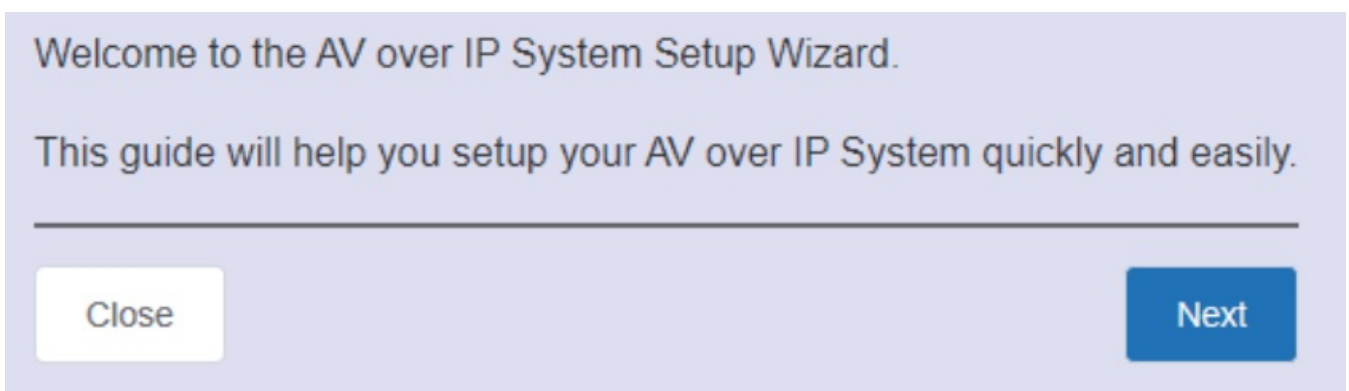
The operation method is shown as below:

Step 1: Input the Controller's default IP address (192.168.0.225) or the URL (<http://controller.local>) into the Web browser address bar on the PC to enter the Web GUI login interface.

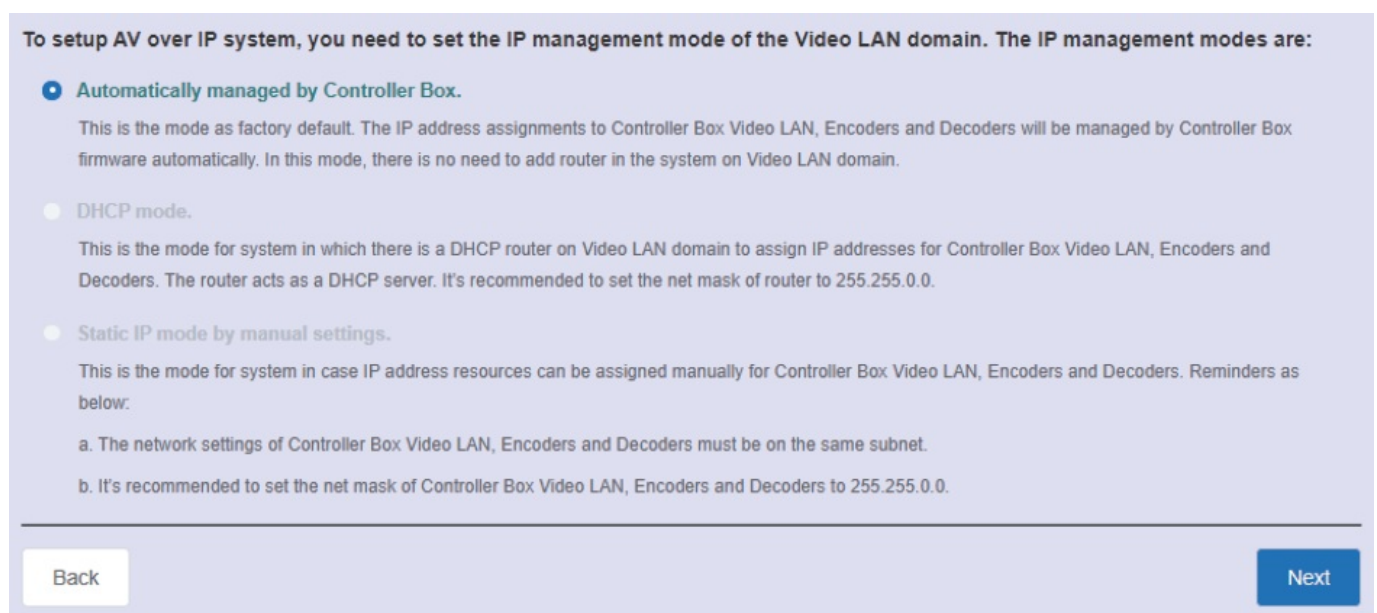


Select the initial username (admin) and input the initial password (1234) on the above login interface. Then, click “Log In” to enter the Web GUI interface.

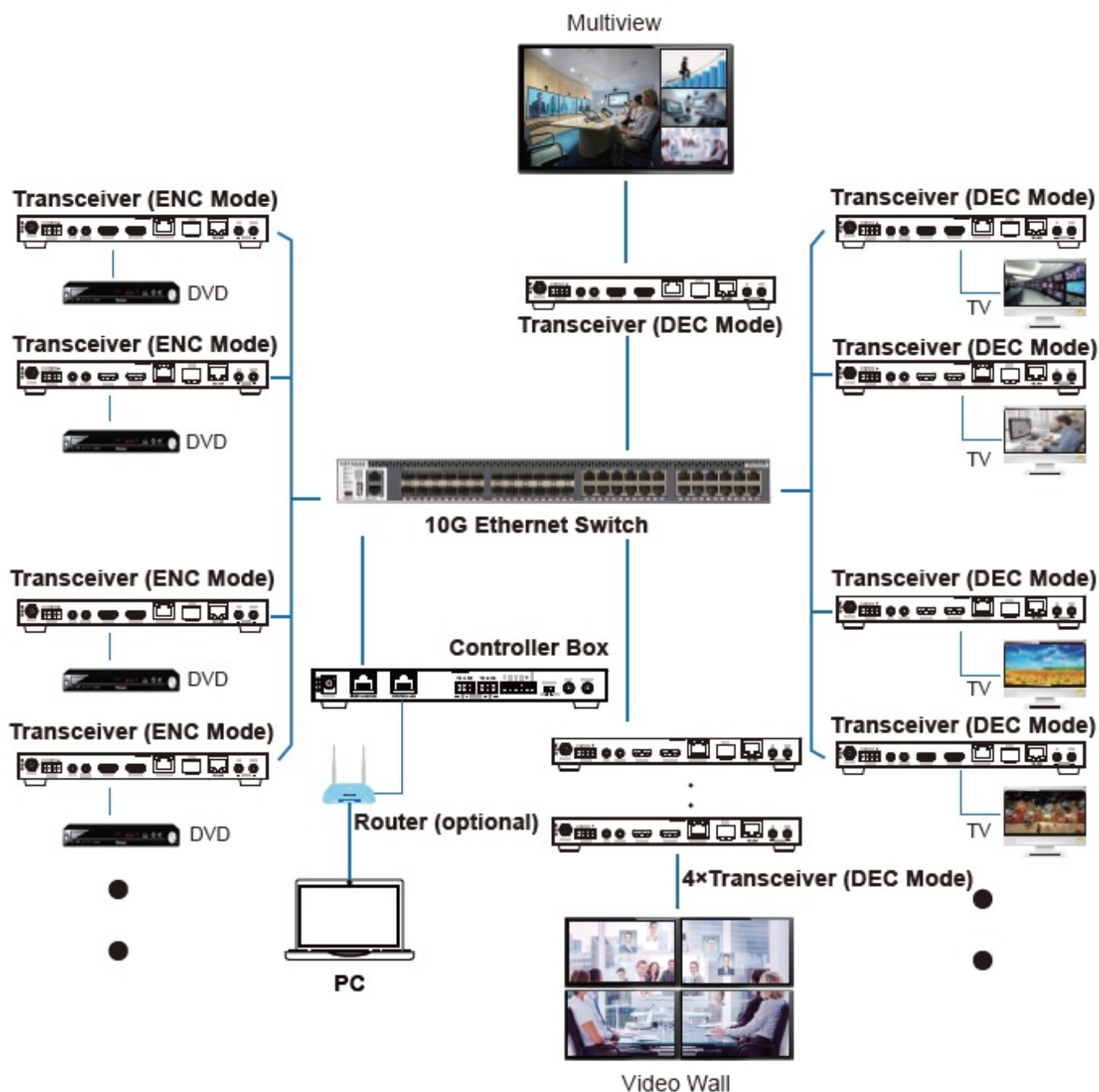
For the first time, you need to setup the project, as shown in the following figure:



Step 2: Click the “Close” button to load an existing project in web page directly, or click “Next” button to go to the next step.



Step 3: Select “Automatically managed by Controller Box” as the IP mode of Video LAN. (The other two modes are reserved items and are not currently available.) Then, please connect all the devices according to the following diagram.



Step 4: Click the “Next” button and wait for the completion to enter the interface as shown in the figure below.

Now you can select to automatically add all following discovered Encoders and Decoders to project or just list them in the web page and you can add each of them to project manually.

Please click the [Scan] button to search Encoders and Decoders in the system:

- ☒ **Automatically add Encoders and Decoders to project.**
- ☐ List all discovered Encoders and Decoders.

Back

Scan

Select “Automatically add Encoders and Decoders to project”, and click the “Scan” button to enter the Project page. All the connected devices will be listed in the Current Devices list.

The screenshot shows the AVoIP Project web interface in a browser. The address bar shows 'controller.local/#/Project/Project'. The interface has a dark blue header with the AVoIP logo and the word 'Project'. Below the header, there's a 'Current Devices' section with two tables: 'Encoders' and 'Decoders'. The 'Encoders' table has 4 rows (TX1 to TX4) and the 'Decoders' table has 4 rows (RX1 to RX4). All devices are 'Online'. To the right of these tables are buttons: 'Display ID', 'Save Project', 'Load Project', and 'Clear Project'. Below these is an 'Unassigned Devices' section with 'Unassigned Encoders' and 'Unassigned Decoders' labels. To the right of this section are buttons: 'Stop Scan & Auto Assign' and 'Scan Once'. A vertical sidebar on the left contains various icons for navigation.

