SC08.CTL100A

AV over IP Network Controller



User Manual

Version 4.0

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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, lighting strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Table of Contents

1.0	Introduction			
2.0	Features			
3.0	Package Contents			
4.0	Specifications			
5.0	Operation, Controls and Functions			
	5.1	Front Panel	2	
	5.2	Rear Panel	2	
	5.3	Infrared Pin Connections	3	
6.0	Web GUI			
	6.1	Preparation	3	
	6.2	Network Settings - Mode 1, Automatically managed by controller	5	
	6.3	Network Settings - Mode 2, DHCP	8	
	6.4	Network Settings - Static IP	9	
7.0	System Control		11	
	7.1	Preview	11	
	7.2	Matrix Control	12	
	7.3	Project	13	
	7.4	Encoders	14	
	7.5	Decoders	16	
	7.6	Locked Signal Routing.	18	
	7.7	Video Wall Management	18	
	7.8	Users	22	
	7.9	Controller Settings.	22	
	7.10	Firmware Update	23	
	7.11	Password	23	
8.0	Main	tenance and Warranty	24	

1.0 Introduction

This AV over IP Controller is used to control and manage SC08.MX650 Encoders and Decoders. Dual LAN ports provide network isolation of Control and Multicast video distribution. Built-in Web GUI, TCP and RS-232 control are supported. The controller has POE and wide band 12V IR signal receiving.

2.0 Features

- Easy to create, control and manage the system
- Supports Auto, DHCP and Manual IP configurations
- HTTPS, SSH, SFTP security compatible
- Built-in Web GUI control interface, supporting Drag & Drop operations
- Video image preview
- Dual network ports for video and control to isolate controls and multicast network.
- Support LAN/RS-232 port control and third-party central control
- Support IR signal receiving (3.5mm audio jack, 12V level)
- 4 channel GPIO control ports (5V/12V optional level)
- Multiple circuit protection, lightning protection and ESD design

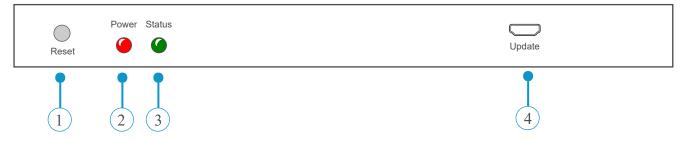
3.0 Package Contents

- 1. 1 Video over IP Controller
- 2. 1 20kHz-60kHz 12V IR Receiver Cable (1.5 meters)
- 3. 1 3-pin 3.81mm Phoenix Connector (Male)
- 4. 1 6-pin 3.81mm Phoenix Connector (Male)
- 5. 2 Mounting Ears
- 6. 4 Machine Screws (M3*6)
- 7. 1 12V/1A Locking Power Adaptor
- 8. 1 User Manual

4.0 Specification			
Control Ports	Ethernet (Control) Ethernet (Multicast) with PoE Infrared Digital I/O RS232		
ESD Protection	Human Body Model +/-8kV (air gap discharge) and +/-4kV (contact discharge)		
Housing	Metal Enclosure		
Colour	Black		
Dimensions	(W) 204 x (D) 98 x (H) 21mm		
Weight	509g		
Power Supply	Input: AC 100 ~ 240V 50/60Hz, Output DC 12V/1A		
Power Consumption	4.5 watt		
Operating Temperature	32 to 104°F / 0 to 40°C		
Storage Temperature	-4 to 140°F / -20 to 60°C		
Relative Humidity	20 to 90% RH (no condensation)		

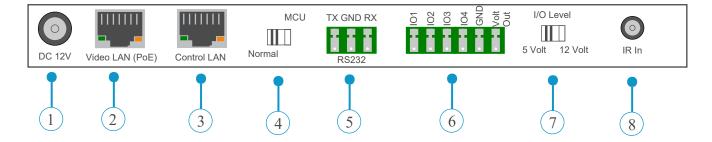
5.0 Operation, Controls and Functions

5.1 Front Panel



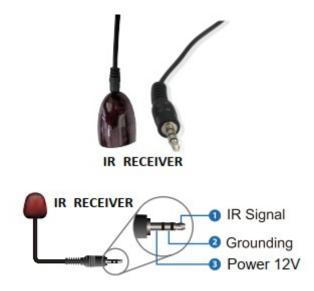
- 1. Reset Button Press and hold for approximately 10 seconds until the status LED starts to flash, the controller will automatically reset.
- 2. Power LED Illuminates red when power in applied.
- 3. Status LED Flashes amber during initialisation and turns solid green when the unit is connected to the control LAN.
- 4. Firmware update.

5.2 Rear Panel



- 1. 12 Volt Power Jack.
- 2. 1G Ethernet for multicast video with PoE.
- 3. 1G Ethernet for system control.
- 4. Normal: Use for RS232 Control. MCU: Use for MCU Upgrade.
- 5. RS232 communication port.
- 6. I/O Connections 4 channel I/O level outputs, ground and 12 Volts.
- 7. I/O Level Switch between +5 and +12 Volt
- 8. IR In 12V infrared input port.

5.3 IR Pin Connections



6.0 Web GUI

6.1 Preparation

The controllers Web GUI gives you complete control of encoders and decoders within your LAN/Project.

Step 1: Enter controllers URL or IP address in to your Web Browser address bar.

