KVM over IP Controller

HDIP-IPC

Web UI Configuration Guide

AV Access

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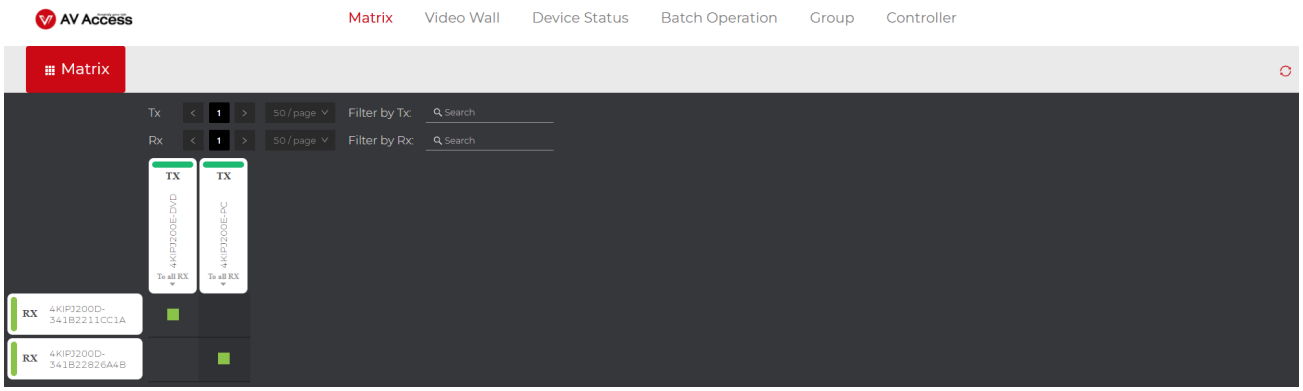
Control of the Device Through Web UI

The device includes two LAN ports—one is the “Control” port that comes with a default IP address of 192.168.11.243 and subnet mask of 255.255.0.0; another is the “LAN (PoE)” port that gets a valid dynamic IP address from the DHCP server.
Tip: The two LAN ports’ IP addresses can be identified through the LCD screen.

To access the device’s web UI, complete the following:

1. Take LAN (PoE) for example: connect the device’s LAN (PoE) port to a local area network.
2. Connect your PC to the same network as the device.
3. Input the device’s IP address in the browser and press Enter.
4. Input the username and password in the login window, and press **Login**. Tip: Default username and password are **admin**.

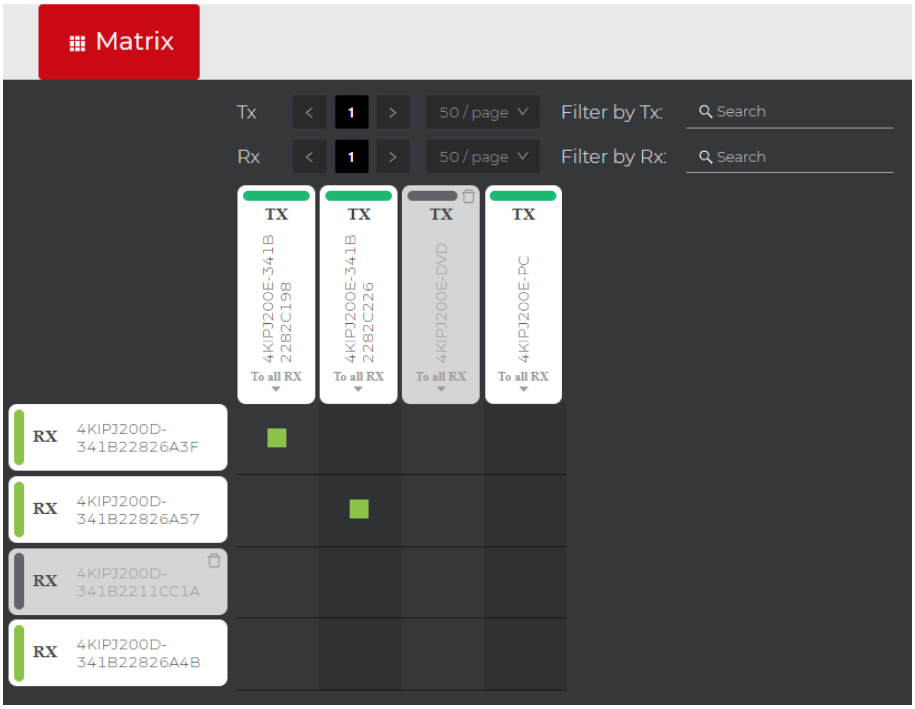
The main page opens.



The main page comprises of the following six tabs:

(1) Matrix: Provides routing between encoders and decoders.
(2) Video Wall: Provides configurations of video wall.
(3) Device Status: Provides detailed information and common configurations of encoders and decoders.
(4) Batch Operation: Provides batch operations of IP address, video, audio, image, serial, etc.
(5) Group: Provides configurations of grouping and display power for the VisualM App to control and manage the codecs and attached displays.
(6) Controller: Provides configurations of the controller in terms of IP address, alias name, service, security, login password, firmware upgrade, etc.

Matrix



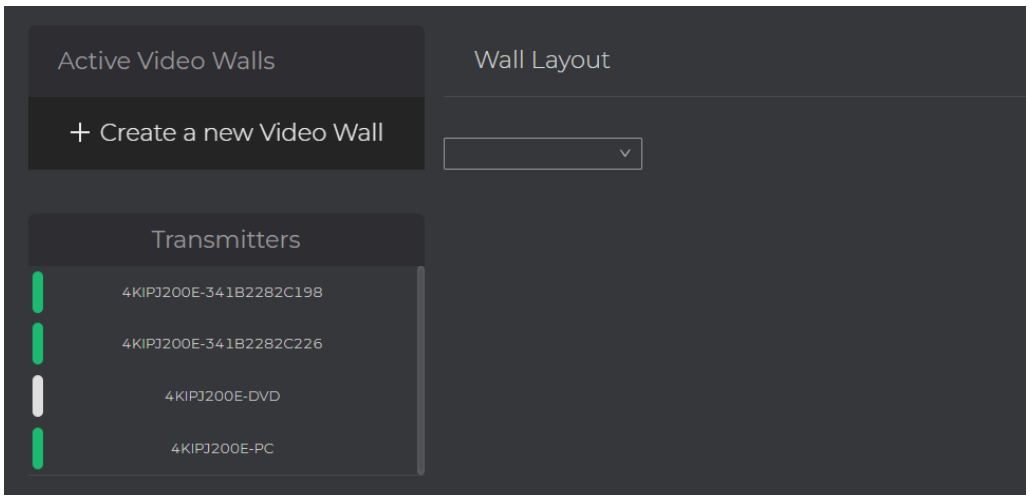
This page is for routing between the encoder and certain decoder(s). Once routing is complete, HDMI, USB and RS232 signals of corresponding encoder(s) and decoder(s) are being routed as a whole throughout the matrix system.

➔ To feed a source of one encoder to a certain display at one decoder, click the box at which the encoder and decoder intersect, when a green square turns up therein, it indicates that the encoder and decoder are bound with each other successfully.

➔ To disconnect an encoder from a decoder, click the green square at which the encoder and decoder intersect, when the green square disappears, it indicates that the encoder is unbound from the decoder successfully.

- To all RXs: This item is to assign an encoder to all decoders. To unbind the encoder from all decoders, tap this item until all green squares that link the encoder to all decoders disappear.
- Filter by TX: Input the alias name of a certain encoder in this field to filter for the encoder quickly.
- Filter by RX: Input the alias name of a certain decoder in this field to filter for the decoder quickly.

Video Wall



This page is for configuration of video walls.

Two types of video wall are available for 4KIPJ200 decoders—Standard Video Wall and Mosaic Video wall.

➔ A Standard Video Wall is a grid video wall in which all displays are aligned in the same size and orientation and the entire video content is being present. This type is categorized as three forms: Standard Video Wall, Video Wall Within a Wall and Mouse Roaming.

➔ A Mosaic Video Wall consists of displays with same size and different orientations which do not typically cover 100% of the content area but are in either landscape or portrait orientation.

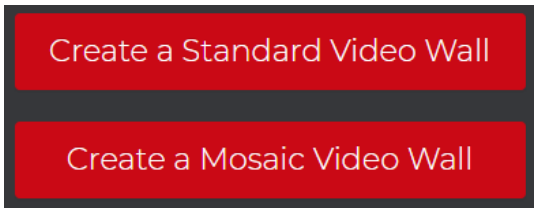
Standard Video Wall

Standard Video Wall

The standard video wall is commonly used in applications that one video source is to be displayed on a video wall.