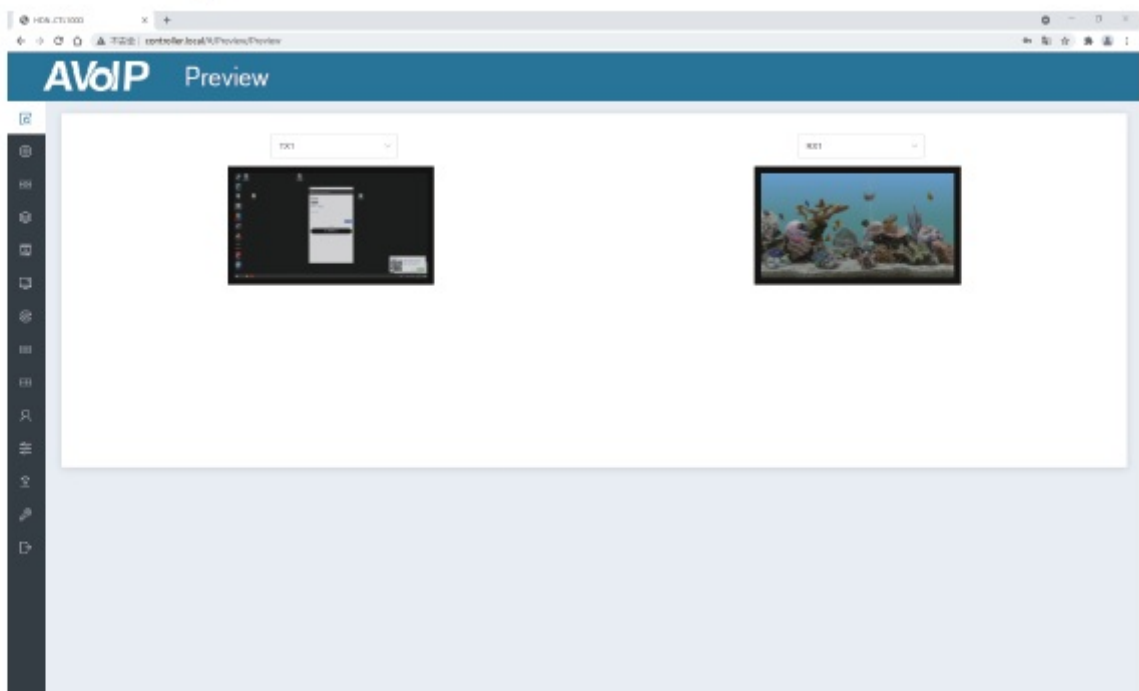
Encoders				Decoders			
ID	Name	IP Address	Status	ID	Name	IP Address	Status
1	TX1	169.254.1.56	Online	1	RX1	169.254.143.56	Online
2	TX2	169.254.159.56	Online	2	RX2	169.254.205.56	Online
3	TX3	169.254.191.56	Online	3	RX3	169.254.219.56	Online
4	TX4	169.254.200.56	Online	4	RX4	169.254.233.56	Online

Then click “Stop Scan & Auto Assign” to stop search.

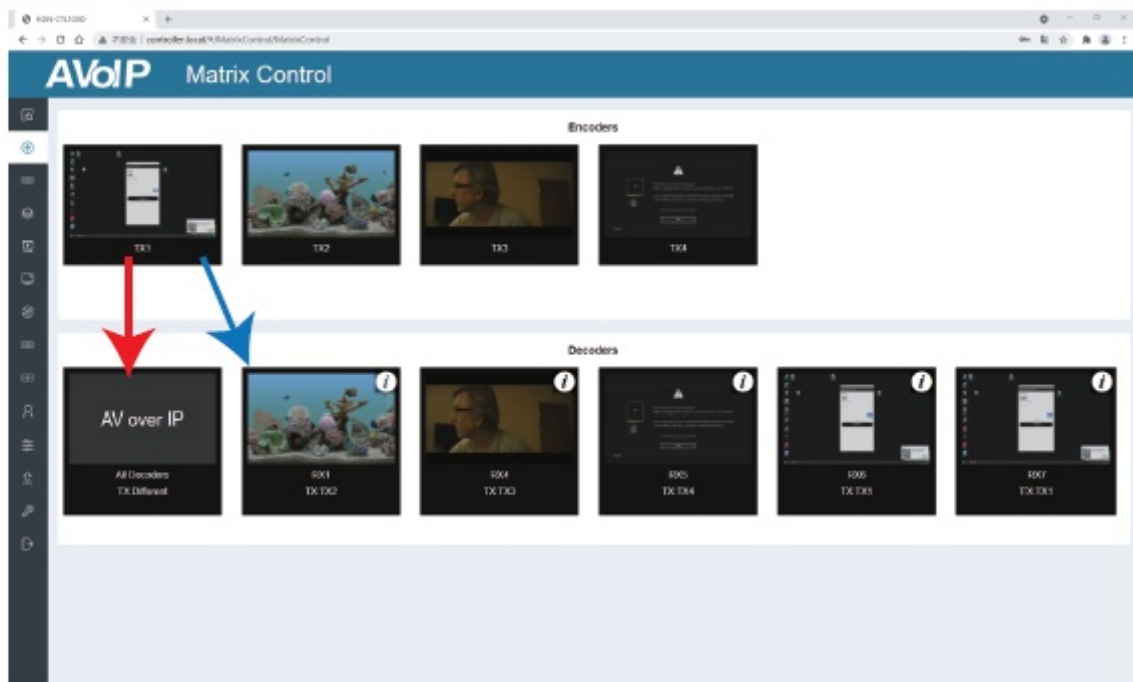
Functions and Operation

Preview Page

On this page, you can preview the Encoder/Decoder by clicking the dropdown list on the right side.



Matrix Control Page



1. Encoders: Display all the current Encoders. The text in the figure is the name of the device.
2. Decoders: Display all the current Decoders. The text on the first line is the name of the Decoder, and the text on the second line refers to the Encoder where the signal resource is from.

Operating Instructions

1. If an Encoder shows "No Signal", it means that the Encoder cannot be dragged.
2. If there is an image on an Encoder, it means that the Encoder can be dragged. As shown in the figure above, if an Encoder is dragged to the place where the red arrow points to, all Decoders will share the same signal resource from this Encoder; if an Encoder is dragged to the place where the blue arrow points to, only the indicated Decoder can receive signals from this Encoder.

Project Page

The screenshot shows the AVoIP Project Page interface. The page is titled "AVoIP Project" and features a sidebar with navigation icons. The main content area is divided into two sections: "Current Devices" and "Unassigned Devices".

Current Devices

Buttons: Display ID, Save Project, Load Project, Clear Project

Encoders

ID	Name	IP Address	Status
1	TX1	169.254.3.1	Online
2	TX2	169.254.3.2	Online
3	TX3	169.254.3.3	Online
4	TX4	169.254.3.4	Online

Decoders

ID	Name	IP Address	Status
1	RX1	169.254.6.4	Online
2	RX2	169.254.6.3	Online
3	RX3	169.254.6.2	Online
4	RX4	169.254.6.5	Online
5	RX5	169.254.6.7	Online
6	RX6	169.254.6.6	Online
7	RX7	169.254.6.1	Online

Unassigned Devices

Buttons: Start Scan & Auto Assign, Scan Once

Unassigned Encoders

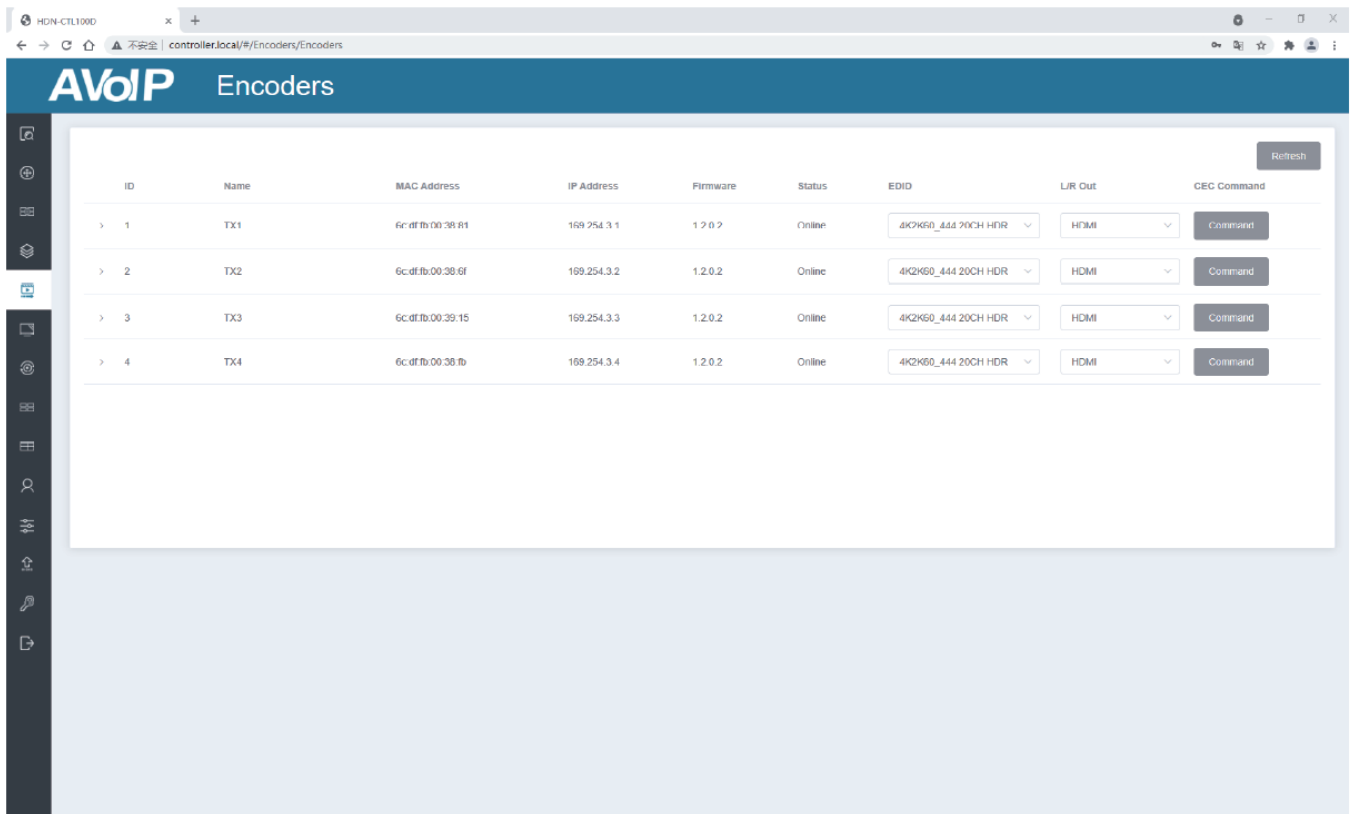
IP Address	MAC Address
There are no unassigned encoders.	