URL: http://controller.local

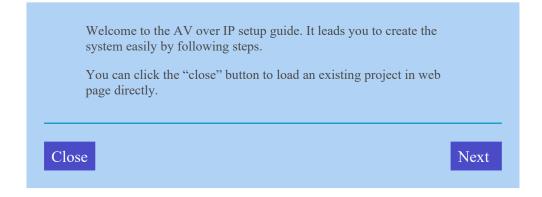
Or

IP Address: 192.168.0.225

Subnet: 255.255.0.0

Enter the username (admin) and password (1234).

For first time setup you need to create a project as shown below.



Page 3

Stage 2: Click the "close" button to load an existing project directly in to the web page or click the "next" button to create a new project.

To setup AV over IP system, you need to set the IP management mode of the video LAN domain. The IP management modes are:

• Automatically managed by the controller box.

This is the mode as factory default. The IP address assignments to controller box video LAN, encoders and decoders will be managed by the controller box firmware automatically. In this mode there is no need to add router in the system on video LAN domain.

o DHCP Mode

This is the mode for system in which there is a DHCP router on video LAN domain to assign IP addresses for controller box video LAN, Encoders and Decoders. The router acts as a DHCP server. It's recommended to set the net mask of router to 255.255.0.0.

• Static IP Mode by Manual setting

This is the mode for system in case IP address resources can be assigned manually for controller box video LAN, Encoders and Decoders.

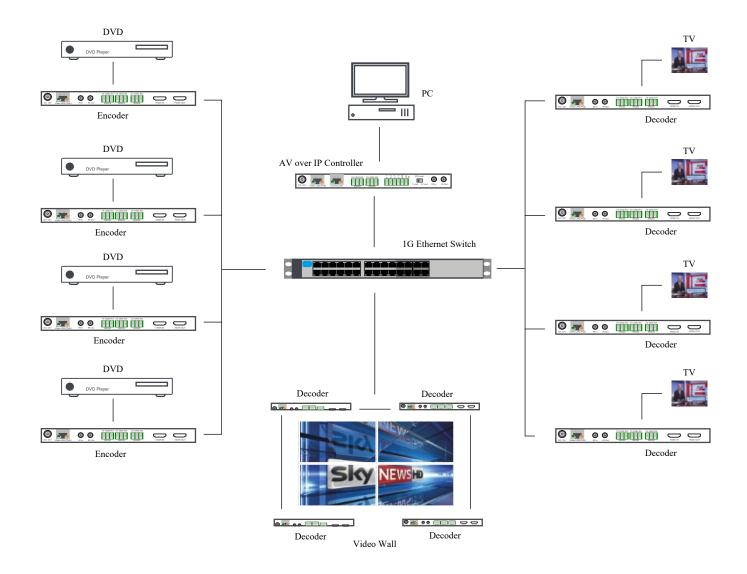
Reminders as below.

- a. The network settings of controller box video LAN, Encoders and Decoders must be on the same subnet.
- b. It's recommended to set net mask of controller box video LAN, Encoders and Decoders to 255.255.0.0.

Back

Next

6.2 Mode 1: Automatically managed by the controller box.



Click the "Next" button and wait for the controller to complete a search

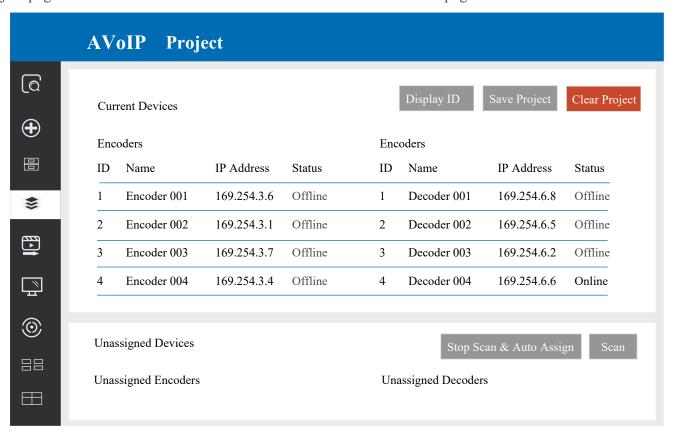
Now you can select to automatically add all discovered Encoders and Decoders to the project or just them in the web page where you can add them manually.

• Automatically managed by the controller box.

• List all discovered Encoders and Decoders

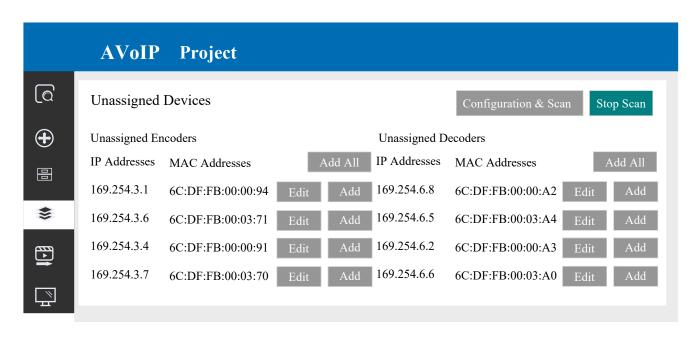
Scan

If you select "Automatically add Encoders and Decoders to project" and click the "Scan" button to enter the project page. All discovered devices will be listed in the current devices page.