To form a video wall, perform the following:

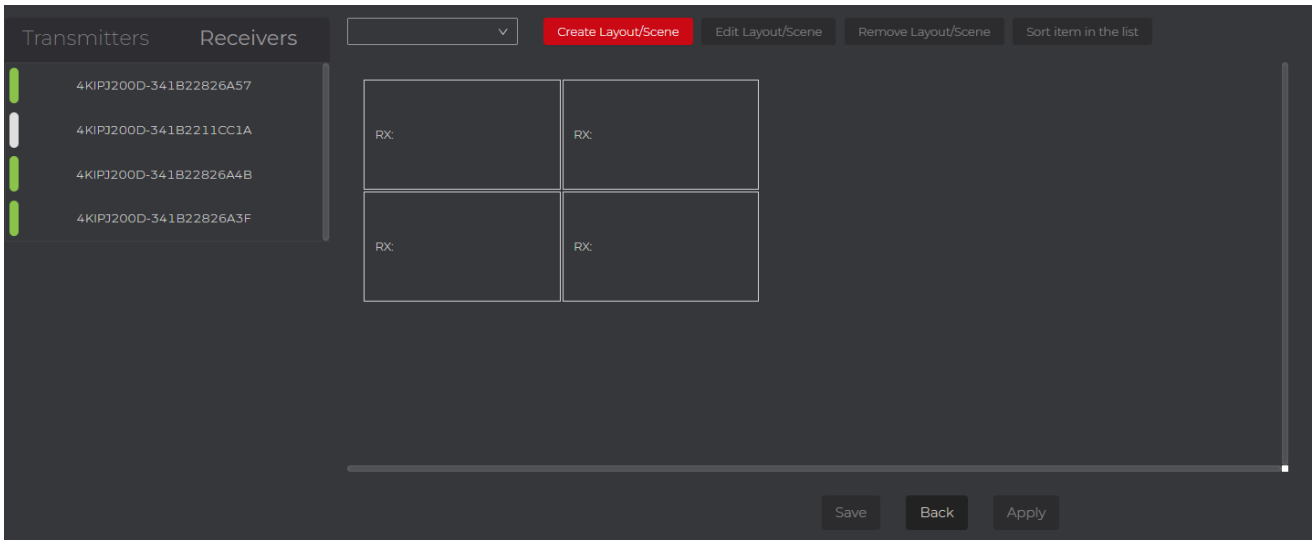
1. Create a new video wall.
   Go to the Video Wall page > tap "+ Create a new Video Wall" > select "Create a Standard Video Wall".



2. Specify the rows, columns and name for the standard video wall in the window, and select "Create". In this example, it is a 2x2 video wall.

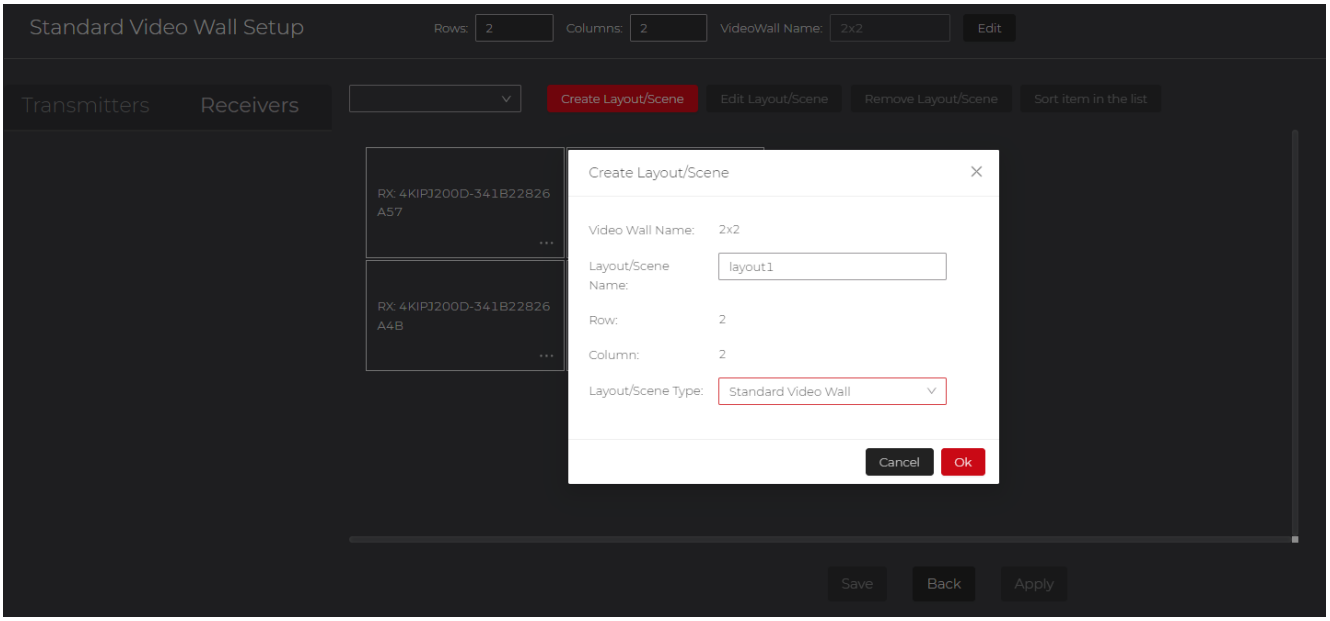


3. Create a new layout for the video wall.

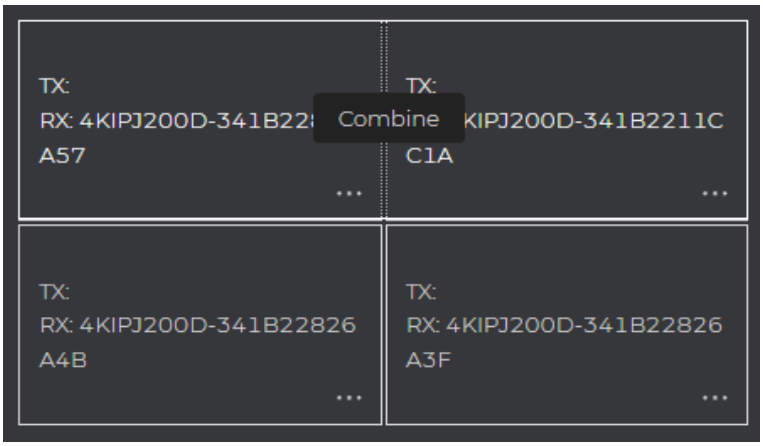


   a) Drag over desired decoders that are to form the video wall from the Receivers list to the central area.
   b) Select "Create layout/Scene".

4. Configure the new layout in the following dialog box.
   Fill in the Layout/Scene Name > select "Standard Video Wall" as the Layout/Scene Type > "OK".

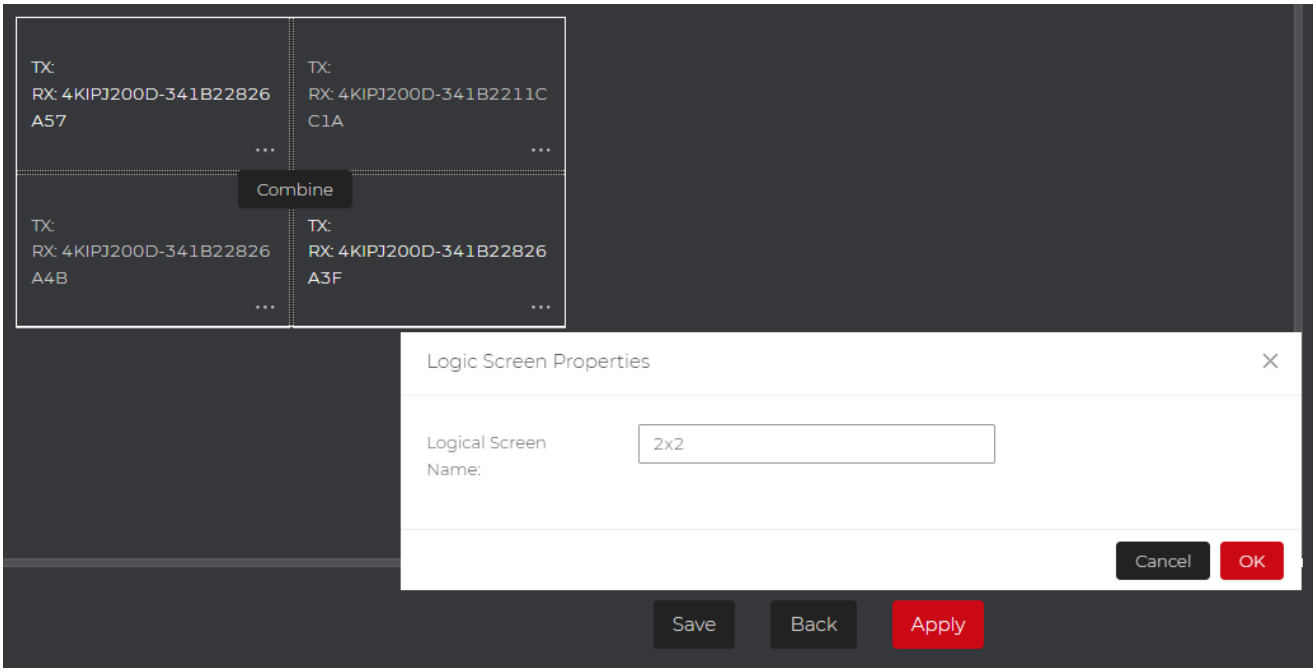


5. Combine decoders into a wall.
   a) For this 2 x 2 video wall example, there may be several use cases.
      (1) To select a 1 x 2 video wall to combine: click the two screens in landscape orientation respectively, in which words will be highlighted and "Combine" button will appear, indicating that the 1 x 2 wall is available to be combined. Tip: To deselect any screen, click it again till its words turn to normal.
      Select "Combine" to proceed.

