VigilLink

VLIP-SD10G-CTRL

AVoIP Controller for SDVoE

User Manual

VER 1.0

Thank you for purchasing this product

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

A surge protection device is recommended.

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shocks, lightning strikes, etc. The use of surgeprotection systems is highly recommended to protect and extend the life of your equipment.

Table of Contents

1. Introduction

This Video over IP Controller is used to control and manage IP products. It supports dual 1G network ports, which can realize dual-network isolation of the Control network and Multicast video distribution network. It supports Web GUI/TCP/RS-232/IR/GPIO controls, POE function, and IR control signal pass-through. This IP Controller has the flexibility to be widely applied to the growing need for IP products in today's digital world, commonly used in more and more different scenarios.

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Features

☆ Easy to create projects, control, and manage the system
☆ HTTPS, SSH, SFTP security compatible
☆ Built-in Web GUI control interface, supporting Drag & Drop operations
☆ Supports image preview
☆ Supports 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.
☆ Supports LAN/RS-232 port control and third-party central control
☆ Supports IR signal receiving (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

2. 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

3. Specifications

| Technical	
Network Video Bandwidth	Up to 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)

4. Operation Controls and Functions

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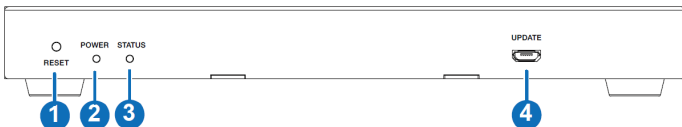
No.	Name	Function Description
1	RESET Button	Press and hold this button (about 10 seconds) until Status LED starts flashing; Controller will be reset automatically.
2	POWER LED	The red LED will light on when the Controller is powered on.
3	STATUS LED	The status LED will flash in yellowish-green every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

4.2 Rear Panel
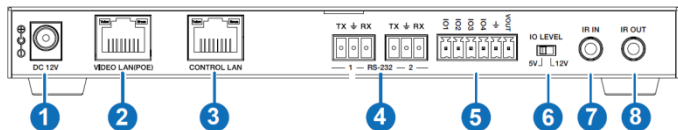
| No.	Name	Function Description
1	DC 12V	DC 12V/1A power input port.
2	VIDEO LAN (POE)	1G Video LAN port, supporting POE function. *Note: DC 12V/1A power supply is not required when POE is enabled.*
3	CONTROL LAN	The TCP/IP control network port.
4	3-pin Phoenix Connectors	Two identical RS-232 serial communication ports.
5	6-pin Phoenix Connector	4 channel I/O level outputs, 1 channel grounding, One channel power supply (supports up to 12V/0.5A) to theoutside.
6	IO LEVEL DIP Switch	It is 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. (Reserved for future use.)

### 4.3 IR Pin Definition
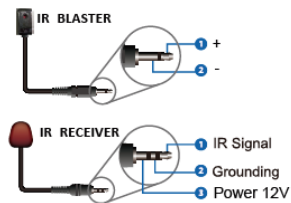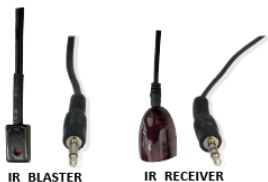
5. Rack Mounting Instruction

5.1 6U Rack Mounting

This Controller can be mounted in a standard 6U rack (Please contact your supplier for a 6U rack sale). The mounting steps are as follows:
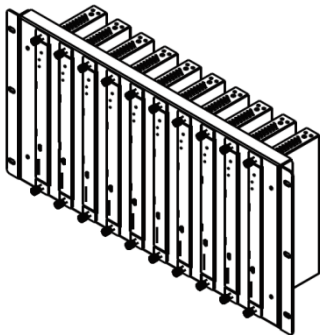
Step 1: Use included screws to fix two mounting ears on the Controller, as shown in the figure below:
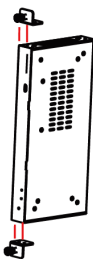
Step 2: Insert the Controller with mounting ears into a 6U rack (up to 10units can be installed vertically), as shown in the figure below:
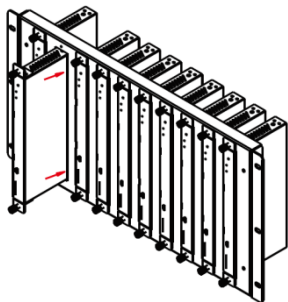
Step 3: Use screws to fix mounting ears on the rack to complete the mounting, as shown in the figure below:
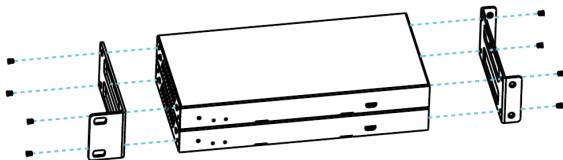
5.2 1U Rack Mounting