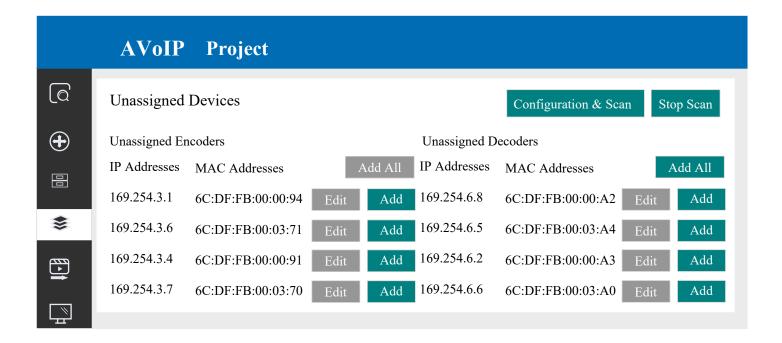


Click "Stop Scan & Auto Assign" to stop search.

If you select "List all discovered Encoders and Decoders", and click the "Scan" button to enter the Project page. All the connected devices will be listed in the Unassigned Devices list.

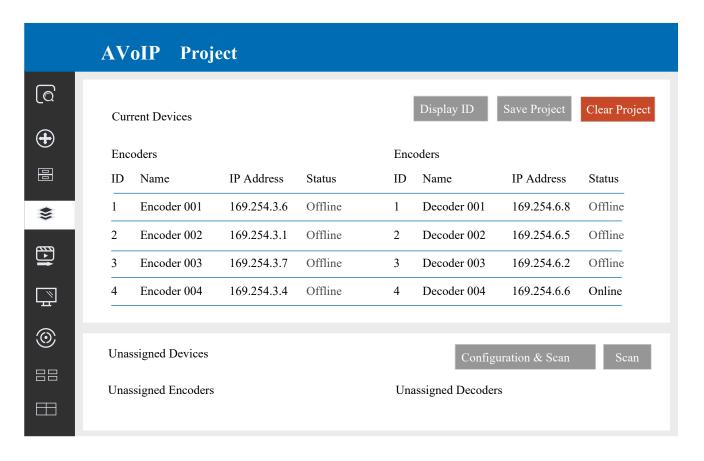


Click "Stop Scan" to stop search. Then the "Add All" buttons and "Add" buttons behind Unassigned Encoders and Unassigned Decoders in the figure below will become operable.



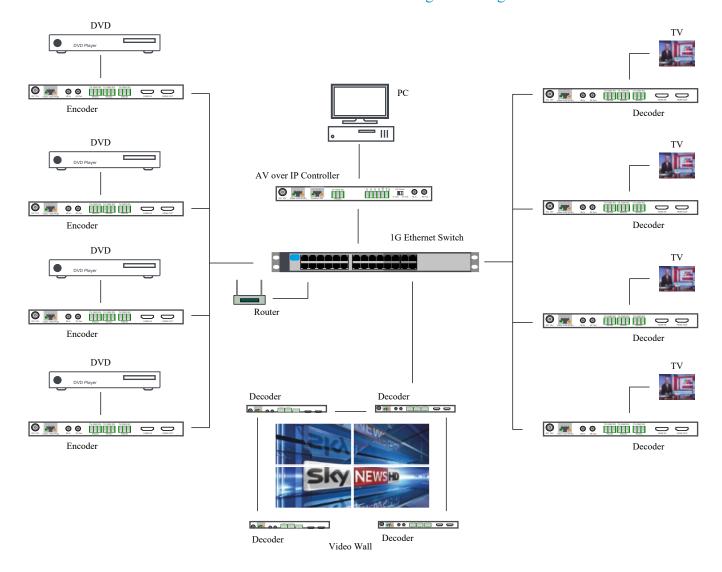
At this time, you can click the "Add" button behind each unregistered Encoder or Decoder to add the device to the project one by one, or click the "Add All" button to add all Encoders or Decoders to the project.

Encoders and Decoders that have been added to the project will appear in the Current Devices list, as shown in the figure below.



Page 7

6.3 Mode 2: DHCP Mode - Please connect all devices according to the diagram below.



Select "DHCP" Mode on the interface as shown below, then follow the steps is "Mode 1".

To setup AV over IP system, you need to set the IP management mode of the video LAN domain. The IP management modes are:

• Automatically managed by the controller box.

This is the mode as factory default. The IP address assignments to controller box video LAN, encoders and decoders will be managed by the controller box firmware automatically. In this mode there is no need to add router in the system on video LAN domain.

DHCP Mode

This is the mode for system in which there is a DHCP router on video LAN domain to assign IP addresses for controller box video LAN, Encoders and Decoders. The router acts as a DHCP server. It's recommended to set the net mask of router to 255.255.0.0.

o Static IP Mode by Manual setting

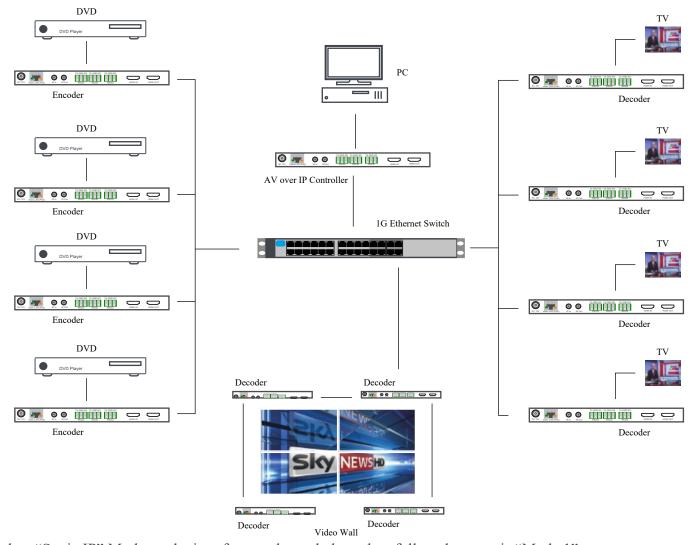
This is the mode for system in case IP address resources can be assigned manually for controller box video LAN, Encoders and Decoders.