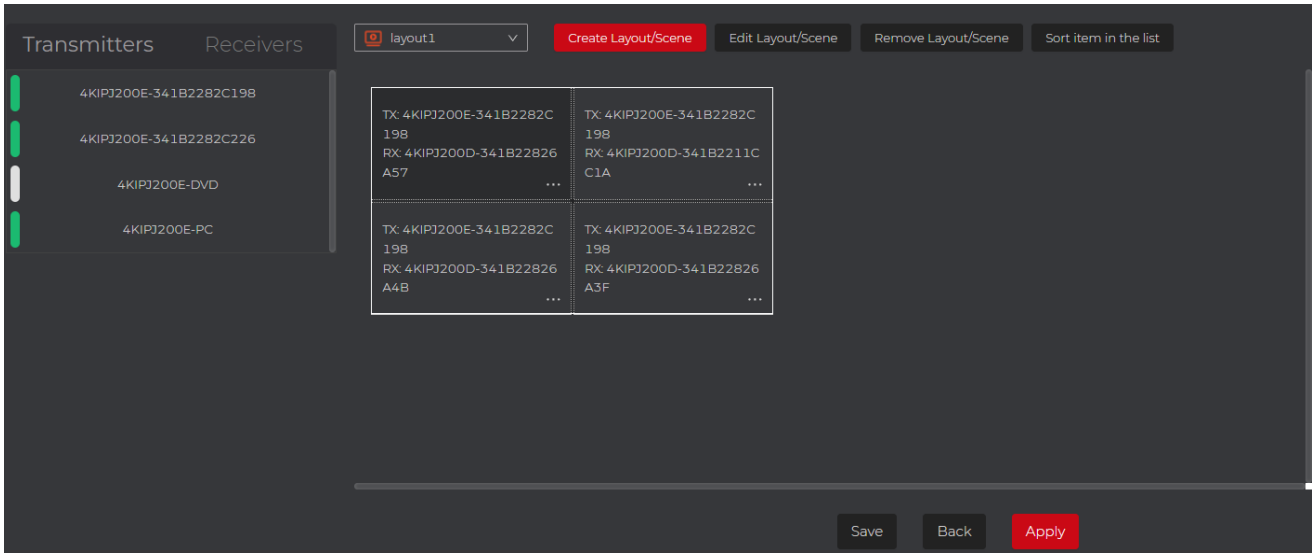


To form the 1 x 2 Video Wall

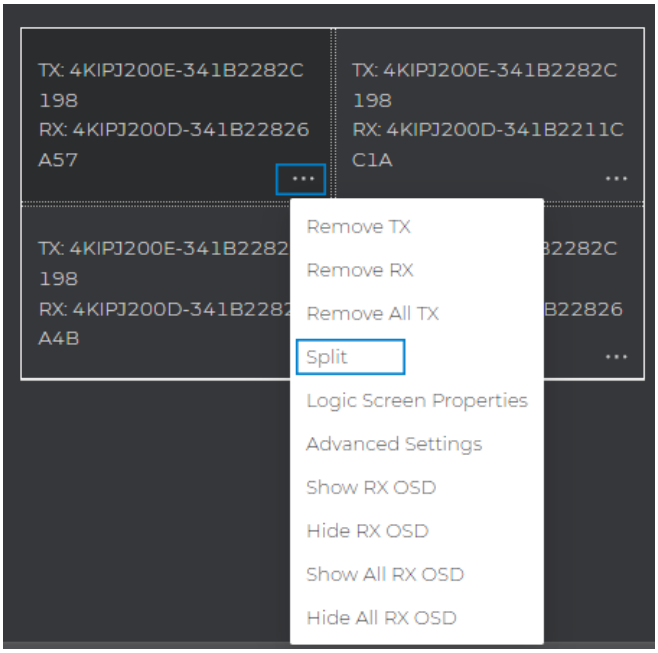
      (2) To select the 2 x 2 video wall to combine: click the two screens on a diagonal respectively, in which words will be highlighted and "Combine" button will appear, indicating that the four screens are available to be combined.
      Tip: To deselect any screen, click it again till its words turns to normal.
      Select "Combine" to proceed.
   b) Fill in the Logic Screen Name in the dialog box, select "OK".
   c) Select "Save" & "Apply" to complete the creation of the video wall.



6. Assign an encoder from Transmitters list to the video wall and click “Save”&“Apply”, now you can display the video source on the video wall.



➔ To split the combined video wall:
Click on any “…” icon of a rectangular box > select “Split” > “Apply”, the video wall will be split into single screens.



Video Wall Within a Wall

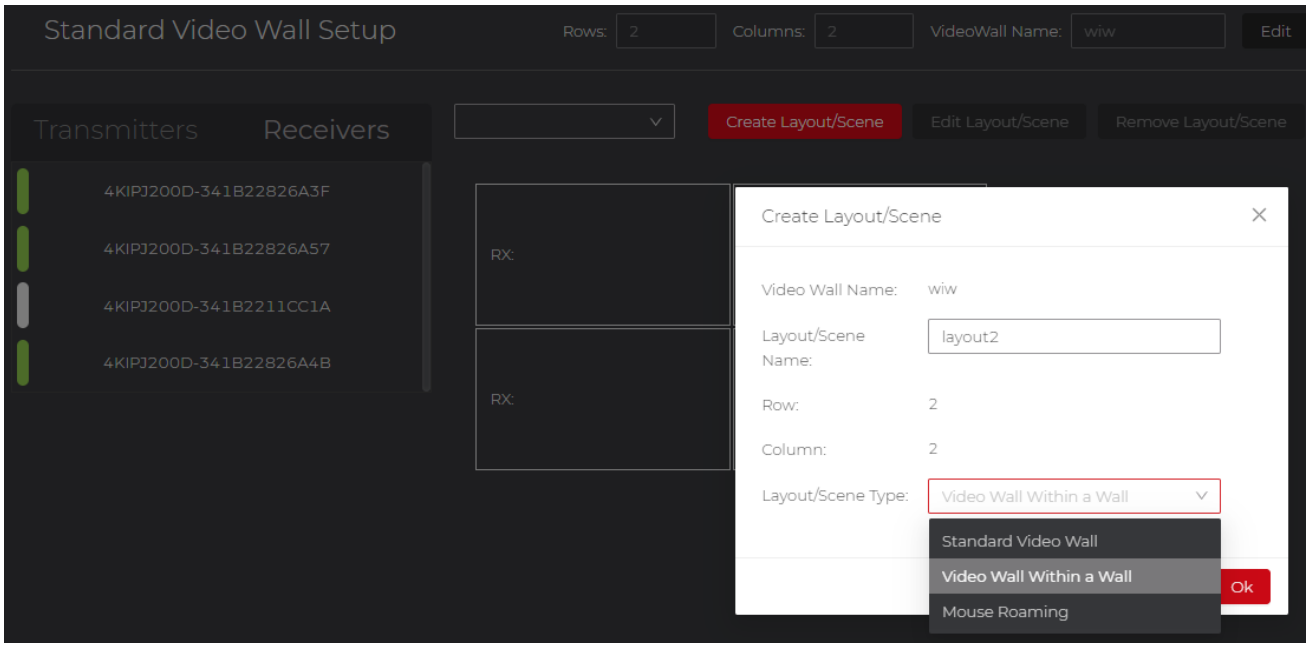
The video wall within a wall is slightly different from the standard video wall, in which multiple video sources can be displayed together or overlap with others.

To perform a video wall within a wall, perform the following:

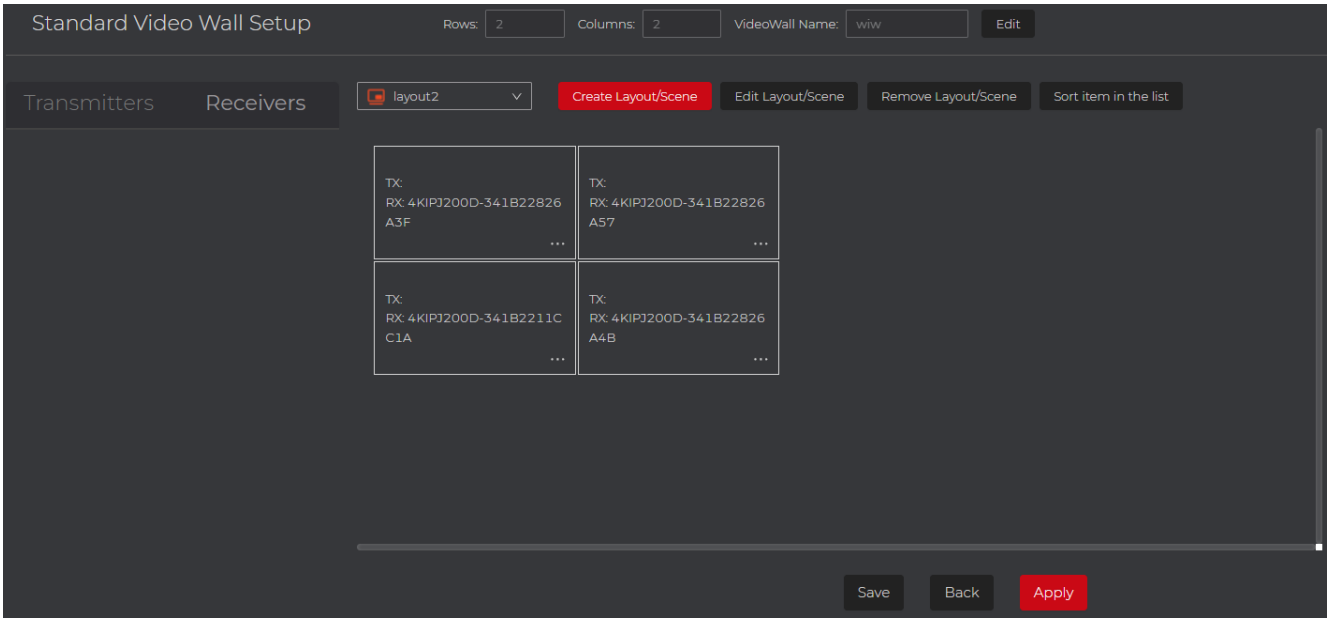
1. Create a new video wall.
   Go to the Video Wall page > tap "+ Create a new Video Wall" > select "Create a Standard Video Wall".
2. Specify the rows, columns and name for the standard video wall in the following window, select "Create".