Unassigned Decoders

IP Address	MAC Address
There are no unassigned decoders.	

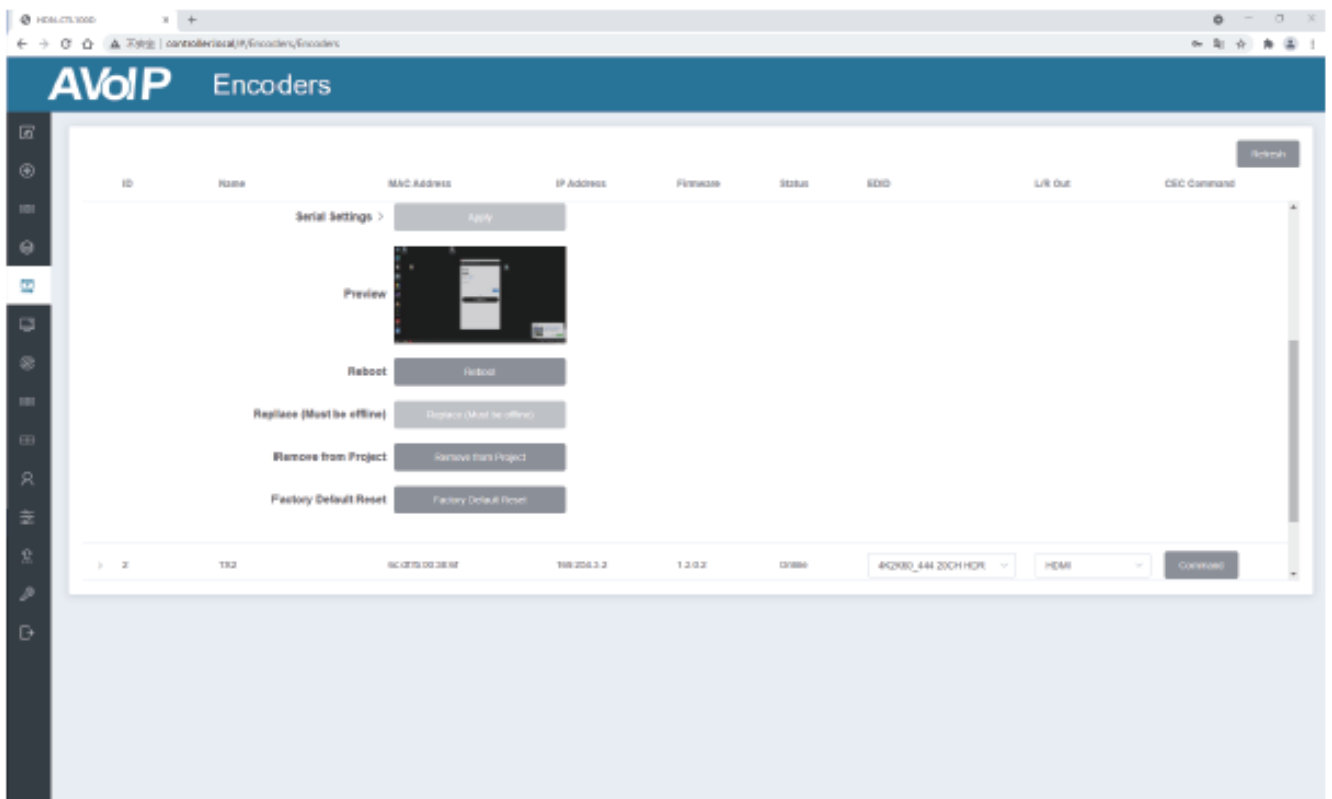
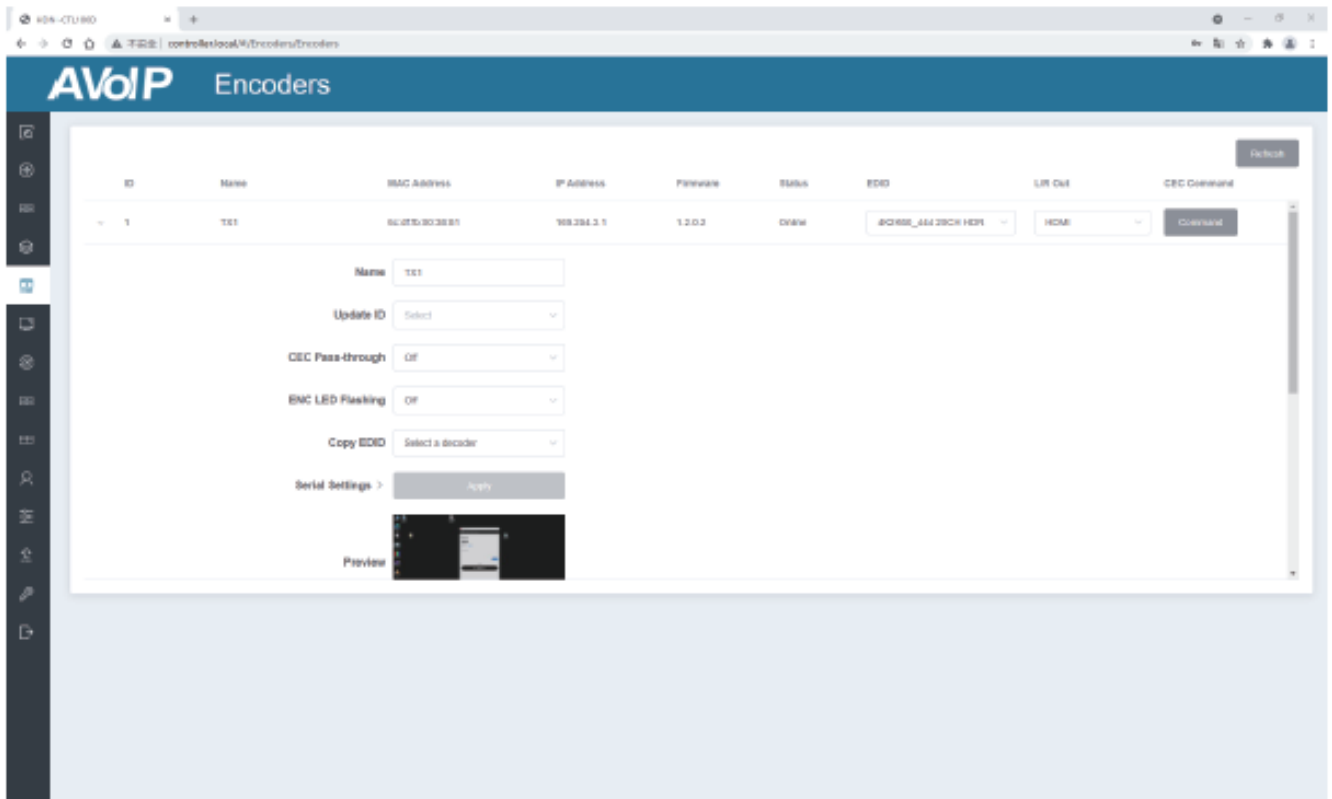
1. Current Devices: Devices that have been added to the current project.
 2. Unassigned Devices: Devices not added to the current project.
- Click "Display ID" to display the ID or PATTERN of the Decoders.
 - Click "Save Project" to save the project file (config_file.json), so that you can use the saved project next time without scanning devices again.
 - Click "Load Project" to load the existing project directly.
 - Click "Clear Project" to clear the current project, then you will need to setup the project again.
 - Click "Scan Once" to search devices that do not appear in the current project.
 - Click "Start Scan & Auto Assign" to search new devices automatically and add to the current project.

Encoders Page



1. ID: The ID of the current device. (Note: ID is not duplicated.)
2. Name: The name of the current device.
3. MAC Address: The MAC Address of the current device.
4. IP Address: The IP Address of the current device.
5. Firmware: The Firmware version No. of the current device.
6. Status: The status (online or offline) of the current device.
7. EDID: The EDID of the current device.
8. L/R Out: The audio selection of the current device.
9. CEC Command: The CEC Command of the current device.

- Click “Refresh” to refresh the data of the current Encoders.
- Click the drop-down list of EDID to set the current Encoder’s EDID.
- Click the drop-down list of L/R Out to set the current Encoder’s audio output.
- Click “Command” to set the CEC command for the Encoder.
- Click the icon on the left of ID to check the detail information about the current Encoder, as shown in below:

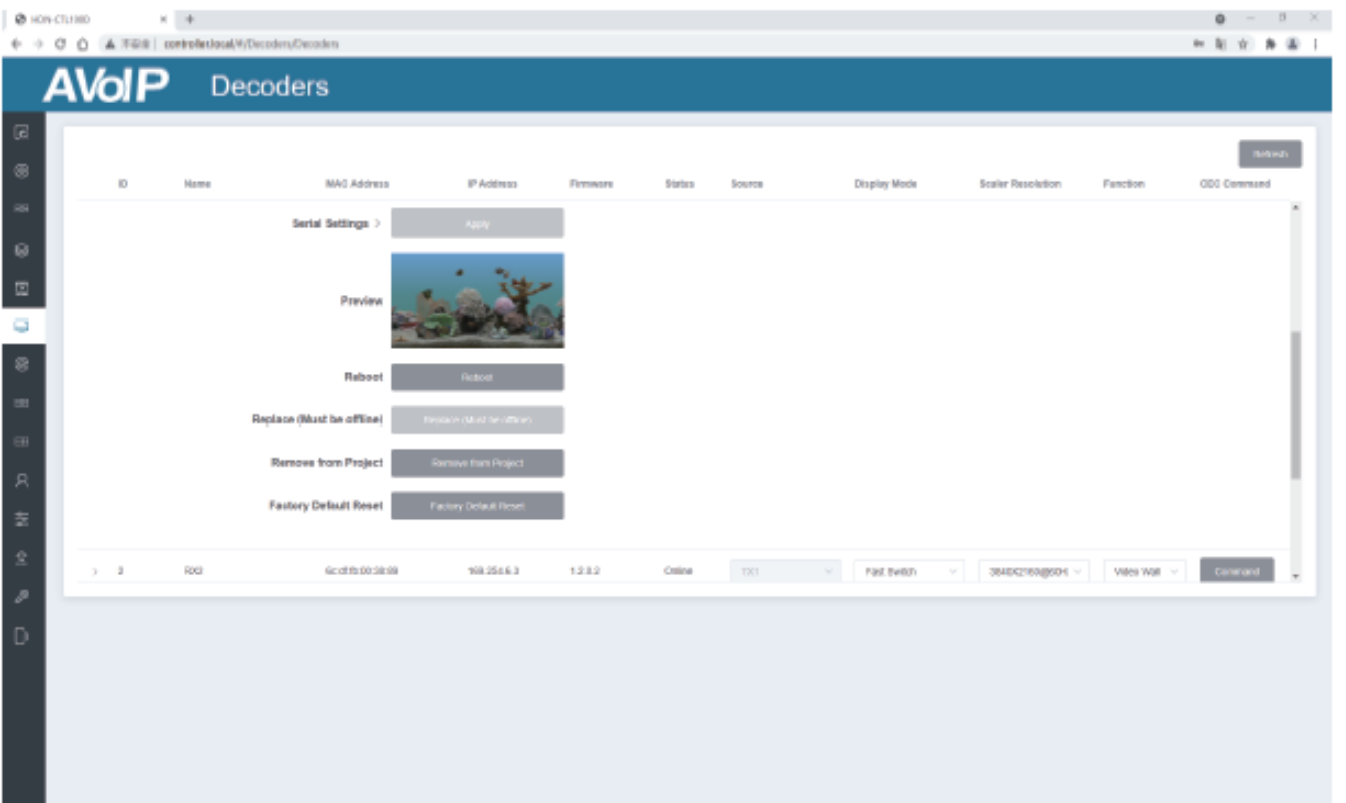
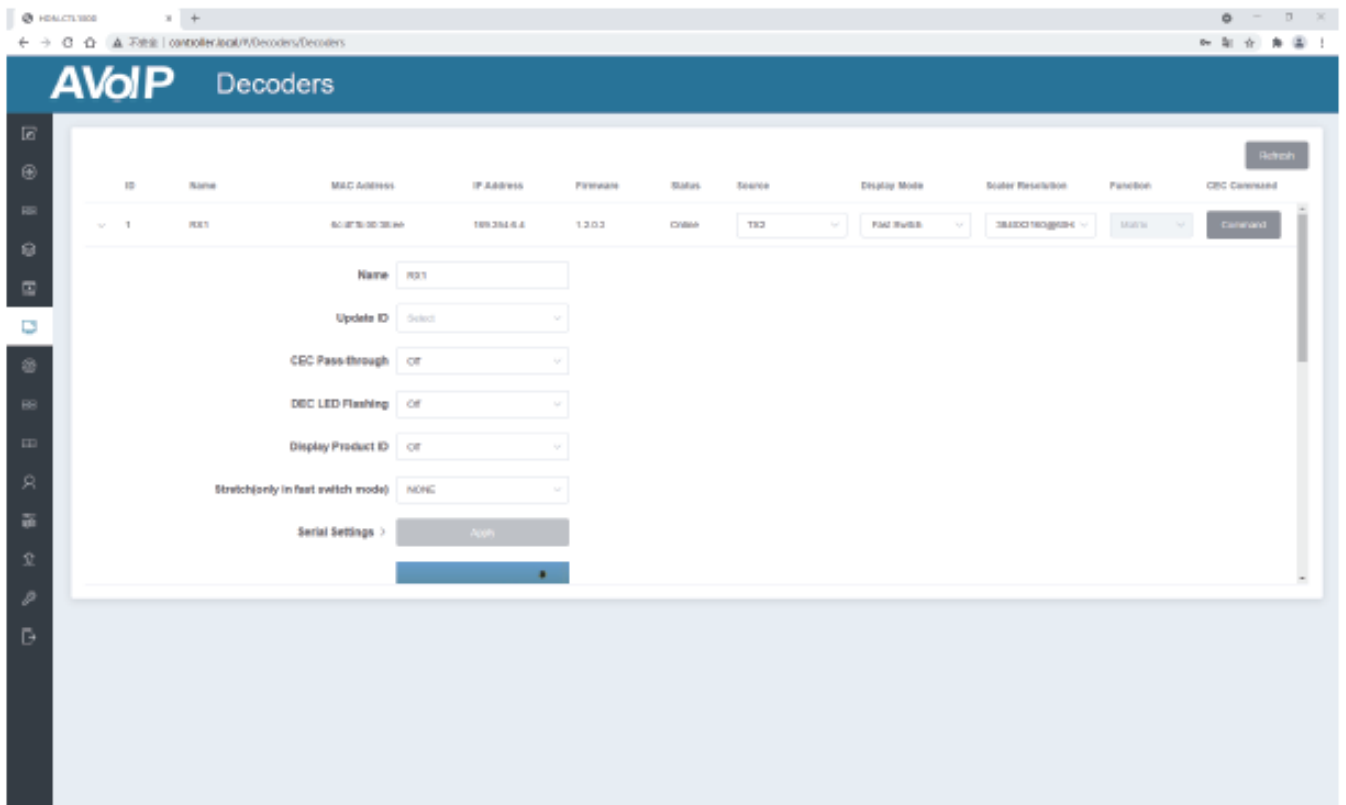


On this page, you can setup the current Encoder as required.

Decoders Page

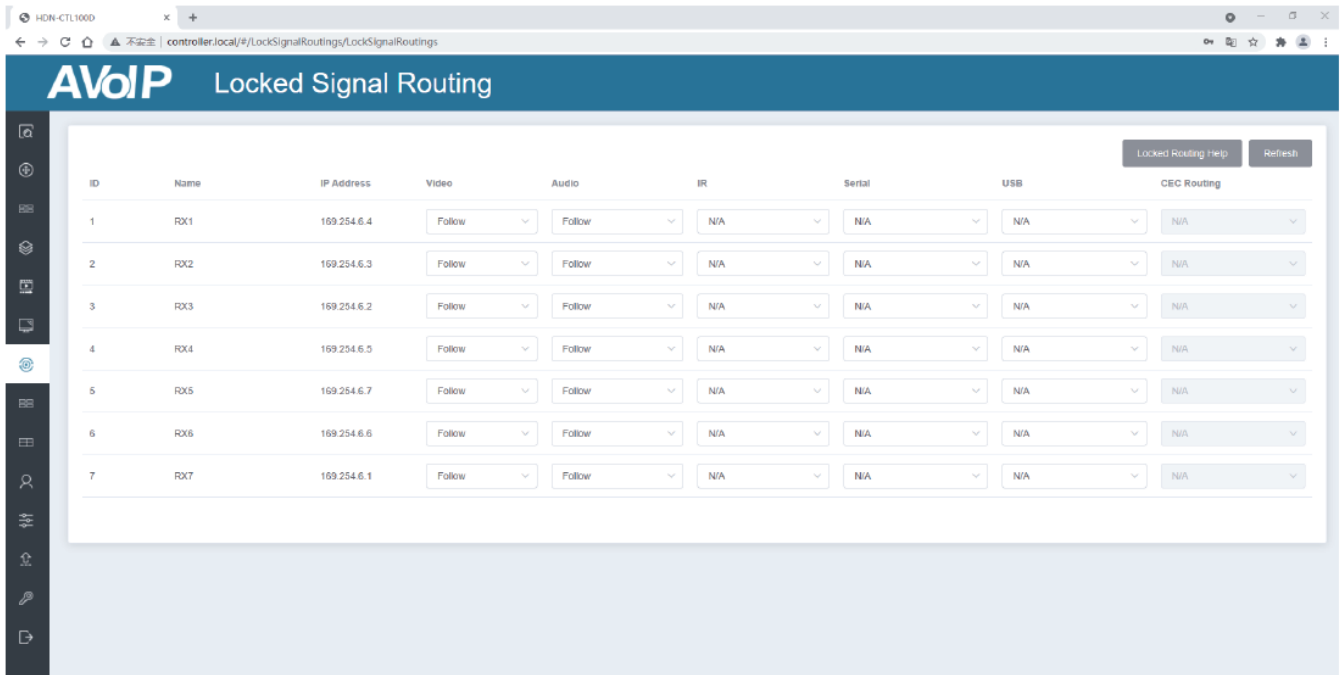
ID	Name	MAC Address	IP Address	Firmware	Status	Source	Display Mode	Scaler Resolution	Function	CEC Command
> 1	RX1	6c:df:fb:00:38:ee	199.254.6.4	1.2.0.2	Online	TX2	Fast Switch	3840x2160@60Hz	Matrix	Command
> 2	RX2	6c:df:fb:00:38:89	199.254.6.3	1.2.0.2	Online	TX1	Fast Switch	3840x2160@60Hz	Video Wall	Command
> 3	RX3	6c:df:fb:00:38:a8	199.254.6.2	1.2.0.2	Online	TX1	Fast Switch	3840x2160@60Hz	Video Wall	Command
> 4	RX4	6c:df:fb:00:38:67	199.254.6.5	1.2.0.2	Online	TX3	Fast Switch	3840x2160@60Hz	Matrix	Command
> 5	RX5	6c:df:fb:00:38:5c	199.254.6.7	1.2.0.2	Online	TX4	Fast Switch	3840x2160@60Hz	Matrix	Command
> 6	RX6	6c:df:fb:00:38:93	199.254.6.6	1.2.0.2	Online	TX1	Fast Switch	3840x2160@60Hz	Matrix	Command
> 7	RX7	6c:df:fb:00:38:06	199.254.6.1	1.2.0.2	Online	TX1	Fast Switch	3840x2160@60Hz	Matrix	Command