Reminders as below.

- a. The network settings of controller box video LAN, Encoders and Decoders must be on the same subnet.
- b. It's recommended to set net mask of controller box video LAN, Encoders and Decoders to 255.255.0.0.



6.4 Mode 3: Static IP mode



Select "Static IP" Mode on the interface as shown below, then follow the steps is "Mode 1".

To setup AV over IP system, you need to set the IP management mode of the video LAN domain. The IP management modes are:

o Automatically managed by the controller box.

This is the mode as factory default. The IP address assignments to controller box video LAN, encoders and decoders will be managed by the controller box firmware automatically. In this mode there is no need to add router in the system on video LAN domain.

o DHCP Mode

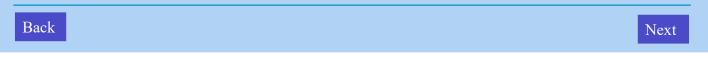
This is the mode for system in which there is a DHCP router on video LAN domain to assign IP addresses for controller box video LAN, Encoders and Decoders. The router acts as a DHCP server. It's recommended to set the net mask of router to 255.255.0.0.

• Static IP Mode by Manual setting

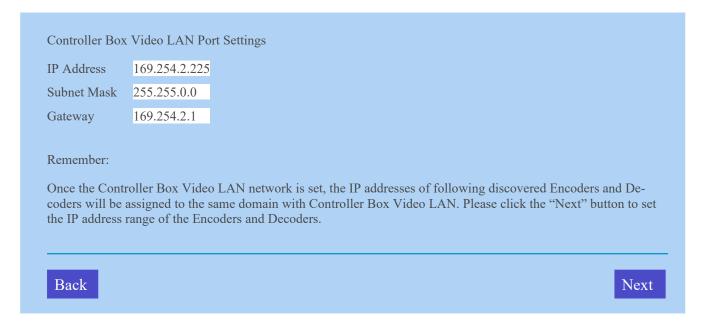
This is the mode for system in case IP address resources can be assigned manually for controller box video LAN, Encoders and Decoders.

Reminders as below.

- a. The network settings of controller box video LAN, Encoders and Decoders must be on the same subnet.
- b. It's recommended to set net mask of controller box video LAN, Encoders and Decoders to 255.255.0.0.



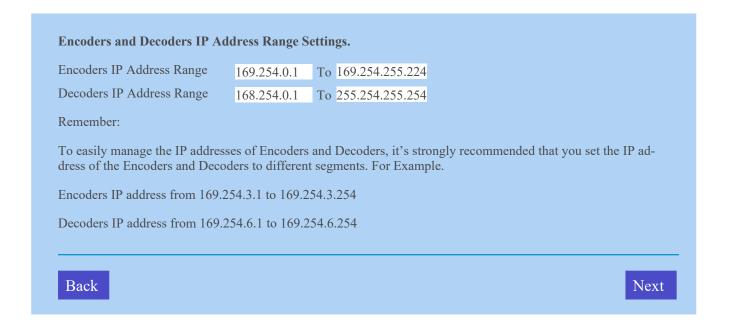
After entering the interface as shown in the dialogue box below, manually set the IP address, subnet mask and gateway for the video LAN.



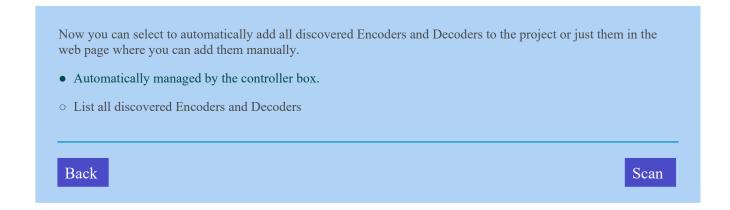
Note:

It's highly recommended to use a different IP network domain from the Control domain.

After the progress reaches 100%, the following dialogue box will appear.



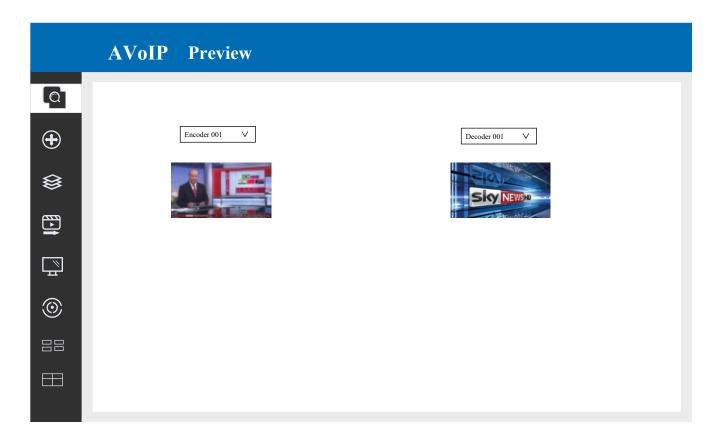
On this interface, you can set the IP address range of Encoders and Decoders. After the setting is complete, click the "Next" button to enter the interface as shown in the figure below.



Follow Step 1 to complete setup.