3. Create a new layout for the video wall.
   Select "Create Layout/Scene" > fill in the Layout/Scene Name and select "Video Wall within a Wall" > click "OK" to proceed.



4. Drag over desired decoders from the Receivers list that are to form the video wall.
   Select "Save" and "Apply" to apply the setup.



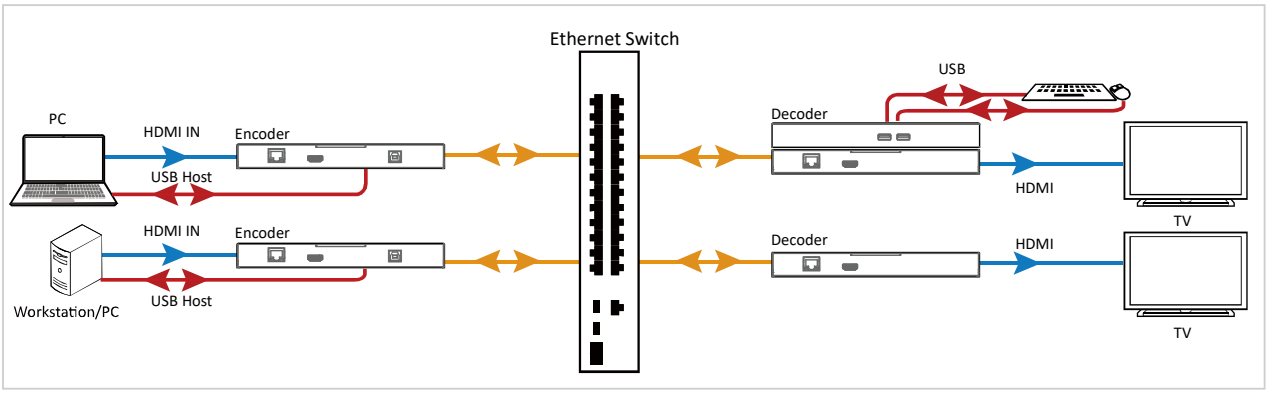
5. To feed a source to the video wall, an iPad or Android tablet with VisualM App installed may be required. For more information, see the user guide of VisualM app.

Mouse Roaming

Mouse Roaming function allows you to move the mouse to multiple screens within the video wall to control multiple computers in a system. Up to 16 host computers can be controlled through one set of mouse and keyboard.

Take the 1 x 2 video wall for example:

1. Complete physical connection.
   Connect one computer to the HDMI IN and USB Host ports of each encoder, and one set of mouse and keyboard to the USB Device ports of one decoder.

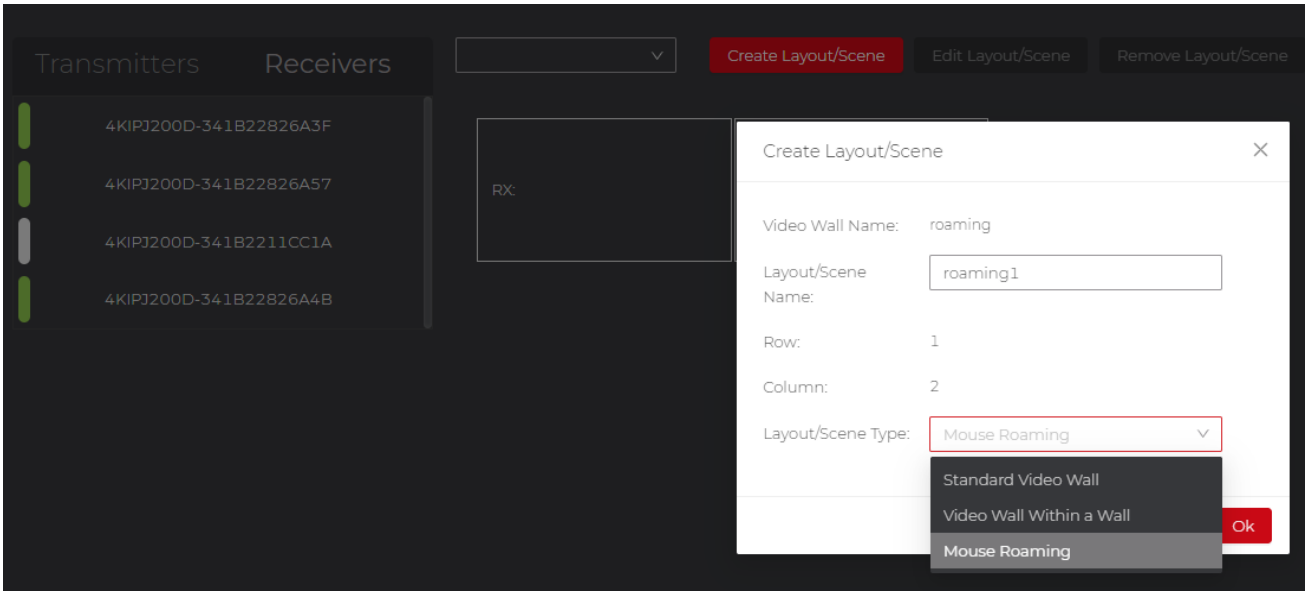


1 x 2 Roaming Wall

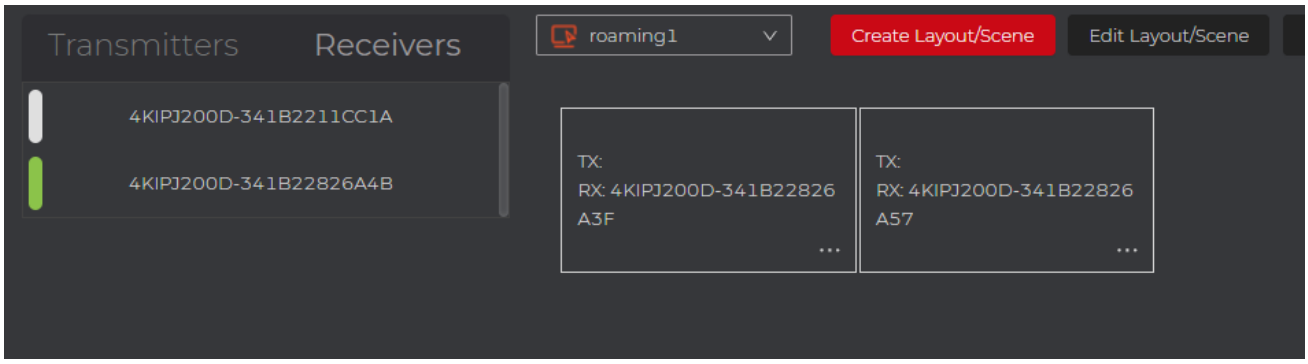
2. In the Video Wall tab, click “+ Create a new Video Wall”.
3. Specify the rows, columns and name for the video wall in the following window, select “Create”.