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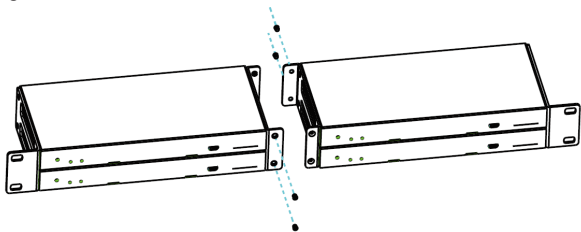
Step 3: Fasten screws between two 1U rack panels so that four Controllers are mounted in a 1U rack, as shown in the figure below:
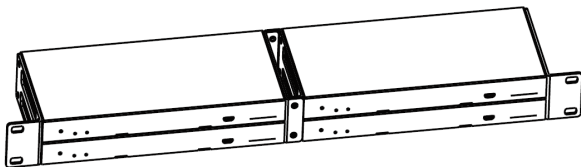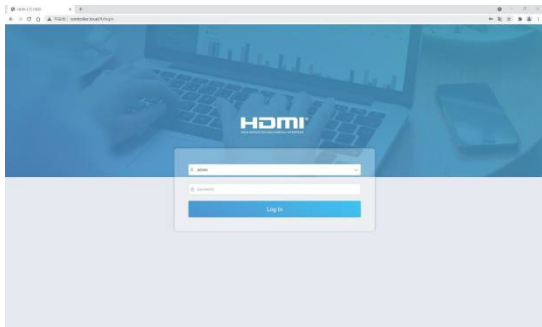
6. Web GUI User Guide

6.1 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 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 set up the project, as shown in the following figure:

Step 2: Click the "Close" button to load an existing project on the web pagedirectly, or click the "Next" button to go to the next step.
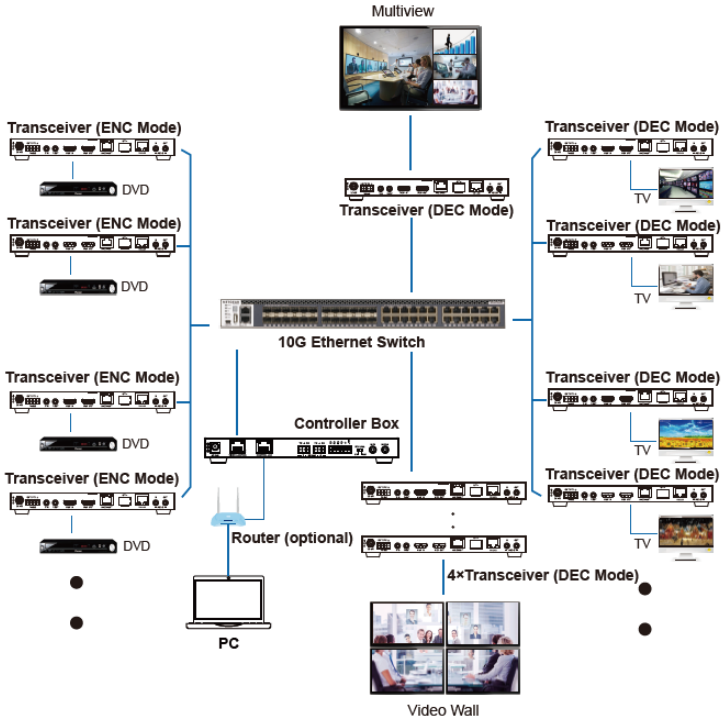

On this interface, you need to set the IP mode of Video LAN.

Mode 1: Automatically managed by Controller Box.
Please connect all the devices according to the following diagram.