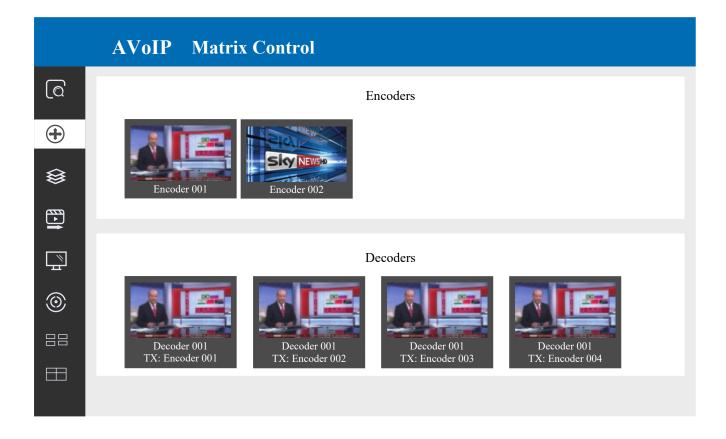
7.0 System Control 7.1 Preview

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



Page 11

7.2 Matrix Control

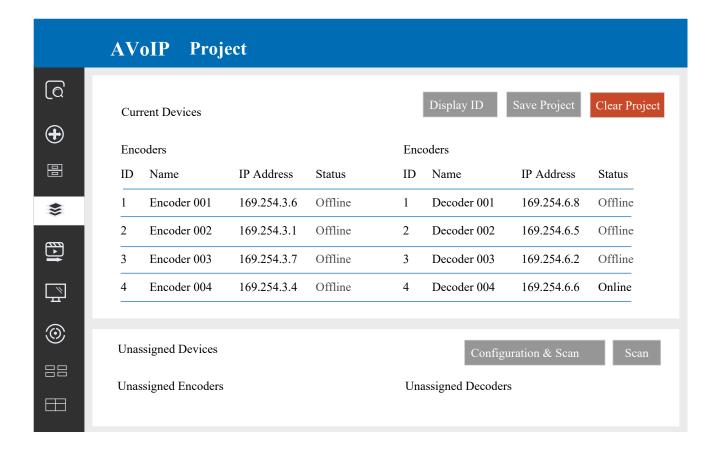


Encoders: Display all the current Encoders. The text in the figure is the name of the device. **Decoders:** Display all the current Decoders. The text on the first line is the name of the Decoder, and the text on the second line refers to the Encoder where the signal resource is from.

Operating Instructions:

- (1) If an Encoder shows "No Signal", 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.

7.3 Project Page

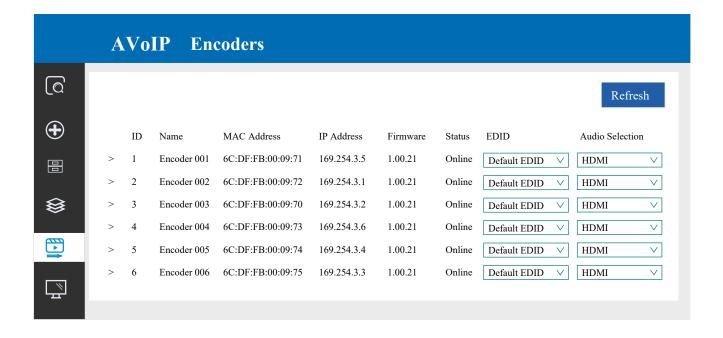


Current Devices: Devices that have been added to the current project. Unassigned Devices: Devices not added to the current project.

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 "Clear Project" to clear the current project, then you will need to setup devices again.
- (4) Click "Scan" to search devices that do not appear in the current project; Click "Stop Scan", then it will stop searching.
- (5) Click "Configuration & Scan" to search new devices automatically and add to the current project.

7.4 Encoders



- 1.**ID:** The ID of the current device. (Note: ID is not duplicated.)
- 2. Name: The name of the current device. (Note: Name is not duplicated.)
- 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. Audio Selection: The Audio Selection of the current device.

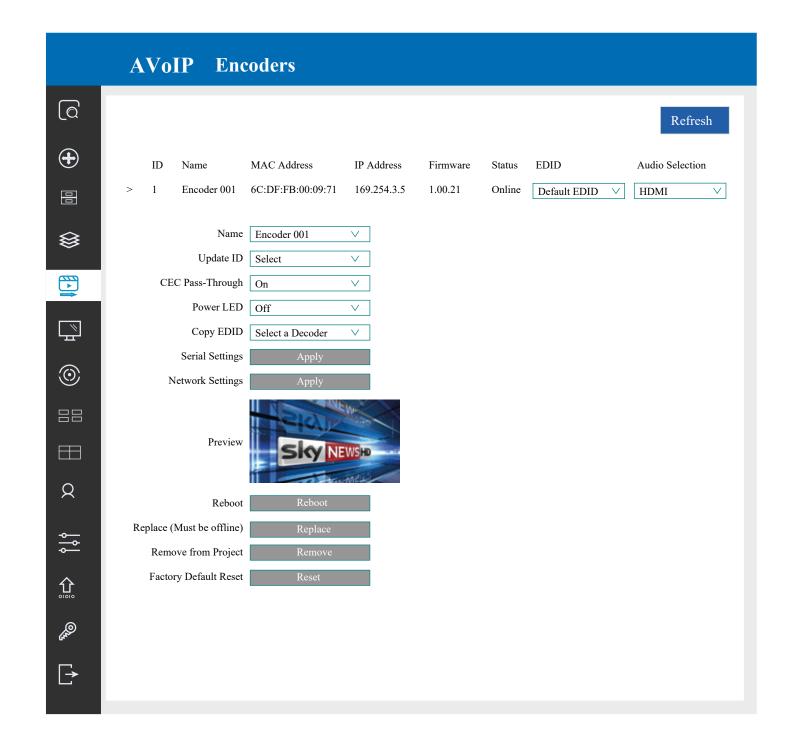
Operating Instructions

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 Audio Selection to set the current Encoder's audio output.