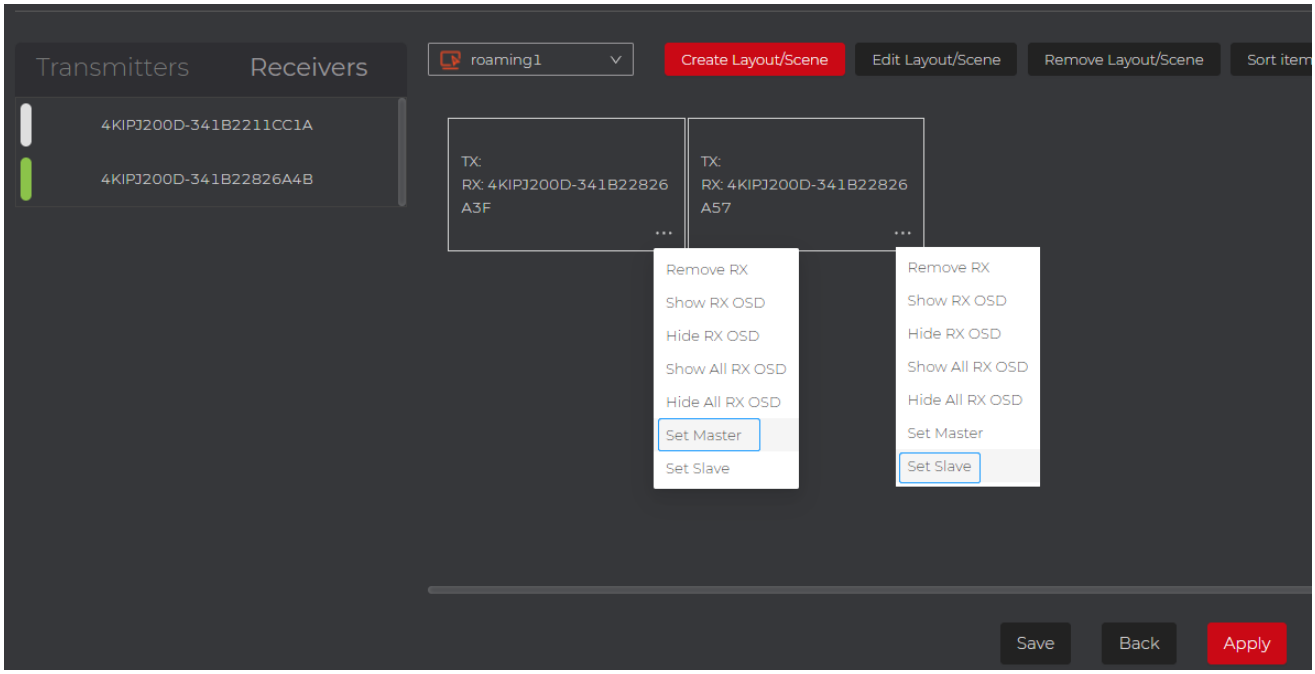
4. Create a new layout for the video wall.
   a) Select “Create layout/Scene” > fill in the Layout/Scene Name field > select “Mouse Roaming” > “OK”.



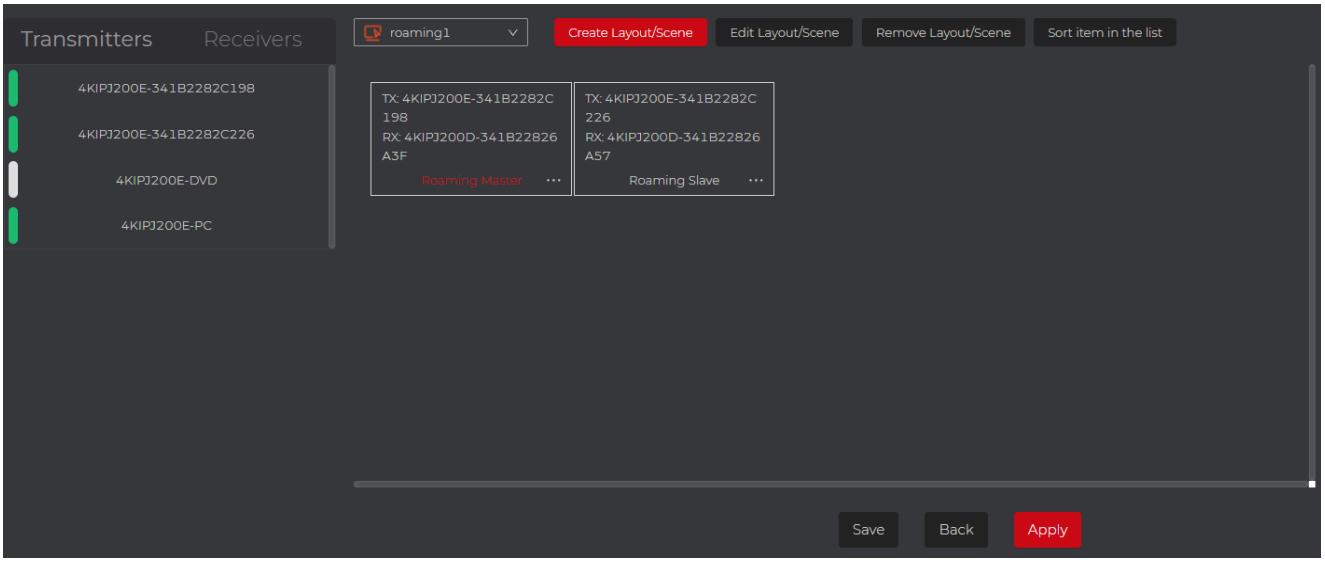
5. Drag over desired decoders from the Receivers list that are to form the roaming wall to the central area.



6. Set up Master and Slave respectively.
   a) Click the "…" icon of the decoder to which the mouse and keyboard are connected, select "Set Master".
   b) Click the "…" icon of another decoder, select "Set Slave".



7. Click "Save" & "Apply" > reboot the roaming master, the mouse roaming setup will be completed successfully.

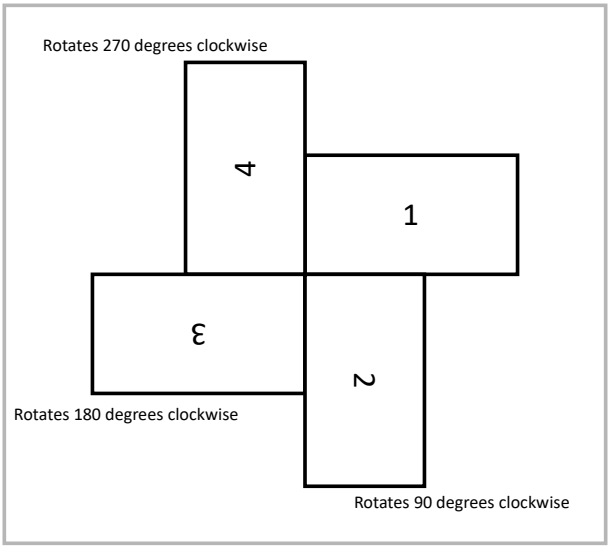


Note: One decoder can be used in one video wall only.

Mosaic Video Wall

Here is how to create a Mosaic Video Wall.

1. Establish a physical video wall.
   This section takes the 2 x 2 mosaic style video wall for example.

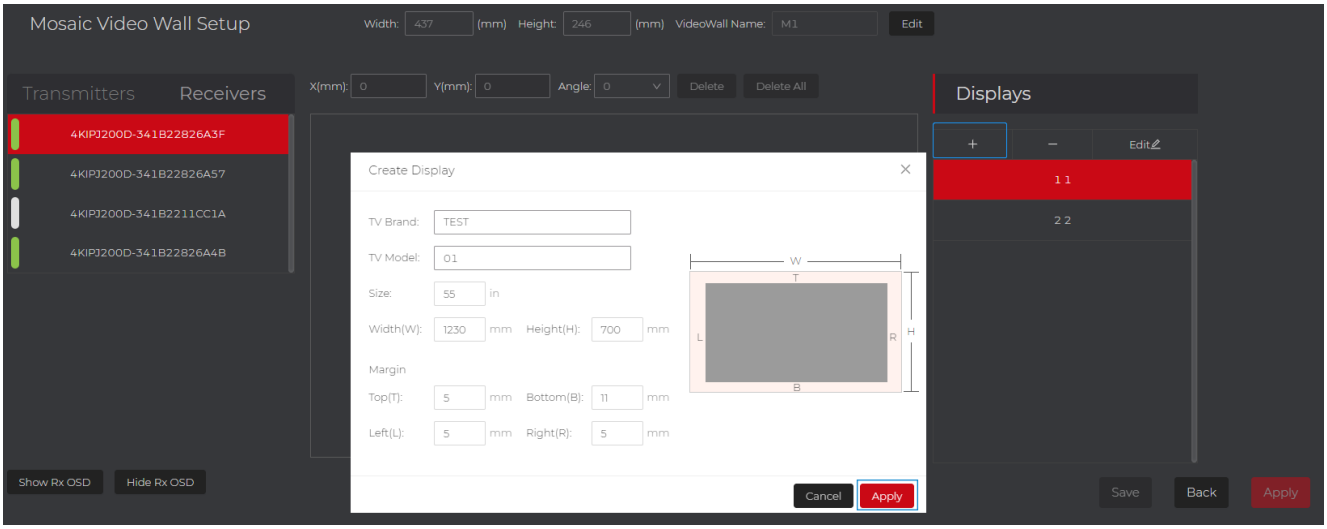


2 x 2 Mosaic Video Wall

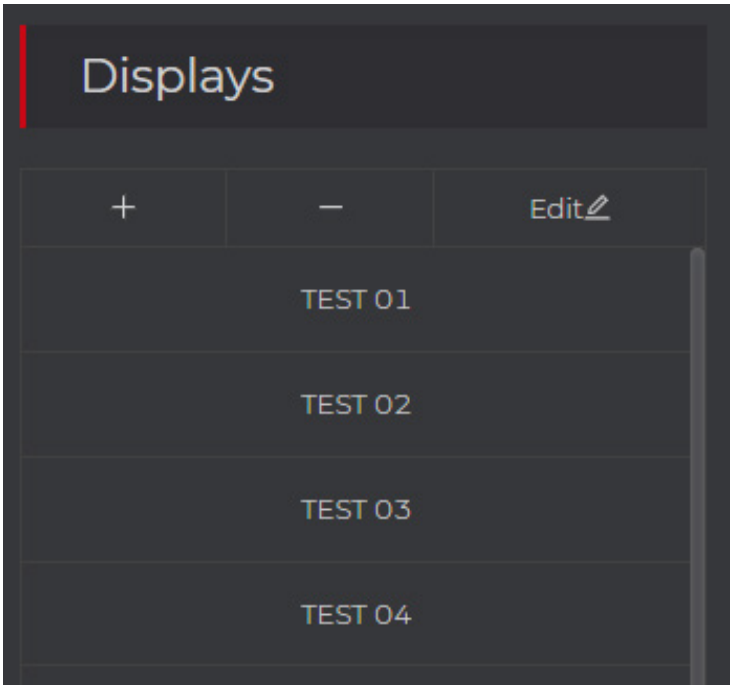
2. On the controller's web UI page, locate the Video Wall tab > tap "+ Create a new Video Wall" > select "Create a Mosaic Video Wall".
3. Define the width and height of the canvas, as well as the video wall name, tap "Create" to proceed.
   In this example, the width and height are *4370*mm and *2460*mm respectively.