Multiview

Transceiver (ENC Mode)

DVD

Transceiver (ENC Mode)

DVD

Transceiver (ENC Mode)

DVD

Transceiver (ENC Mode)

DVD

Transceiver (DEC Mode)

10G Ethernet Switch

Controller Box

Router (optional)

PC

4×Transceiver (DEC Mode)

Video Wall

Transceiver (DEC Mode)

TV

Transceiver (DEC Mode)

TV

Transceiver (DEC Mode)

TV

Transceiver (DEC Mode)

TV

Click the "Next" button and wait for the completion to enter the interface, asshown in the figure below.
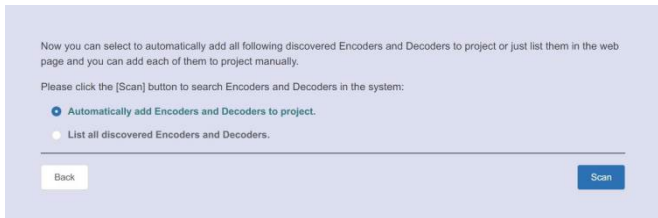
Select "Automatically add Encoders and Decoders to project" and click the "Scan" button to enter the Project page. All the connected devices will be listed in the Current Devices list.
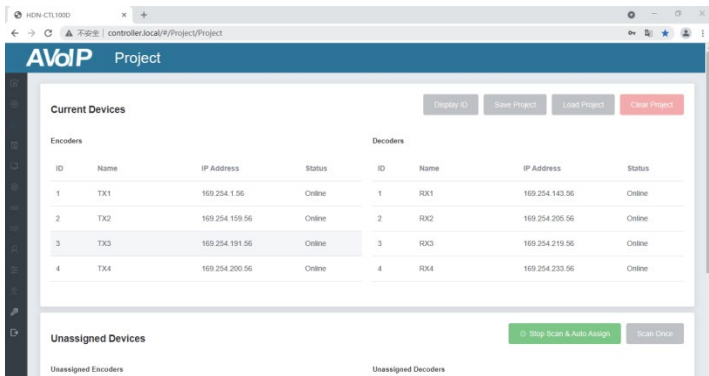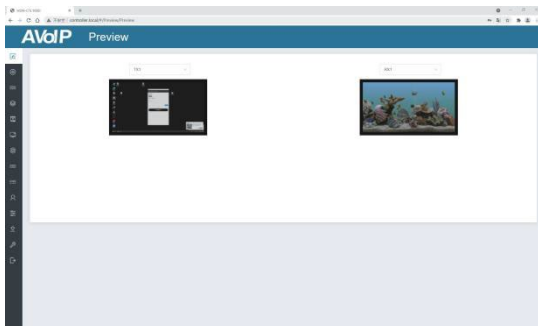

Then click "Stop Scan & Auto Assign" to stop the search.

Note: Currently, only Mode 1 is available; Mode 2 and Mode 3 will be readyin the short future, and the operation steps will be supplemented.
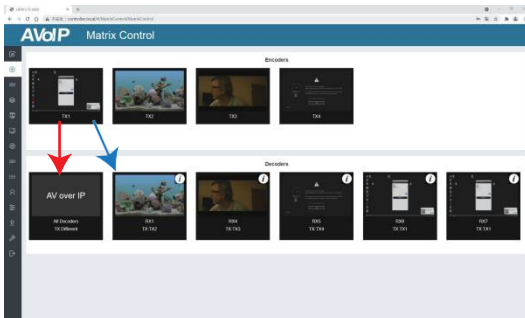
6.2 Functions and Operation

■ **Preview Page**

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

■ **Matrix Control Page**

☐ **Encoders:** Display all the current Encoders. The text in the figure is the name of the device.

☐ **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," the Encoder cannot be dragged.

(2) If an Encoder has an image, 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
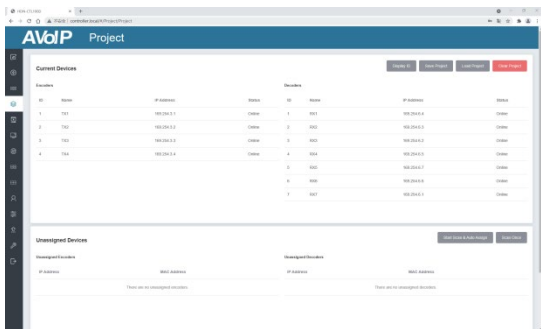
☐ **Current Devices:** Devices that have been added to the current project.

☐ **Unassigned Devices:** Devices not added to the current project.

Operating Instructions:

(1) Click "Display ID" to display the ID or PATTERN of the Decoders.

(2) 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.

(3) Click "Load Project" to load the existing project directly.

(4) Click "Clear Project" to clear the current project; you will need to set up the project again.

(5) Click "Scan Once" to search devices that do not appear in the current project.