Click the icon on the left of ID to check the detail information about the as shown in below:



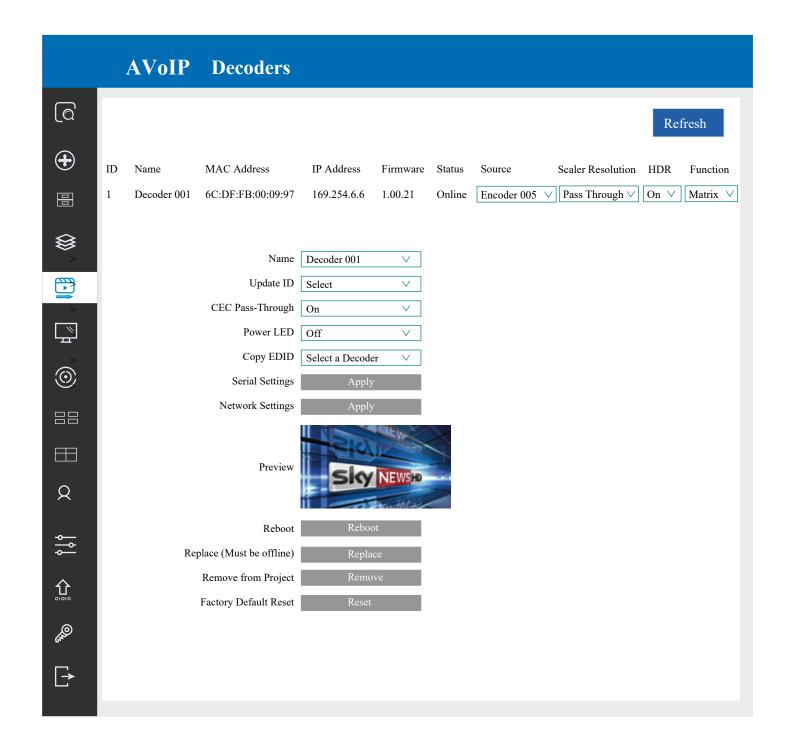
7.5 Decoders



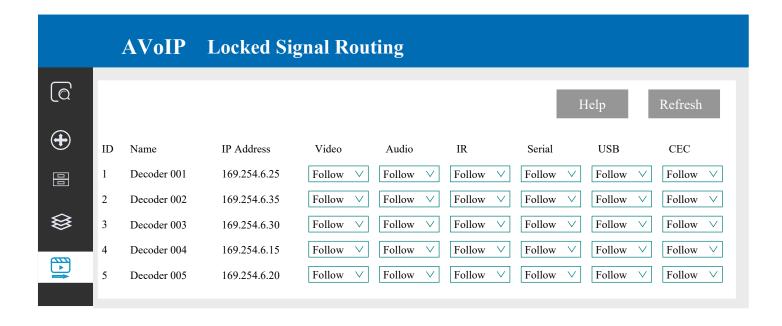
- 1.**ID:** The ID of the current device. (Note: ID is not duplicated.)
- 2. Name: The name of the current device. (Note: Name is not duplicated.)
- 3.MAC Address: The MAC Address of the current device.
- 4.**IP** Address: The IP Address of the current device.
- 5. Firmware: The Firmware version No. 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. Scaler Resolution: The resolution of the current device.
- 9.**HDR:** The HDR status of the current device.
- 10. **Function:** The mode of the current device.

Operating Instructions:

- 1.Click "Refresh" to refresh the data of the current Decoders.
- 2.Click the drop-down list of Source to select the current Decoder's signal source.
- 3. Click the drop-down list of Scaler Resolution to select the current Decoder's resolution.
- 4. Click the drop-down list of HDR to turn on/off HDR.
- 5.Click the drop-down list of Function to select the current Decoder's mode.
- 6.Click the icon on the left of ID to check the detail information about the current Decoder, as shown in below:

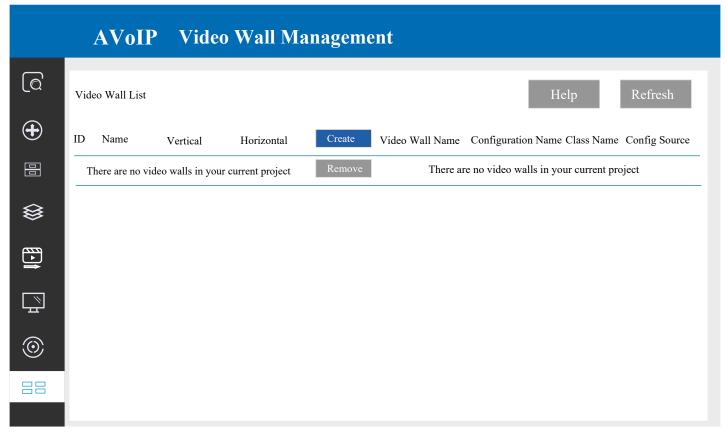


7.6 Locked Signal Routing



On this page, you can independently route the different signals between Encoder & Decoder devices. Please click "Locked Routing Help" for details.