4. Create logical displays for the video wall.
   In the "Displays" List, select "+" to open the "Create Display" window > fill in the dialog box with display information > "Apply".

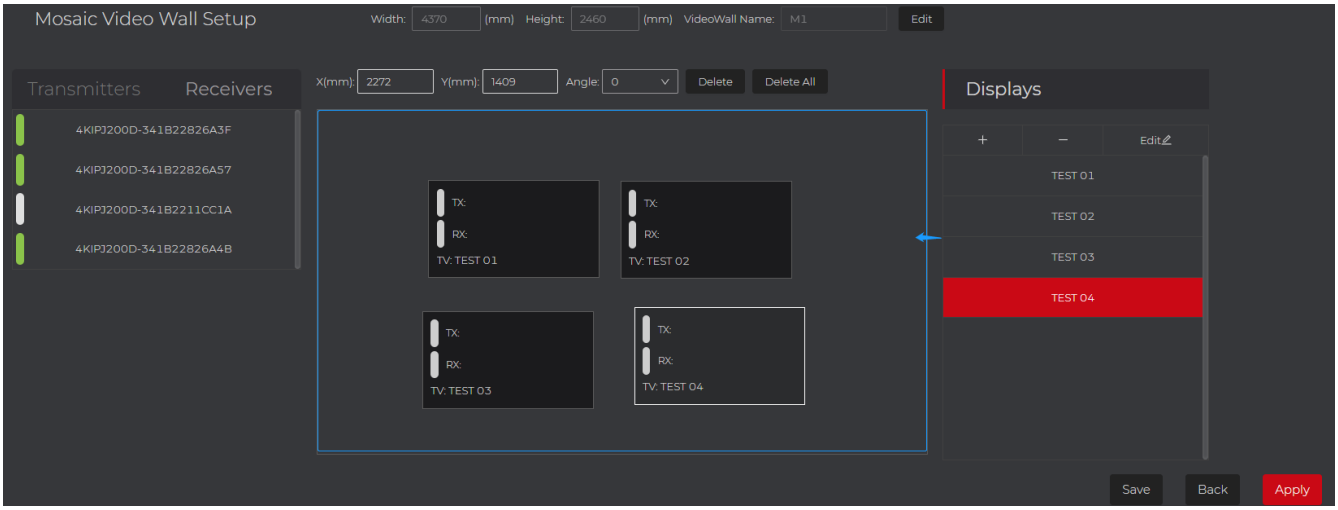


After a logical display is created, it emerges in the “Displays” list. Repeat this step until all required displays are created.



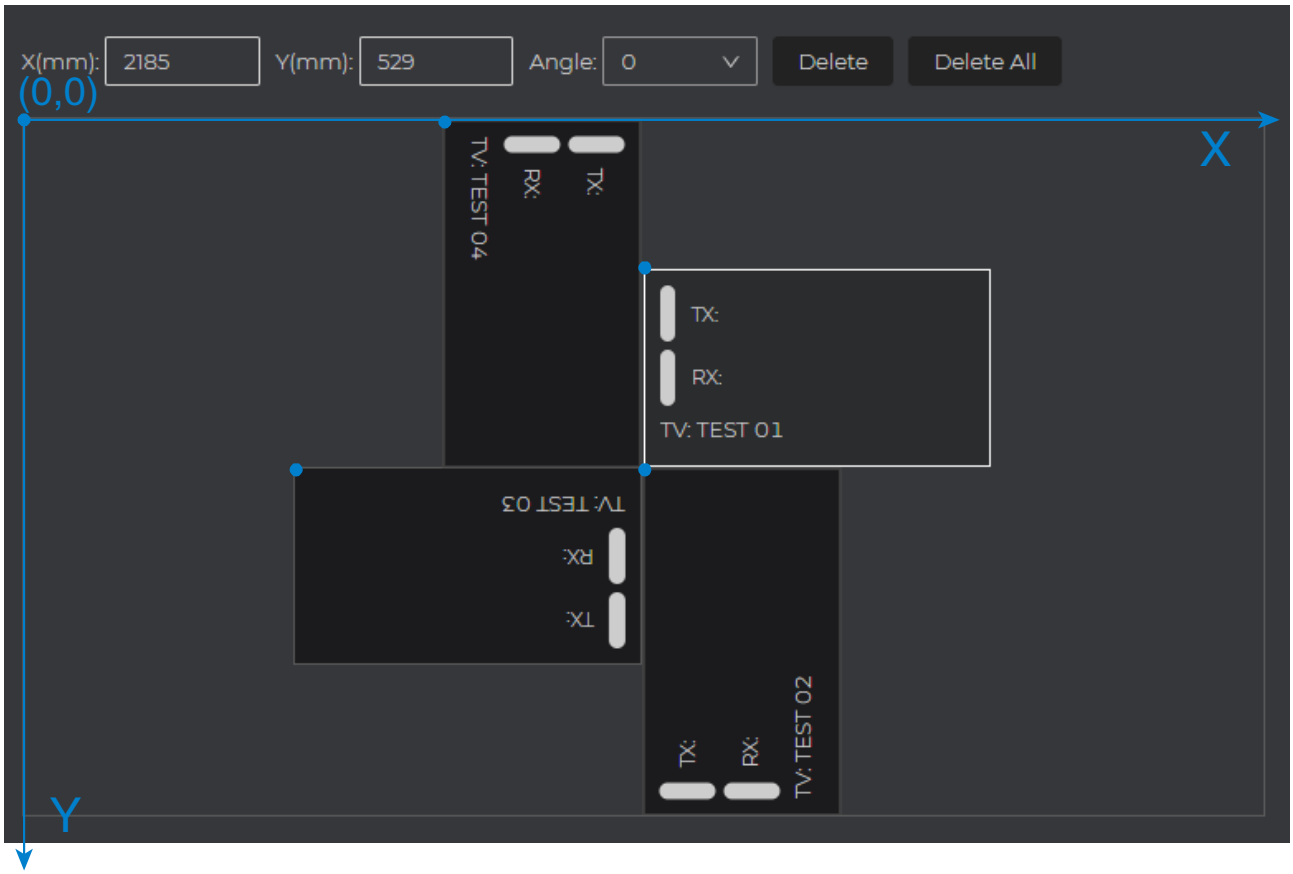
- +: Click to add a new logical display.
- Edit: Click to modify the information of the selected logical display.
- -: Click to delete the selected logical display.

5. Drag and drop specified displays from “Displays” list to the canvas.

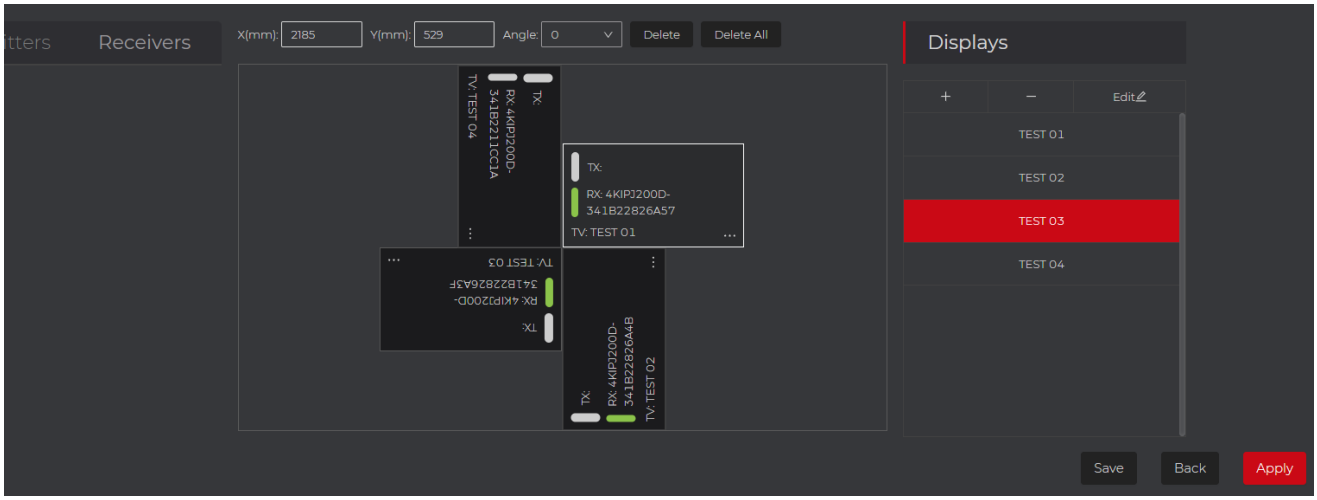


6. Define the position on the canvas and clockwise rotation angle for each display, which include the following parameters:
   - X (mm): Indicates the abscissa on the top left-hand corner of the selected display on the canvas. The canvas takes the top left-hand corner location as the vertex (0,0).
   - Y (mm): Indicates the ordinate on the top left-hand corner of the selected display on the canvas. The canvas takes the top left-hand corner location as the vertex (0,0).
   - Angle: Provides four clockwise rotation angles of 0°, 90°, 180° and 270°.
   - Delete: Remove the selected display screen from the canvas.
   - Delete All: Remove all display screens from the canvas.