1. ID: The ID of the current device. (Note: ID is not duplicated.)
 2. Name: The name of the current device.
 3. MAC Address: The MAC Address of the current device.
 4. IP Address: The IP Address of the current device.
 5. Firmware: The Firmware version No. of the current device.
 6. Status: The status (online or offline) of the current device.
 7. Source: The signal source (Encoder) of the current device.
 8. Display Mode: The display mode of the current device.
 9. Scaler Resolution: The resolution of the current device.
 10. Function: The mode (Matrix/Video Wall/Multiview) of the current device.
 11. CEC Command: The CEC Command of the current device.
- Click “Refresh” to refresh the data of the current Decoders.
 - Click the drop-down list of Source to select the current Decoder’s signal source.
 - Click the drop-down list of Display Mode to select the current Decoder’s display mode.
 - Click the drop-down list of Scaler Resolution to select the current Decoder’s resolution.
 - Click the drop-down list of Function to select the current Decoder’s mode.
 - Click “Command” to set the CEC command for the Decoder.
 - Click the icon on the left of ID to check the detail information about the current Decoder, as shown in below:



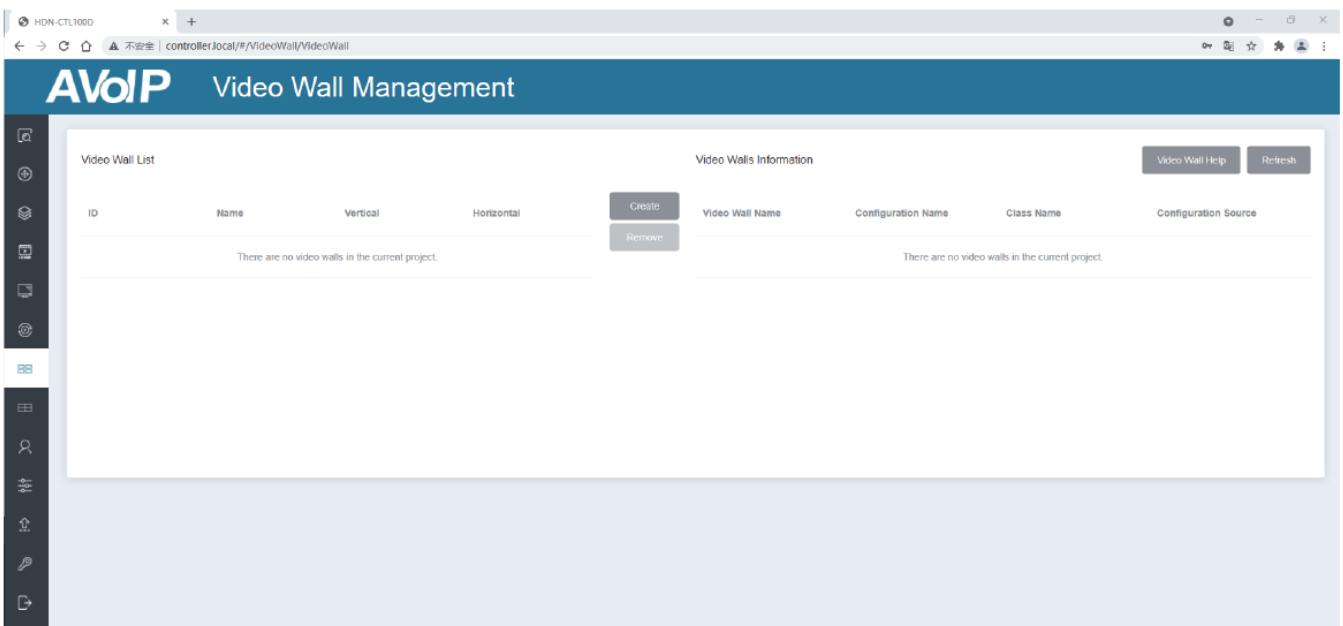
On this page, you can setup the current Decoder as required.

Locked Signal Routing Page



On this page, you can independently route the video and audio signals between Encoder & Decoder devices. You also can set the IR/Serial/USB signals as required. Please click “Locked Routing Help” for details.

Video Wall Management Page



On this page, you can create and configure video wall as required. Please follow below steps to create a video wall.

Step 1: Click “Create”, a pop-up window will be shown as below:

Create a new Video Wall

Video Wall ID

1

Name

Video Wall 1

Horizontal

2

Vertical

2

Create

You can set the Video Wall ID, Name, Horizontal and Vertical panel numbers.
Then click “Create” to create the Video Wall.

Note: Up to 9 video walls can be created.

Step 2: Select the video wall that you want to configure on the “Video Wall List”, then click “Assign Decoder” to enter the Decoder assignment page.

Click each screen to select the corresponding Decoder device, then click “Apply”.

HDN-CTL100D

controller.local/#/VideoWall/VideoWall

AVoIP Video Wall Management

Assign Decoder

Class Configuration

Apply

Display ID ON

Display ID OFF

Reset Setting

RX1

RX2

RX4

No Decoders

RX1

RX2

RX3

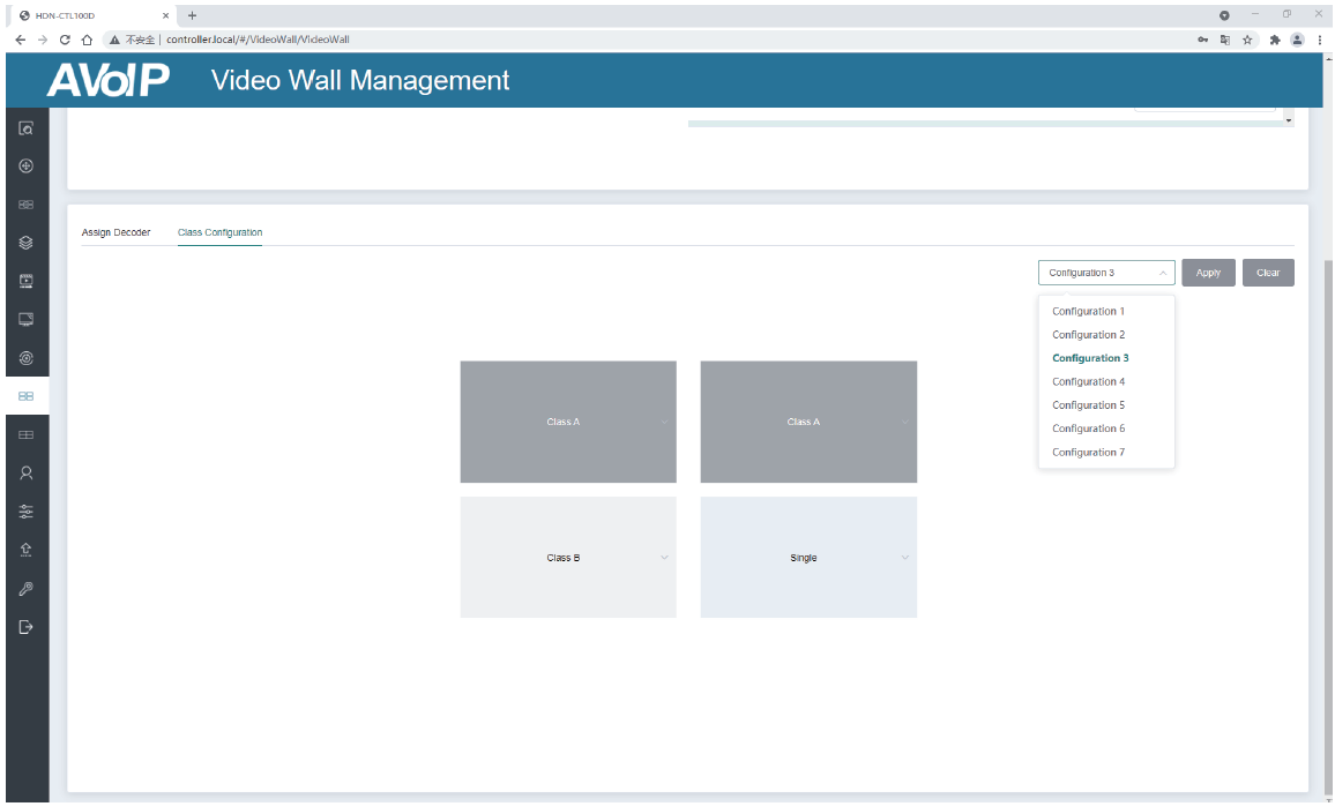
RX4

RX5

RX6

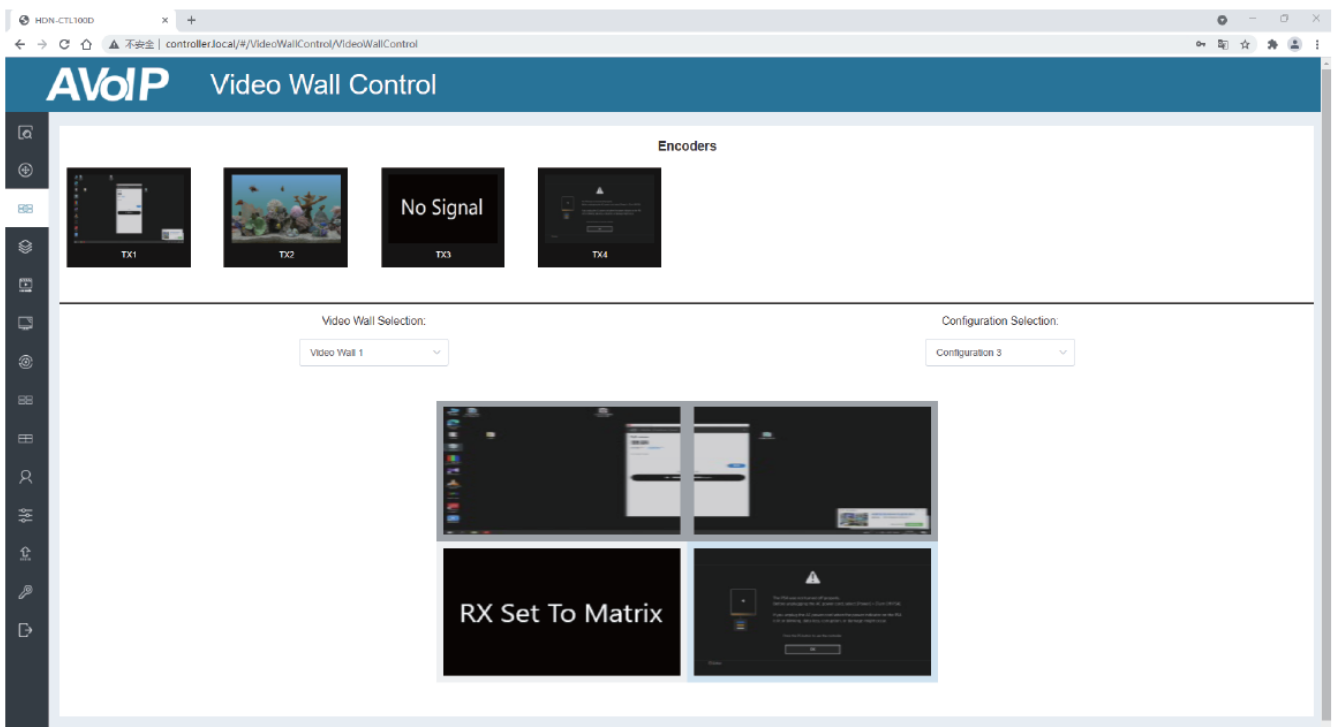
Note: A Decoder can only be assigned to one video wall.