(6) Click "Start Scan & Auto Assign" to search new devices automatically and add to the current project.
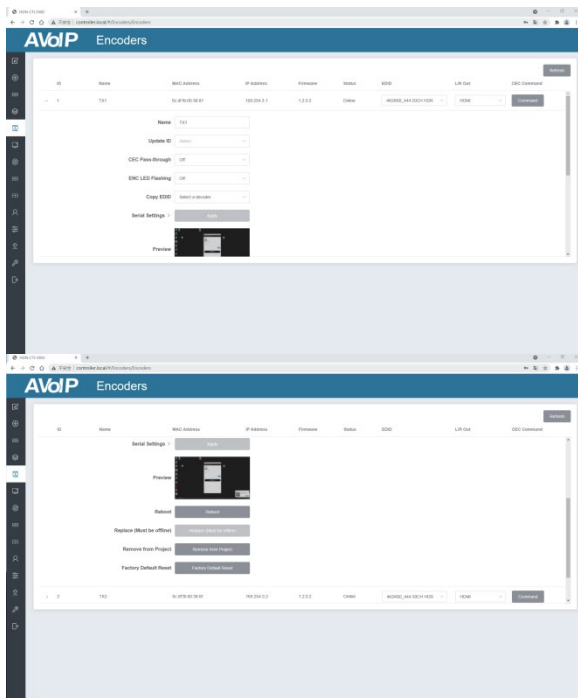
■ Encoders Page

☐ **ID:** The ID of the current device. (Note: ID is not duplicated.)

☐ **Name:** The name of the current device.

☐ **MAC Address:** The MAC Address of the current device.

☐ **IP Address:** The IP Address of the current device.

☐ **Firmware:** The Firmware version No. Of the current device.

☐ **Status:** The current device's status (online or offline).

☐ **EDID:** The EDID of the current device.

☐ **L/R Out:** The audio selection of the current device.

☐ **CEC Command:** The CEC Command of the current device.

Operating Instructions:

(1) Click "Refresh" to refresh the data of the current Encoders.

(2) Click the drop-down list of EDID to set the current Encoder's EDID.

(3) Click the drop-down list of L/R Out to set the current Encoder's audio output.

(4) Click "Command" to set the CEC command for the Encoder.

(5) Click the icon on the left of the ID to check the detailed information about thecurrent Encoder, as shown below:

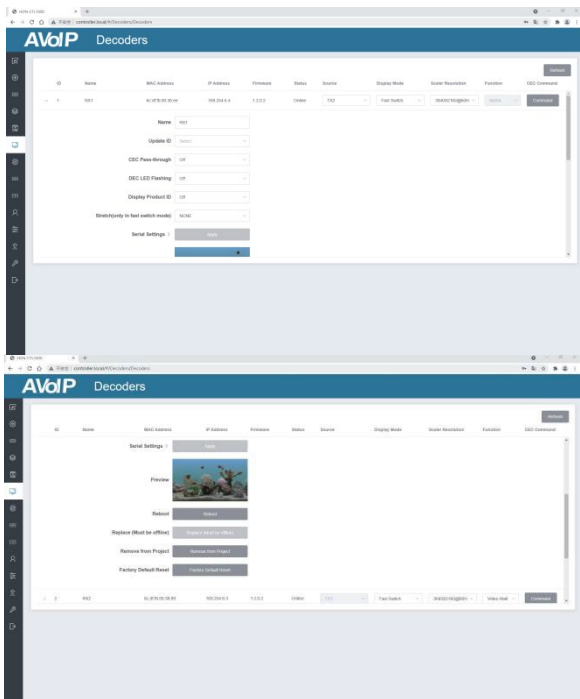On this page, you can set up the current Encoder as required.

■ Decoders Page

□ **ID:** The ID of the current device. (Note: ID is not duplicated.)

□ **Name:** The name of the current device.

□ **MAC Address:** The MAC Address of the current device.

□ **IP Address:** The IP Address of the current device.

□ **Firmware:** The Firmware version No. Of the current device.

□ **Status:** The current device's status (online or offline).

□ **Source:** The signal source (Encoder) of the current device.

□ **Display Mode:** The display mode of the current device.

□ **Scaler Resolution:** The resolution of the current device.

□ **Function:** The way (Matrix/Video Wall/Multiview) of the current device.

⑪ **CEC Command:** The CEC Command of the current device.

Operating Instructions:

(1) Click "Refresh" to refresh the data of the current Decoders.

(2) Click the Source drop-down list to select the current Decoder's signal source.

(3) Click the drop-down list of Display Mode to select the current Decoder's display mode.

(4) Click the drop-down list of Scaler Resolution to select the current Decoder's resolution.

(5) Click the drop-down list of Functions to select the current Decoder's mode.