   In this example, rotation agnles and coordinates for displays 01-04 are 0, 90, 180, and 270 degrees as well as (2185,530), (2185,1230), (955,1230) and (1485,0) respectively.

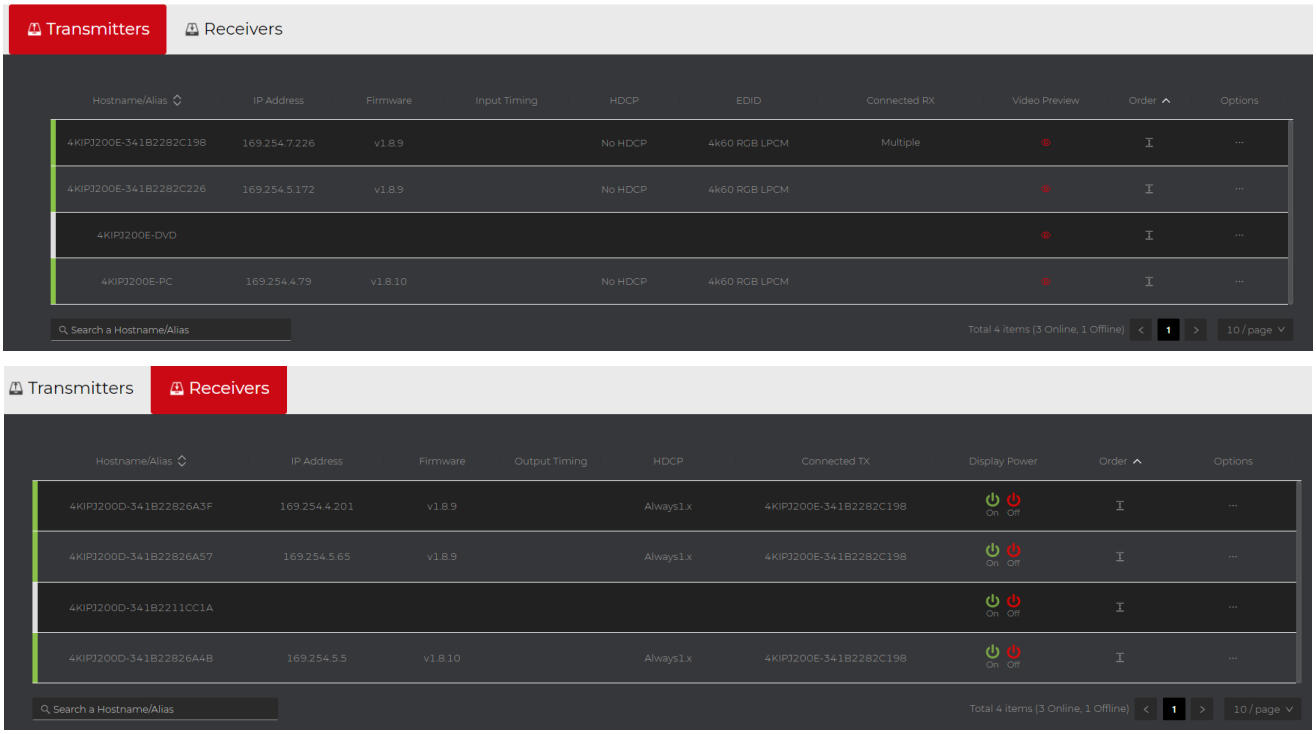


7. Drag over the decoders from the “Receivers” list to the associated displays, click “Apply” to complete the mosaic video wall setup.



8. Assign an encoder from the “Transmitter” list to the mosaic video wall. Now you can explore and enjoy the peculiar enchantment of mosaic video walls.

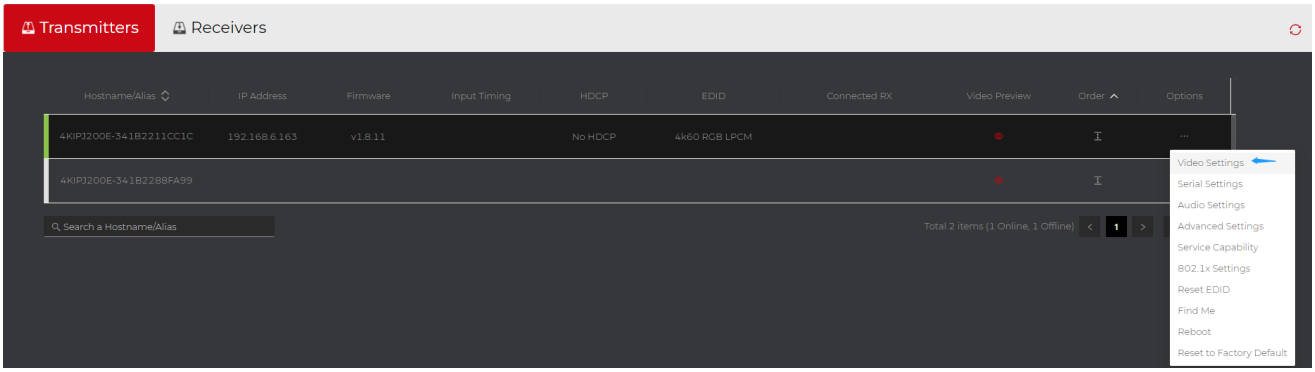
Device Status



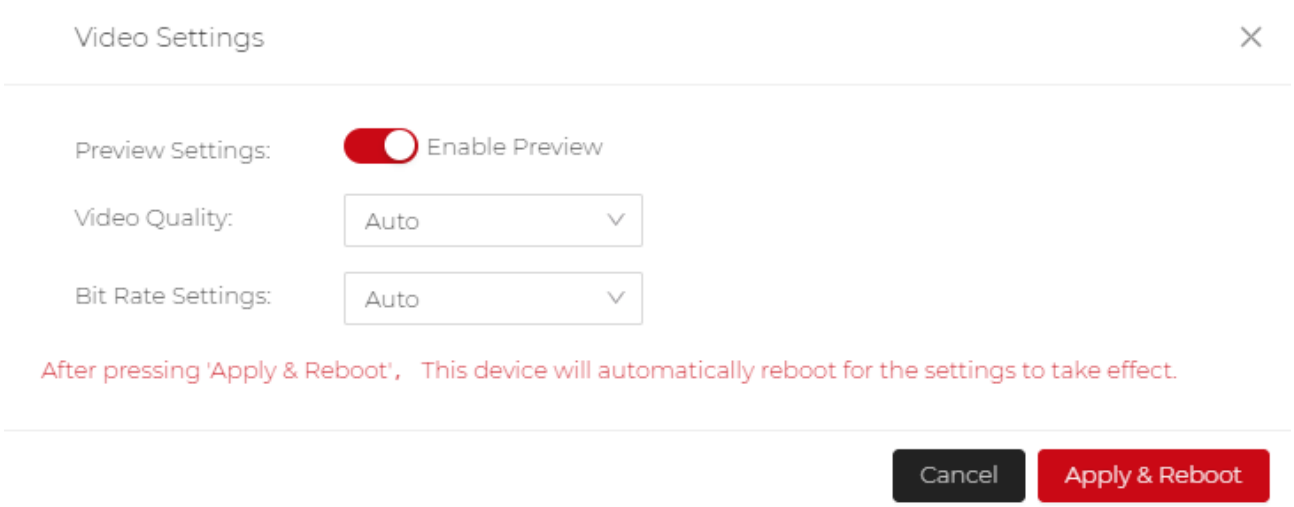
This page provides status information and general configuration items of encoders and decoder.

Video Settings

The Video Settings item allows for video-related adjustments, such video mode, bandwidth, timing, etc.
To perform video settings, click the option button ··· of an encoder or a decoder in the “Transmitter”/”Receiver” tab and select “Video Settings” within the context menu.



Video Settings of JPEG2000 Encoders



- Preview Settings: When enabled, it allows users to preview the video stream.