Step 3: Click “Class Configuration” to enter the class configuration page, then click each screen to select the corresponding Class as required (the same class name will form a video wall, you can create a regular or irregular video wall by Class Configuration). Then click “Apply”.



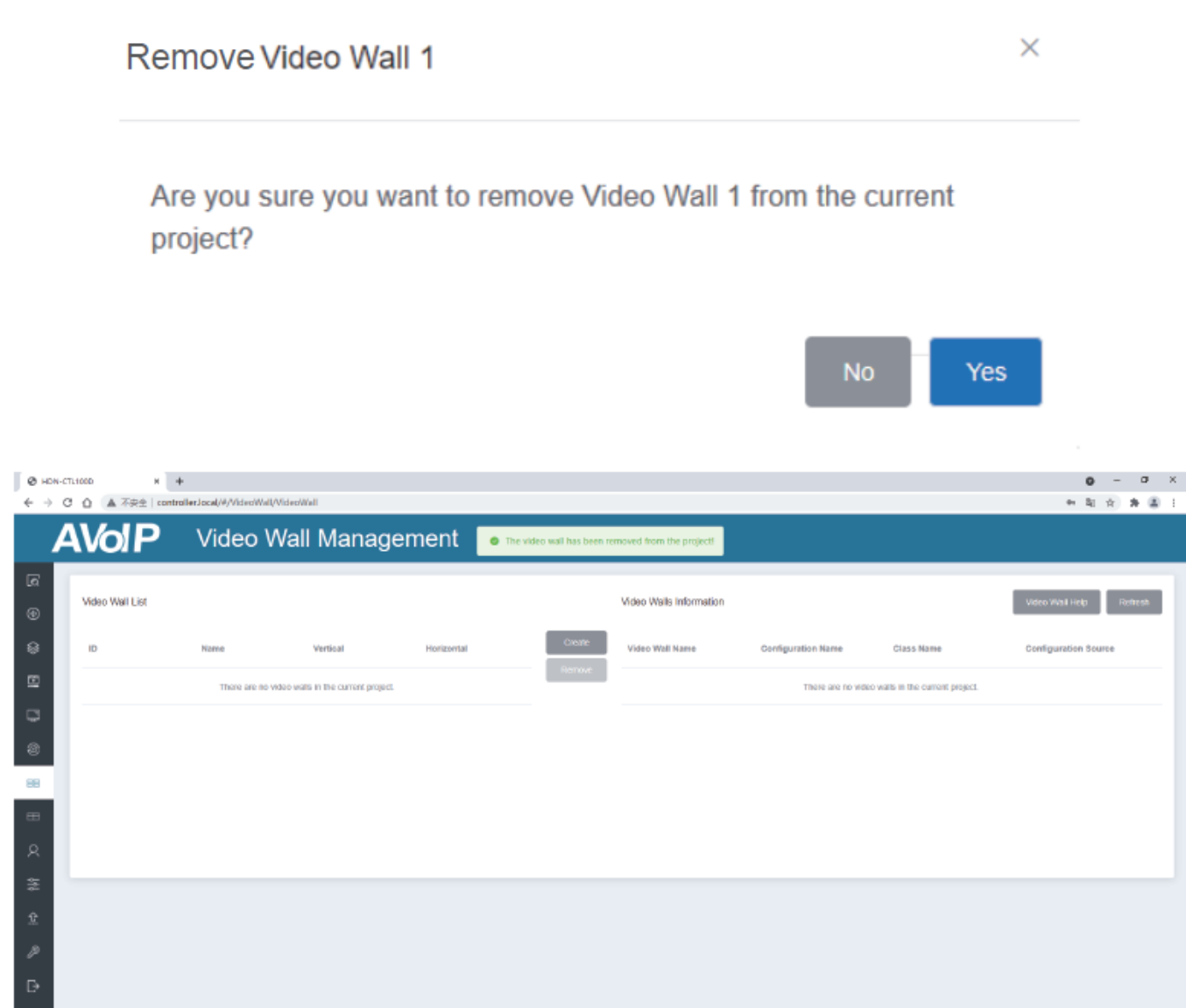
Note: Up to seven configurations can be set up for different application scenarios.

Step 4: After configuration, you can switch to “Video Wall Control” page for video preview, as shown in below.



On this page, you can select different video walls and configurations that you have set up by clicking the drop-down box on the right of “Video Wall Selection/ Configuration Selection”. Besides, you can directly drag Encoders

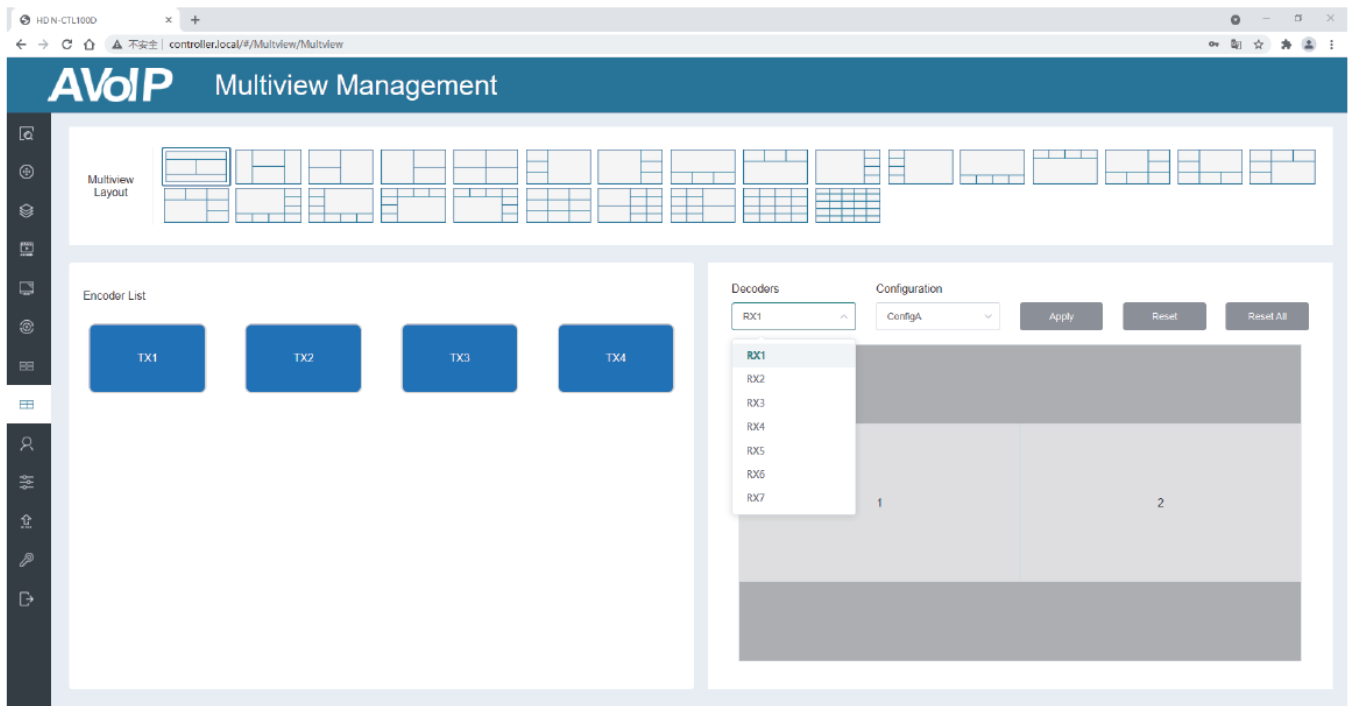
at the top of the page to the video wall to change signal sources.
If you want to delete a video wall, just select the video wall on the “Video Wall List”, then click “Remove” . A prompt window will pop up and you can delete it after clicking “Yes”



Notes:

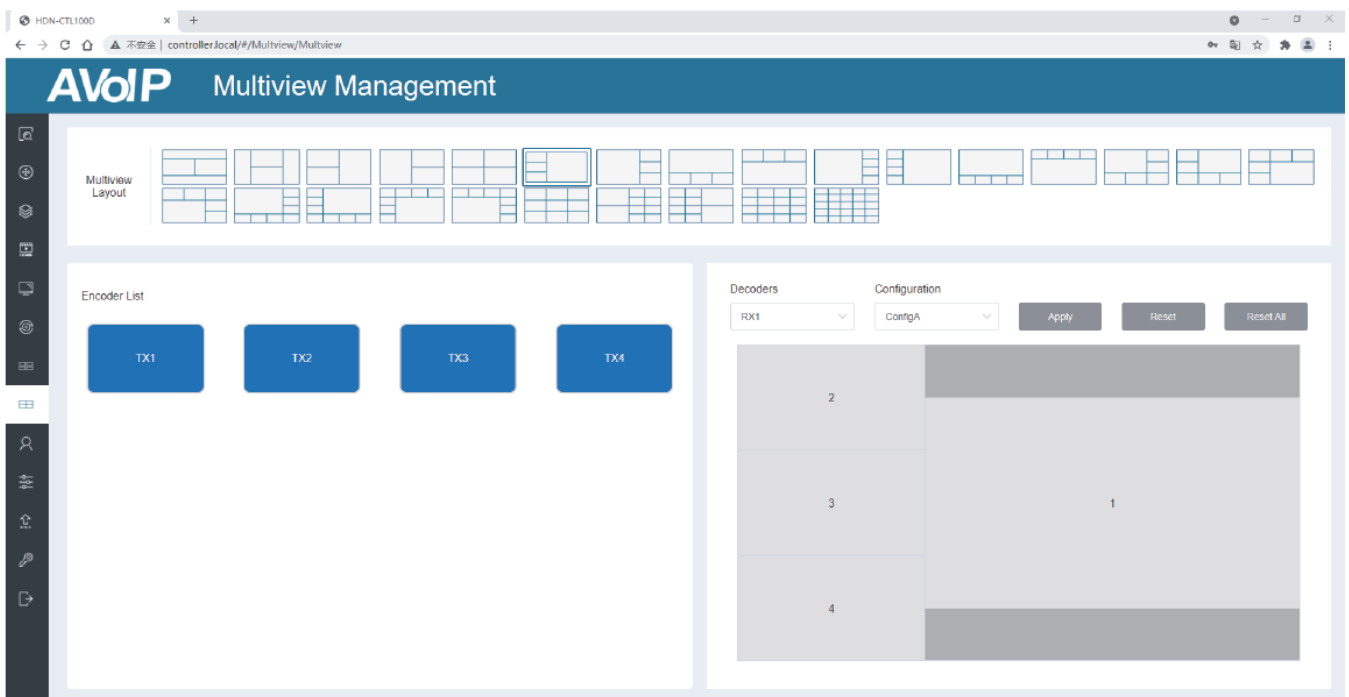
- 1. Each Decoder can be set into a part of a video wall array. Each system can contain multiple video walls with different sizes. Each video wall can be assigned to different screens and different layouts that range from 1×2 up to 9×9.
- 2. The controller creates and manages the video wall configurations and provides a simplified control interface and API commands to third party control system.