(6) Click "Command" to set the CEC command for the Decoder.
(7) Click the icon on the left of the ID to check the detailed information about thecurrent Decoder, as shown below:

On this page, you can set up 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
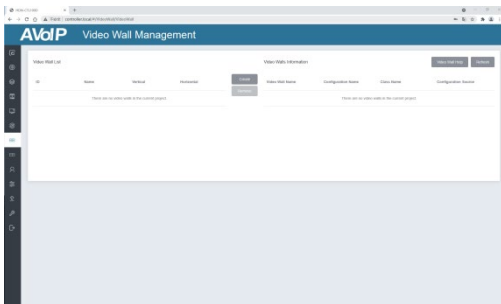
You can create and configure a video wall as required on this page. Pleasefollow the below steps to create a video wall.

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

You can set the Video Wall ID, Name, and 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 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."
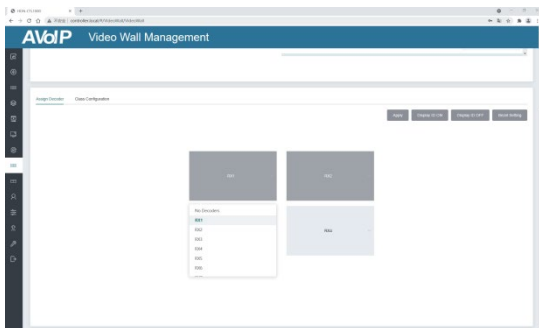
Note: A Decoder can only be assigned to one video wall.

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."
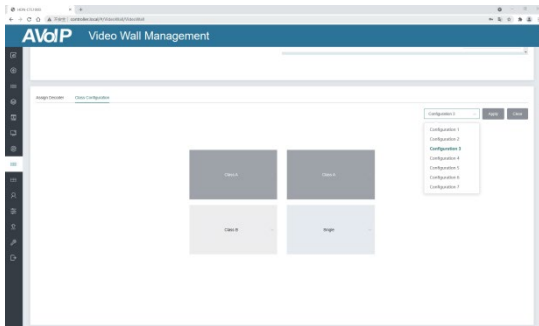

Note: Up to seven configurations can be set up for different application scenarios.

Step 4: After configuration, you can switch to the "Video Wall Control" page for video preview, as shown 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" and click "Remove." A prompt window will pop up, and you can delete it after clicking "Yes."
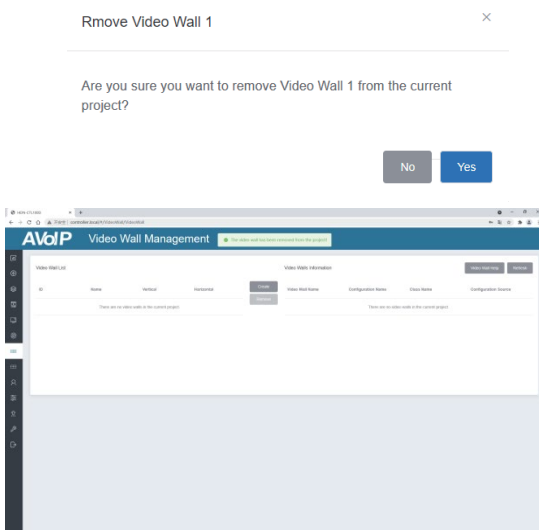
Notes:
*(1) Each Decoder can be set into a part of a video wall array. Each system can contain multiple video walls of different sizes. Each video wall can be assigned to different screens and different layouts that range from 1x2up to 9x9.*
(2) The controller creates and manages the video wall configurations and provides a simplified control interface and API commands to the third-partycontrol system.

■ Multiview Management Page
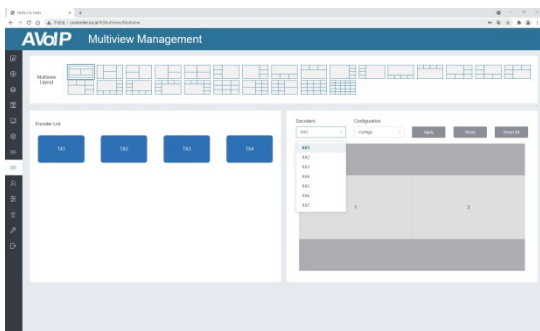
On this page, you can create and configure multiview as required. Please follow the below steps to create a video wall.