7.7 Video Wall Management



Page 18

Step 1: Click "Create" to reveal the following window.

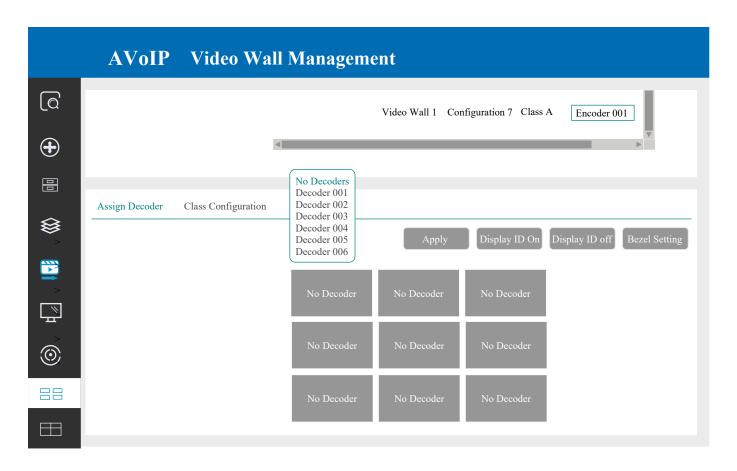
Create a new Video Wall					
Video Wall ID					
Name	Video Wall 1				
Horizontal	3				
Vertical	3				

You can set the Video Wall ID, Name, Horizontal and Vertical panel numbers.

Then click "Create" to create the Video Wall.

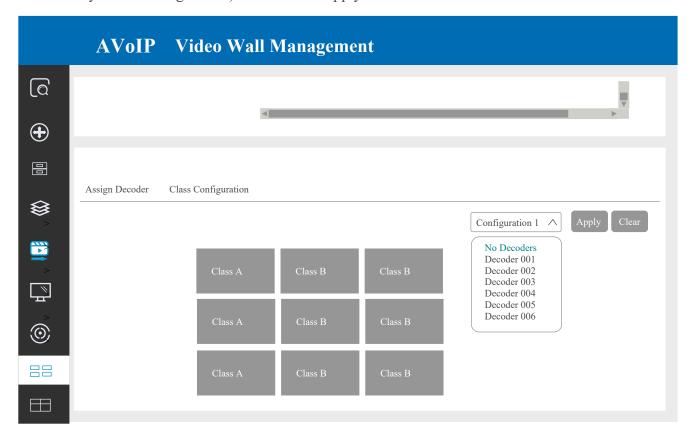
Note: Up to 9 video walls can be created.

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".



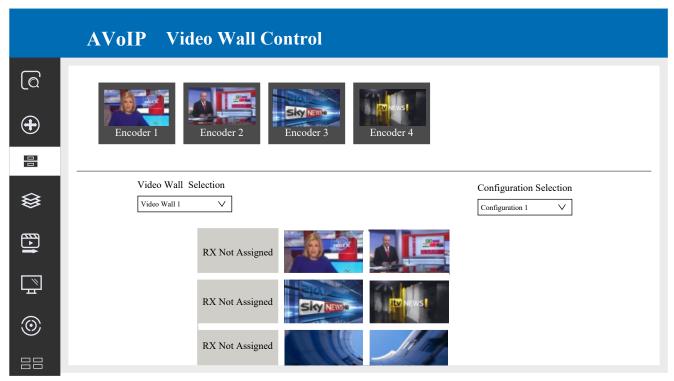
Note: A Decoder can only be assigned to one Video Wall.

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.

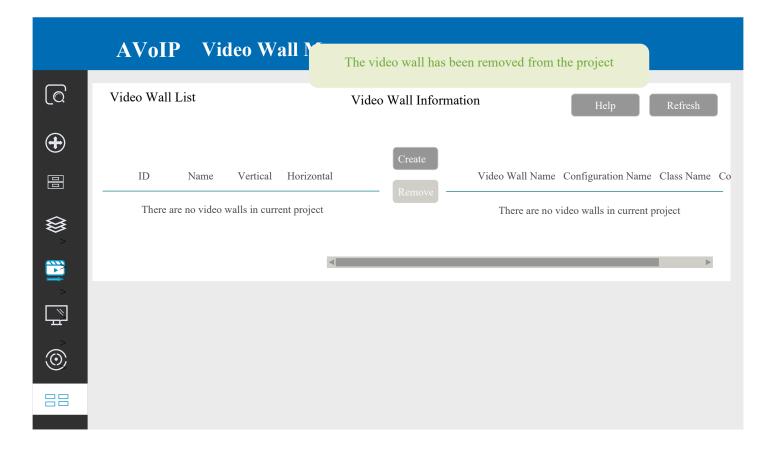
Step 4: After configuration, you can switch to "Video Wall Control" page for video preview, as shown in below.



Page 20

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".