Multiview Management Page

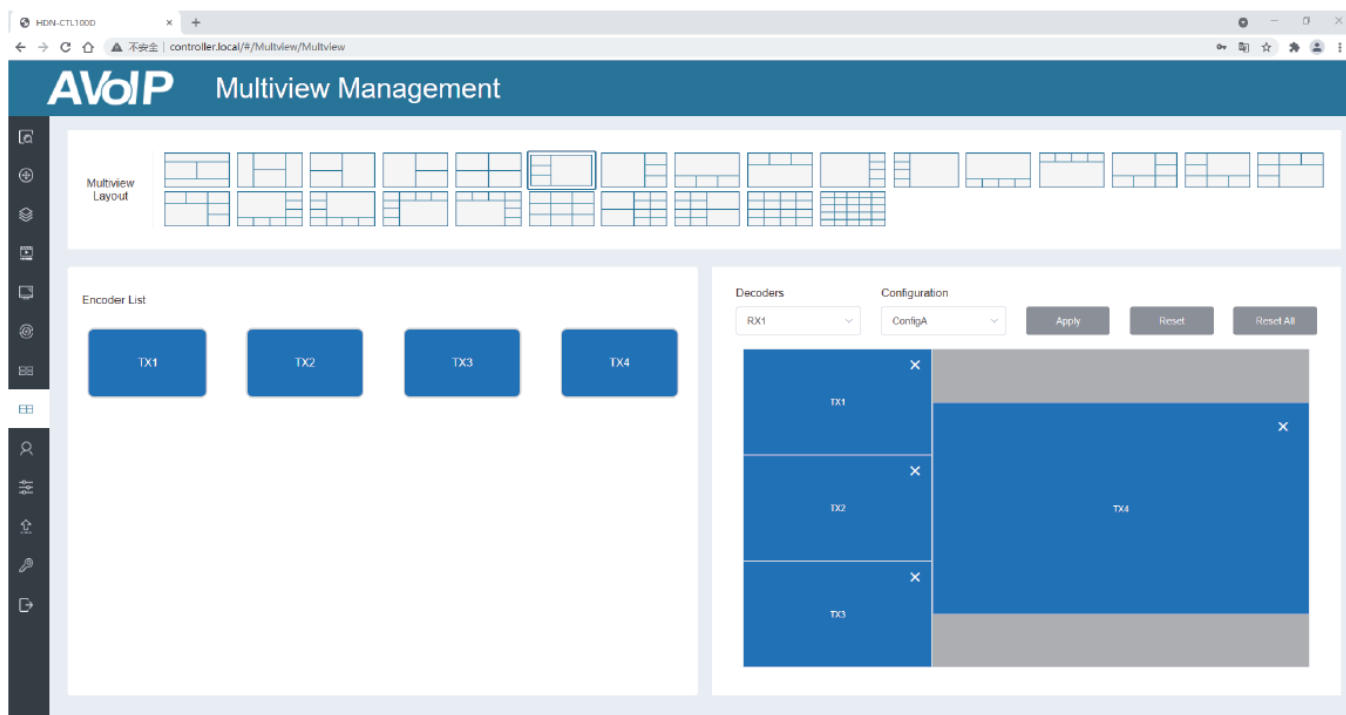


On this page, you can create and configure multiview as required. Please follow below steps to create a multiview.

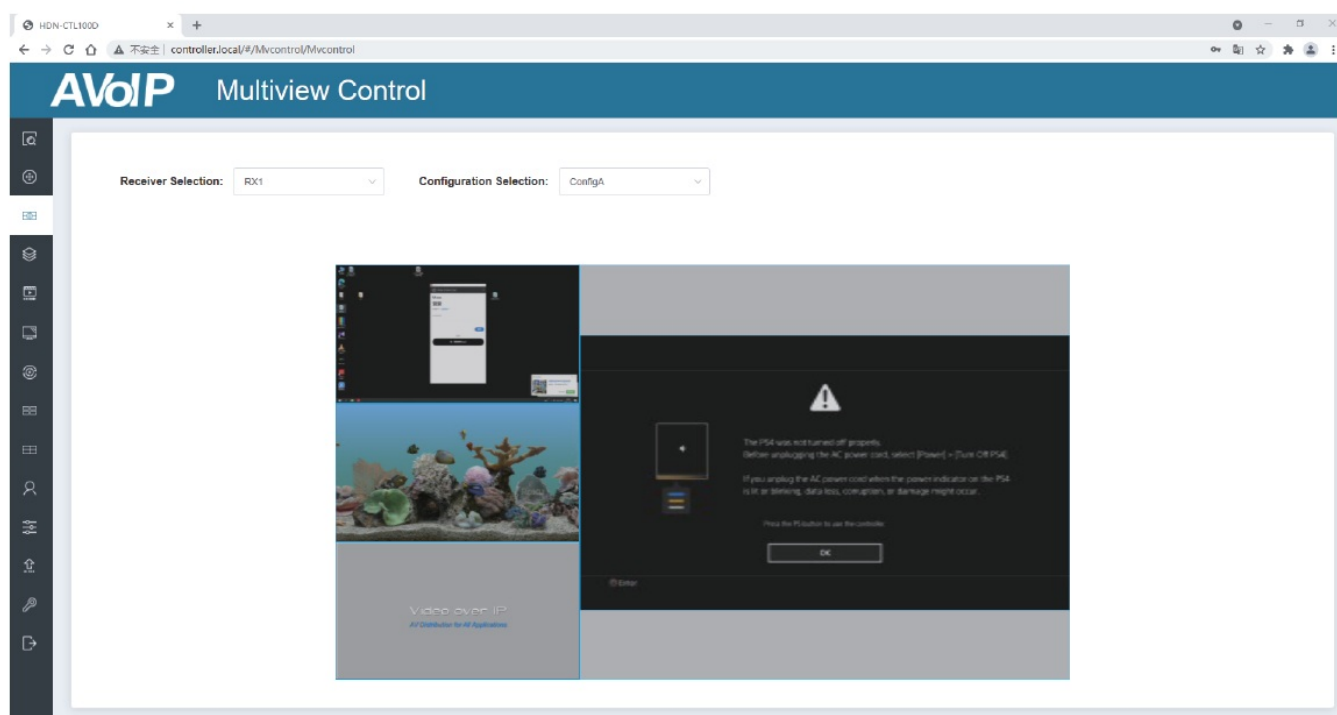
Step 1: Click the drop-down list of Decoders to select the Decoder device as shown in the above figure. Then click to select the desired Multiview Layout, which will be displayed in the lower right corner, as shown in the figure below.



Step 2: Drag Encoders from the Encoder List to the Multiview Layout respectively, then click the “Apply” button.

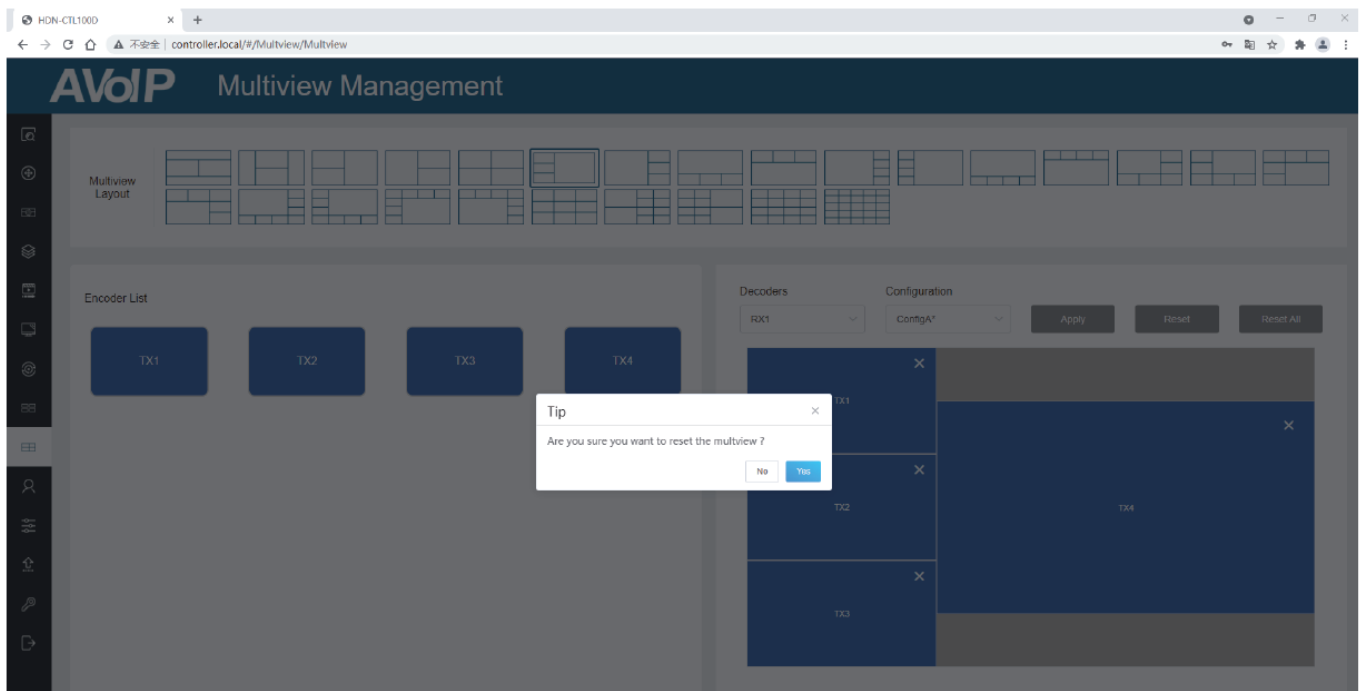


Step 3: After configuration, you can switch to “Multiview Control” page for video preview, as shown in below.