Step 1: Click the drop-down list of Decoders to select the Decoder device, as shown in the above figure. Then click to choose the desired Multiview Layout, which will be displayed in the lower right corner, as shown in the figure below.
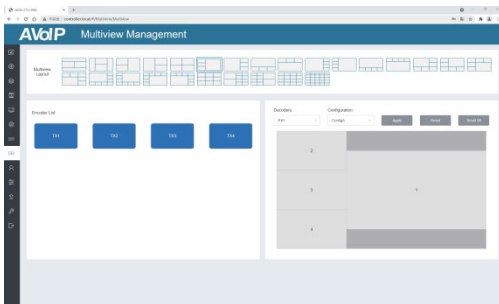
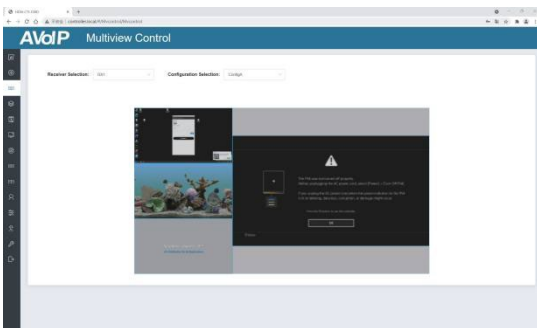**Step 2:** Drag Encoders from the Encoder List to the Multiview Layout respectively, then click the "Apply" button.
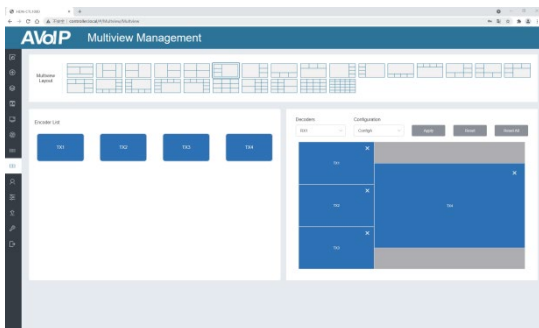

Step 3: After configuration, you can switch to the "Multiview Control" page for video preview, as shown below.

On this page, you can select different Decoders and configurations 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."
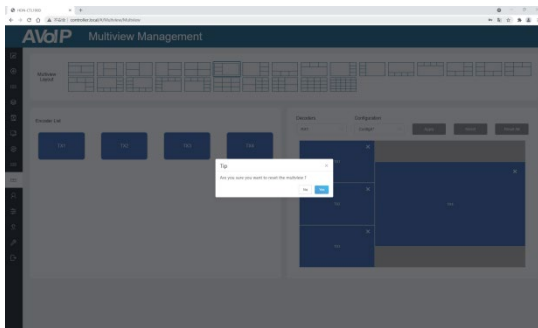
If you want to delete all multiview configurations you set before, just click the "Reset All" button. A prompt window will pop up, and you can delete them after clicking "Yes."
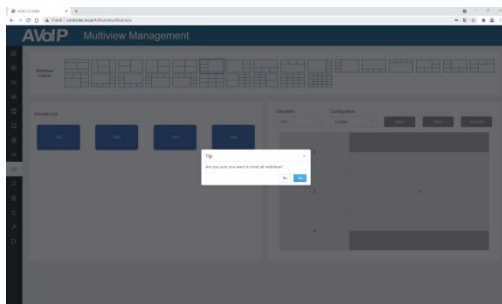
■ Users Page

On this page, you can add new user accounts.

■ Controller Settings Page

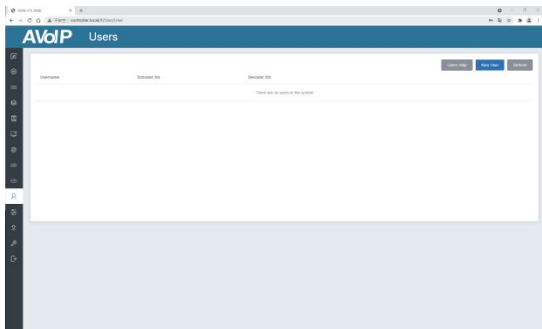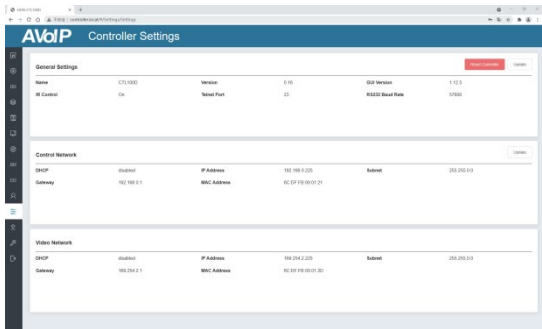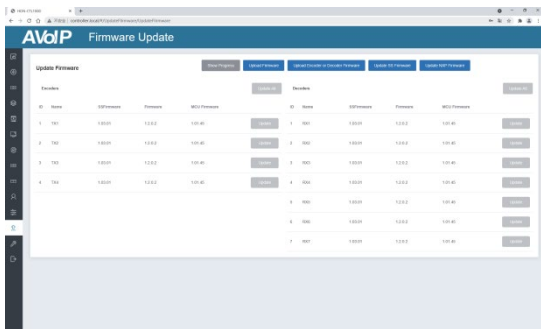☐ **General Settings:** The basic settings of the Controller.