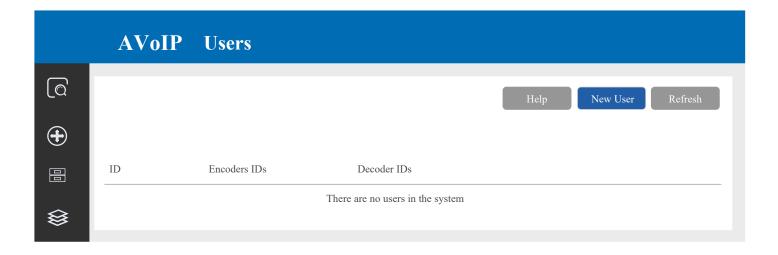




Notes:

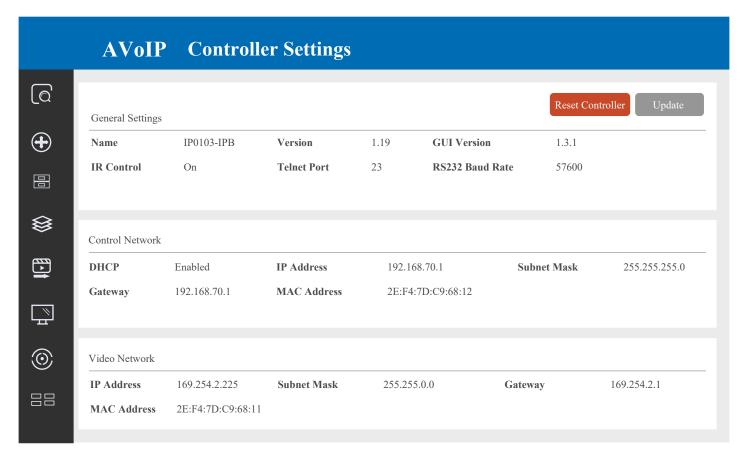
- (1) Each Decoder can be set into a part of a video wall array. Each system can contain multiple video walls with different sizes. Each video wall can be assigned to different screens and different layouts that range from 1x2 up to 9x9.
- (2) The controller creates and manages the video wall configurations and provides a simplified control interface and API commands to third party control system.

7.8 Users



On this page you can setup user accounts.

7.9 Controller Settings



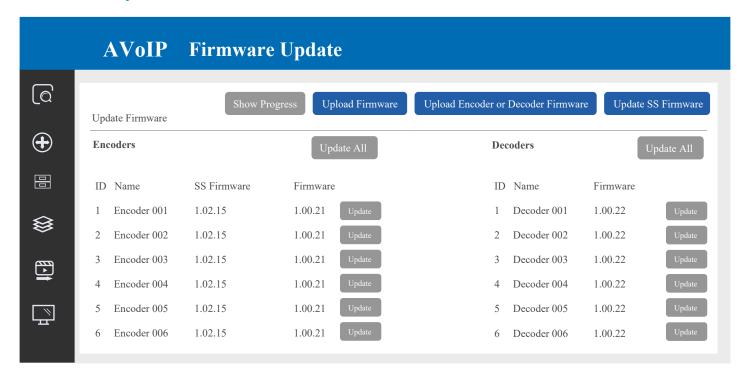
General Settings: The basic settings of the Controller.

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

Video Network: The network port configuration of the Controller connected to video source devices.

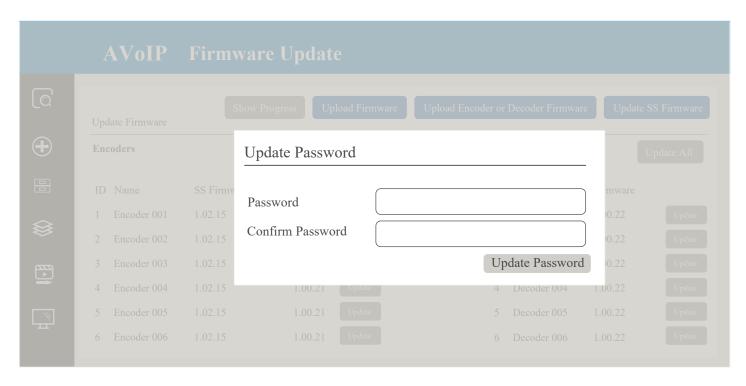
You can update the settings or reset the Controller.

7.10 Firmware Update



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 Encoder/Decoder simultaneously by clicking the corresponding "Update All" button. Also you can update the Second Stream chip firmware by clicking the "Update SS Firmware" button.

7.11 Password



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.

8.0 Maintenance

Clean this unit with a soft, dry cloth. Never use alcohol, pint thinner of benzene to clean these devices.

Servicing

Damage requiring service: This product should be serviced by a qualified service engineer if:

- The DC power cord or AC adaptor has been damaged.
- Objects or liquids have entered the housings.
- The product has been exposed to rain.
- The product has stopped working or shows signs of significant change in operating performance or function.
- The unit has been dropped or severely damaged externally.

Servicing personnel: Do not attempt to service the product beyond that described in these instructions. Refer all other servicing to authorised serving personnel.

Replacement parts: When parts need replacing ensure the service engineer uses parts specified by the manufacture or parts that have the same characteristics as the original parts. Unauthorised substitutes may result in fire, electric shock or other hazards.

Safety check: After a repair or service, ask the engineer to perform safety checks to confirm the product is in proper working condition.

Warranty

If your product does not work properly because of a defect in materials or workmanship, our Company (referred to as "the warrantor") will, for the length of the period indicated as below, (Parts and labour 2 years) which starts with the date of original purchase ("Limited Warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new of a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labour" Limited Warranty period there will be no charge for labour. During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

Returning a Product

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone number and/or email address where you can be reached.

Limited warranty limits and exclusions

This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, maladjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service centre or other authorized service engineer, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the service, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only).

PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY. This returns policy does not affect your legal rights. Details of your legal rights are available from Trading Standards or Citizens Advice Consumer Service.

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