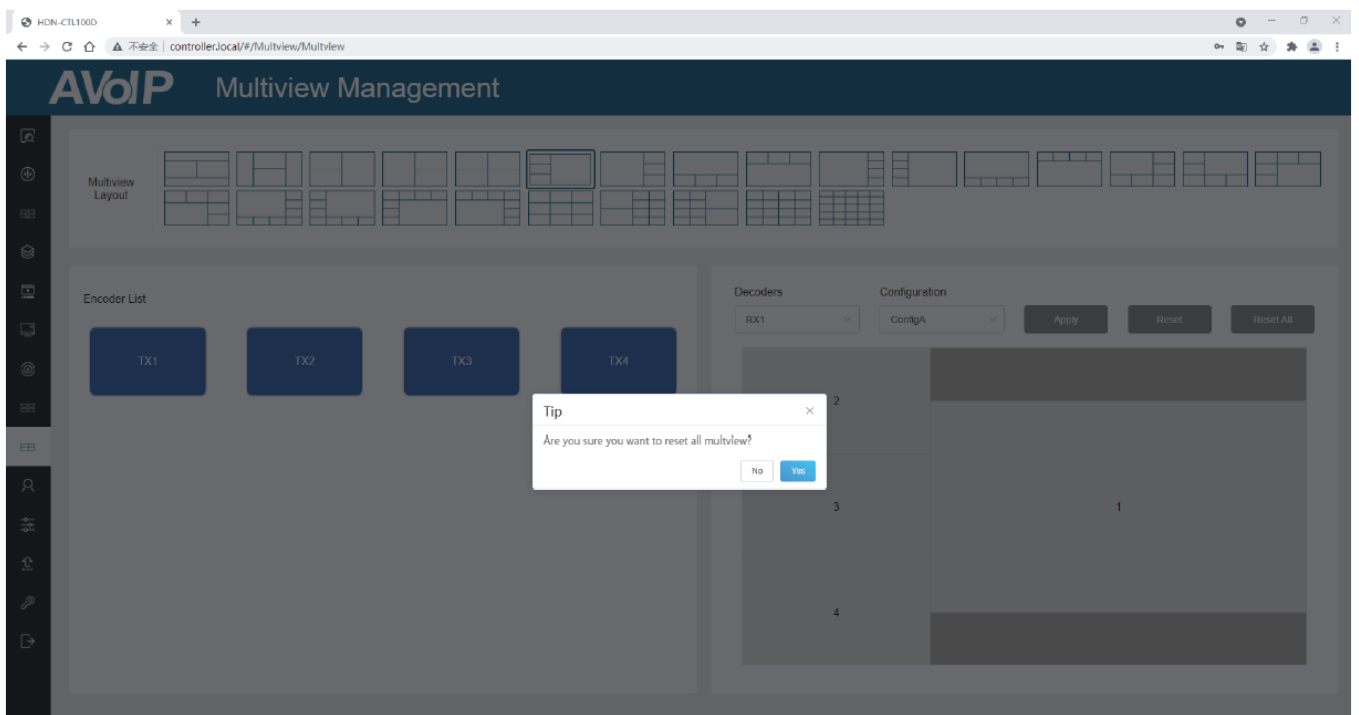


On this page, you can select different Decoders and configurations that you have set up by clicking the drop-down box on the right of “Receiver Selection”/ “Configuration Selection”.

If you want to delete a multiview, just click the “Reset” button. A prompt window will pop up and you can delete it after clicking “Yes”



If you want to delete all multiview configurations you set before, just click the “Reset All” button. A prompt window will pop up and you can delete them after clicking “Yes”.



Controller Settings Page

1. General Settings: The basic settings of the Controller.
 2. Control Network: The network port configuration of the Controller connected to the Switch.
 3. Video Network: The network port configuration of the Controller connected to video source devices.
- You can update the settings or reset the Controller.

Firmware Update Page

On this page, you can separately update the firmware of any Encoder/Decoder by clicking the corresponding “Update” button on the right, or update all the firmwares of Encoder/Decoder simultaneously by clicking the

corresponding “Update All” button. Also you can update the Second Stream (SS) chip firmware and the NXP firmware.

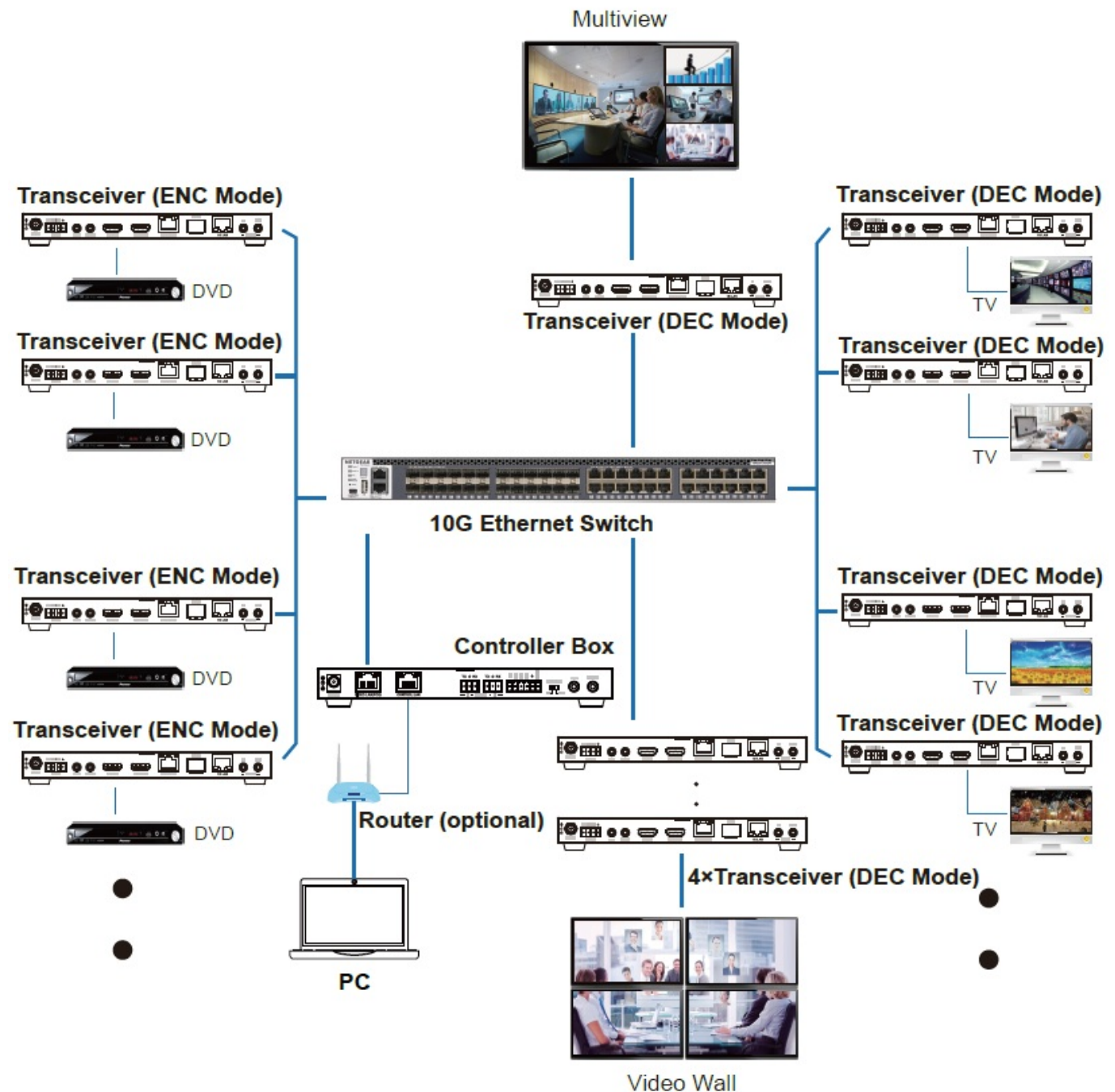
Password Update Page

On this page, you can change the password. Note that after changing, it will skip to the Web browser home page or the Web GUI login interface automatically. You need to log in the Web GUI again with the new password.

Log Out Page

Click “Log Out” on the left, the Web GUI will exit and skip to the login interface automatically.

Application Example




Notes

1. For the default IP mode of Control LAN port of the Controller Box is DHCP, the PC also needs to be set to “Obtain an IP address automatically” mode, and an optional DHCP server (e.g. network router) is

recommended in the system.

2. If there is no DHCP server in the system, 192.168.0.225 will be used as the IP address of Control LAN port. You need to set the IP address of the PC to be in the same network segment. For example, set PC's IP address as 192.168.0.88.
3. You can access the Web GUI by inputting URL "http://controller.local" or the Control LAN port IP address 192.168.0.225 (in case of no optional Router) on your computer's browser.
4. No need to care about settings of Video LAN port of the Controller Box, as they are managed by Controller automatically (Default).
5. When the Network Switch does not support POE, the Encoder, Decoder and Controller Box should be powered by DC power adapter

Documents / Resources

 <p>The image shows the cover of the 'infobit iSwitch SDV-C Video over IP Controller User Manual'. It features the infobit logo at the top, a photo of the black controller device in the center, and the text 'User Manual', 'VER 1.1', and contact information at the bottom.</p>	<p>infobit SDV-C Video Over IP Controller [pdf] User Manual SDV-C, SDV-C Video Over IP Controller, Video Over IP Controller, Over IP Controller, IP Controller, Controller</p>
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References

- [User Manual](#)

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