☐ **Control Network:** The network port configuration of the Controller connected to the Switch.

☐ **Video Network:** The network port configuration of the Controllerconnected 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 firmware of the Encoder/Decoder simultaneously by clicking the corresponding "Update All" button. Also, you can edit the Second Stream (SS) chip firmware and the NXP firmware.

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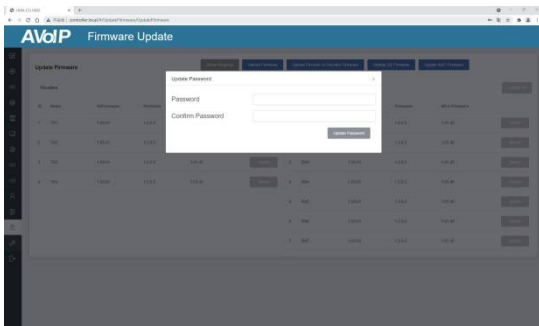
On this page, you can change the password. Note that it will automatically skip to the Web browser home page or the Web GUI login interface after changing. You must log in to the Web GUI again with the new password.

■ Log Out Page

Click "Log Out" on the left; the Web GUI will automatically exit and skip to the login interface.

7. Application Example

Mode 1: Automatically managed by Controller Box.

Mode 2: DHCP mode.

Multiview

Transceiver (ENC Mode)

DVD

Router

Transceiver (DEC Mode)

Transceiver (ENC Mode)

DVD

Transceiver (ENC Mode)

DVD

Transceiver (ENC Mode)

DVD

Transceiver (DEC Mode)

Transceiver (DEC Mode)

TV

Transceiver (DEC Mode)

TV

10G Ethernet Switch

Controller Box

Transceiver (DEC Mode)

TV

Transceiver (DEC Mode)

TV

Router
(optional)

4×Transceiver (DEC Mode)

PC

Video Wall
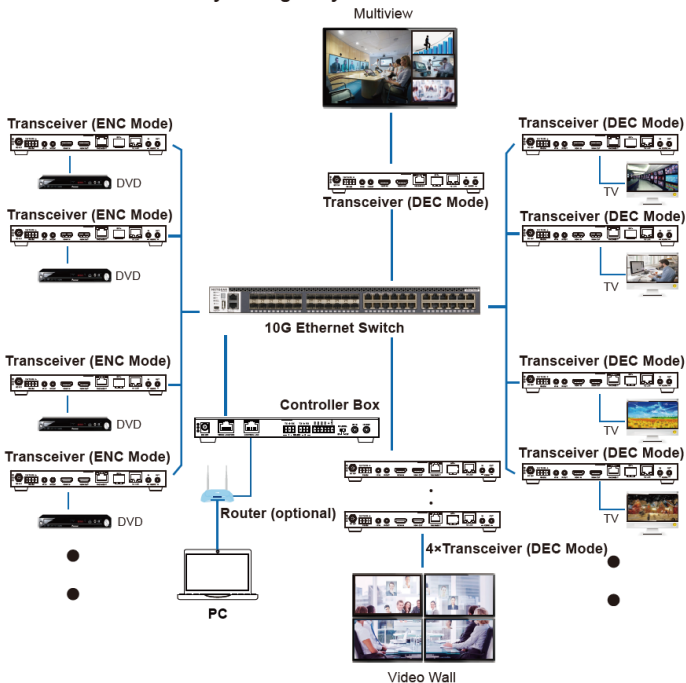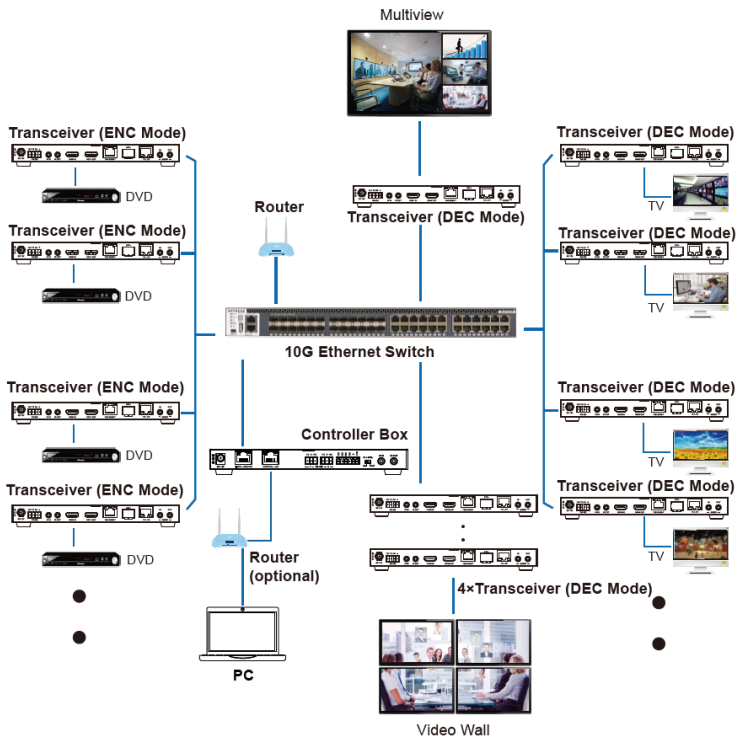
Mode 3: Static IP mode by manual settings.

Multiview

Transceiver (ENC Mode)

DVD

Transceiver (ENC Mode)

DVD

Transceiver (ENC Mode)

DVD

Transceiver (ENC Mode)

DVD

Transceiver (DEC Mode)

10G Ethernet Switch

Controller Box

Router (optional)

PC

Transceiver (DEC Mode)

TV

Transceiver (DEC Mode)

TV

Transceiver (DEC Mode)

TV

Transceiver (DEC Mode)

TV

4×Transceiver (DEC Mode)

Video Wall
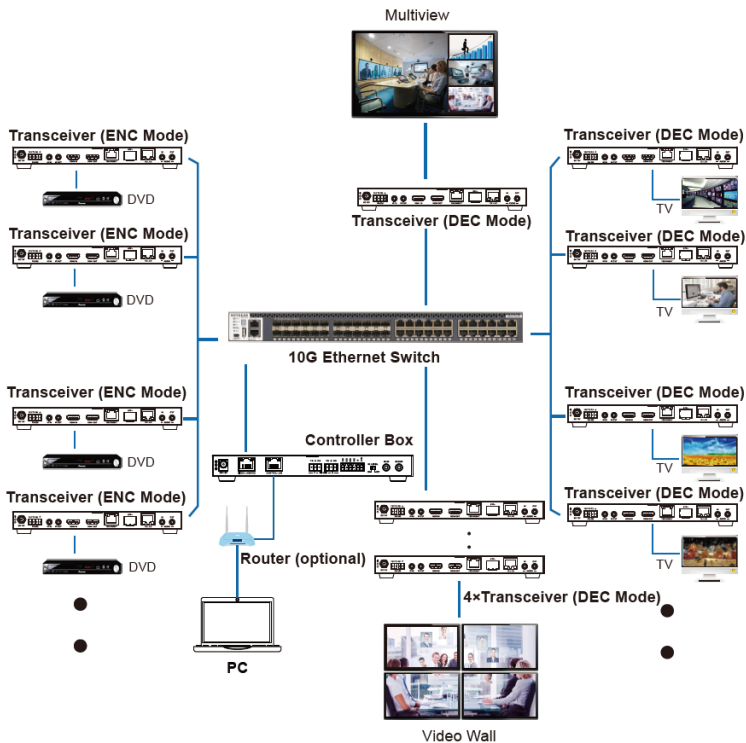
Notes:

(1) Currently, only Mode 1 is available; Mode 2 and Mode 3 will be ready in the short future.

(2) For the default IP mode of the 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.

(3) If there is no DHCP server in the system, 192.168.0.225 will be used as the IP address of the Control LAN port. You must set the PC's IP address in the same network segment. For example, set the PC's IP address as 192.168.0.88.

(4) You can access the Web GUI by inputting the 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.

(5) No need to care about settings of the Video LAN port of the Controller Box in Mode 1 and Mode 2, as they are managed by the Controller automatically.

(6) When the Network Switch does not support PoE, the Encoder, Decoder, and Controller Box should be powered by a DC power adapter.