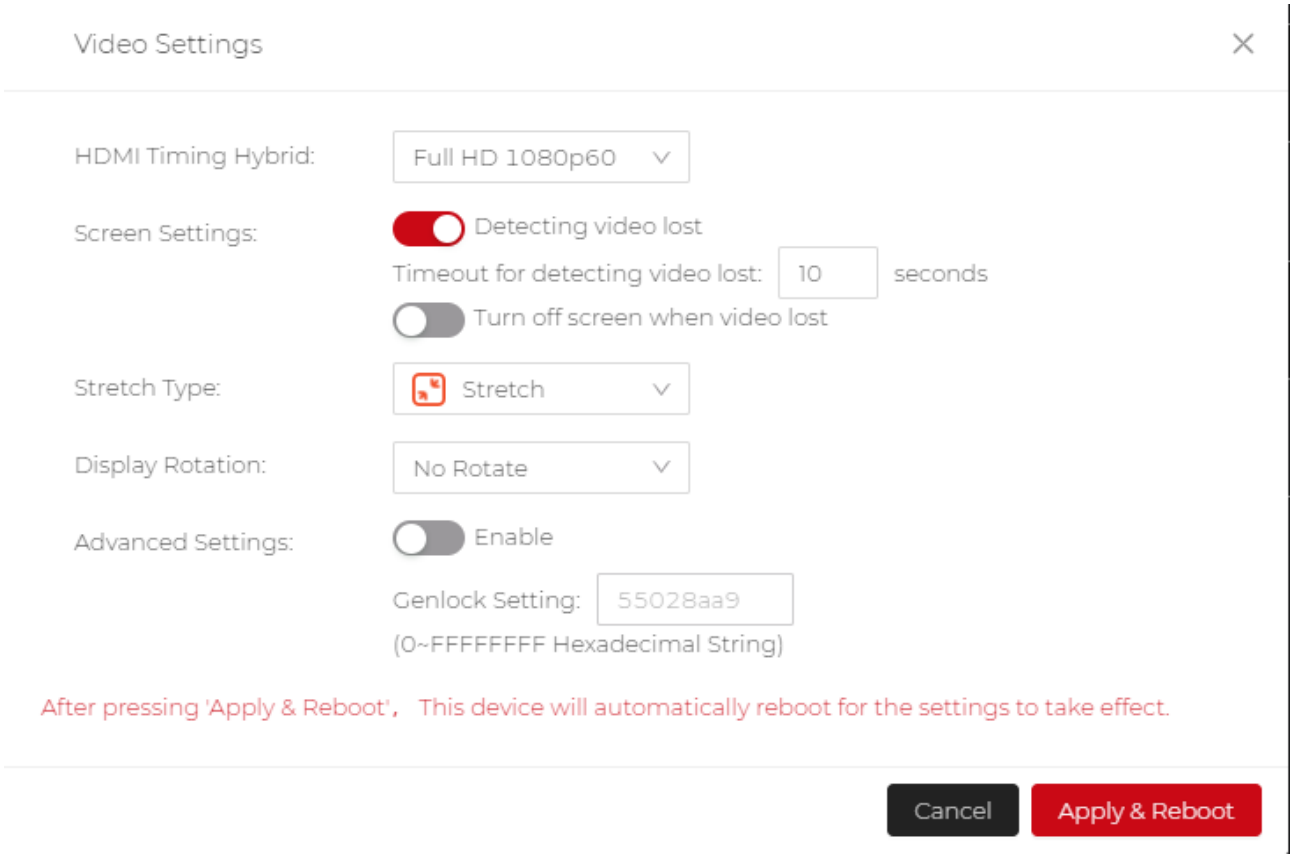
Default setting: Enable

- Video Quality: JPEG2000 series encoders offer video quality setting that can be manually adjusted to a value that ranges from 0 to 5.
  - ⇨ "0" corresponds to the best and "5" corresponds to the worst.
  - ⇨ Auto: Allows the encoder to decide which value to assign dynamically to adapt to the video stream to be transmitted.

  Default setting: Auto
- Bit Rate Settings: JPEG2000 series encoders offer video bit rate setting that can be adjusted manually to a value that ranges from 10Mbps to 200Mbps or be adapted dynamically.
  - ⇨ Auto: Allows the encoder to adjust the video bit rate dynamically that doesn't exceed 800Mbps to adapt to the video stream to be transmitted.

  Default setting: Auto
- Apply & Reboot: Click to apply the video setting change and reboot the device immediately.

Video Settings of JPEG2000 Decoders



- HDMI Timing Hybrid: Select the HDMI output timing from the drop-down menu.

Available Options:

⇨ Pass-through: The output timing may vary dynamically based on the video received.

⇨ fixed timing: Ultra HD 2160p60 / Ultra HD 2160p50 / Ultra HD 2160p30 / Ultra HD 2160p25 / Ultra HD 2160p24 / Full HD 1080p60 / Full HD 1080p50 / Full HD 1080p30 / Full HD 1080p25 / Full HD 1080p24 / HD 720p60 / HD 720p50 / HD 720p30 / HD 720p25 / HD 720p24

Default Setting: Pass-through

- Screen Settings:

⇨ Detecting video lost: When enabled, the decoder will automatically detect if the video signal is lost.

Default setting: Enable

⇨ Timeout for detecting video lost: The timeout for detecting video lost in seconds.

Default setting: 10 seconds

⇨ Turn off screen when video lost: When enabled, the decoder will turn off the attached screen after the timeout for detecting video lost.

Default setting: Disable

Note: Ensure “Detecting video lost” function is enabled before you intend to use this function.

- Stretch Type: This can be used to adjust the behaviours of the decoder when the attached display’s aspect ratio is different from that of the video source.

⇨ Fill: The video fills the screen with aspect ratio remains unchanged, while part of it may not be displayed on screen.

⇨ Stretch: The video stretches to the utmost within the screen while whose aspect ratio may change.

Original View	
Fill View	
Stretch View	

- Display Rotation: The decoder video output can be rotated for mounting the attached displays in portrait or landscape orientation.
  Available options: No Rotate / 180 Degree / 270 Degree
  Default setting: No Rotate
- Advanced Settings: For Genlock settings.
  Default setting: Disable
  Note: It is recommended that you leave the default settings here in case any exception occurs. If you have any question about this function, please contact with vendor for further technical support.
- Apply & Reboot: Click to apply the video setting change and reboot the device immediately.

Audio Settings

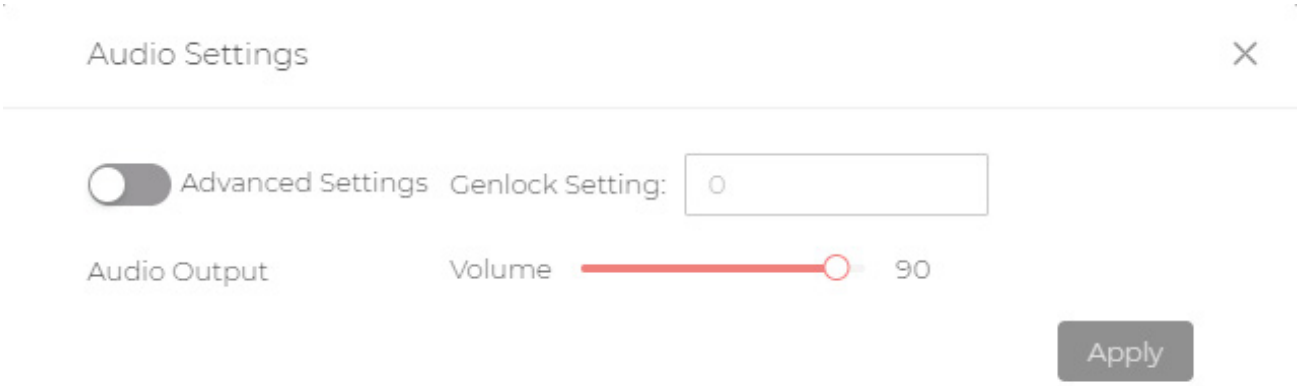
The Video Settings item allows for the audio-related adjustments.
To perform video settings, click the option button ··· of an encoder or a decoder in the "Transmitter"/"Receiver" tab and select "Audio Settings" within the context menu.

Audio Settings of JPEG2000 Encoders



- Audio Output Volume: For volume adjustment of audio output.
  Default setting: 90

Audio Settings of JPEG2000 Decoders



- Advanced Settings: For Genlock settings.

Default setting: Disable

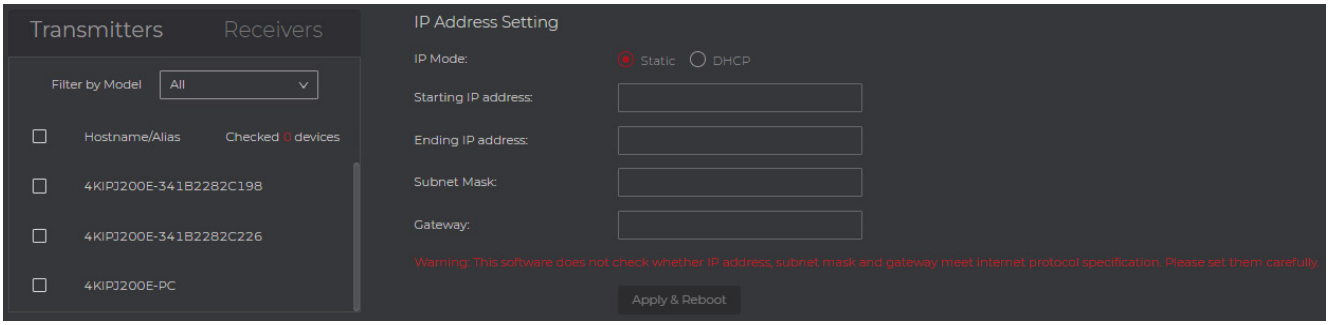
Note: It is recommended that you leave the default settings here in case any exception occurs. If you have any questions about this function, please contact with vendor for further technical support.

- Audio Output Volume: For volume adjustment of audio output.
  Default setting: 90

Batch Operation

This page is for batch configurations of encoders and decoder in terms of IP address, video, audio, image, serial, EDID, security, firmware, firmware, etc.

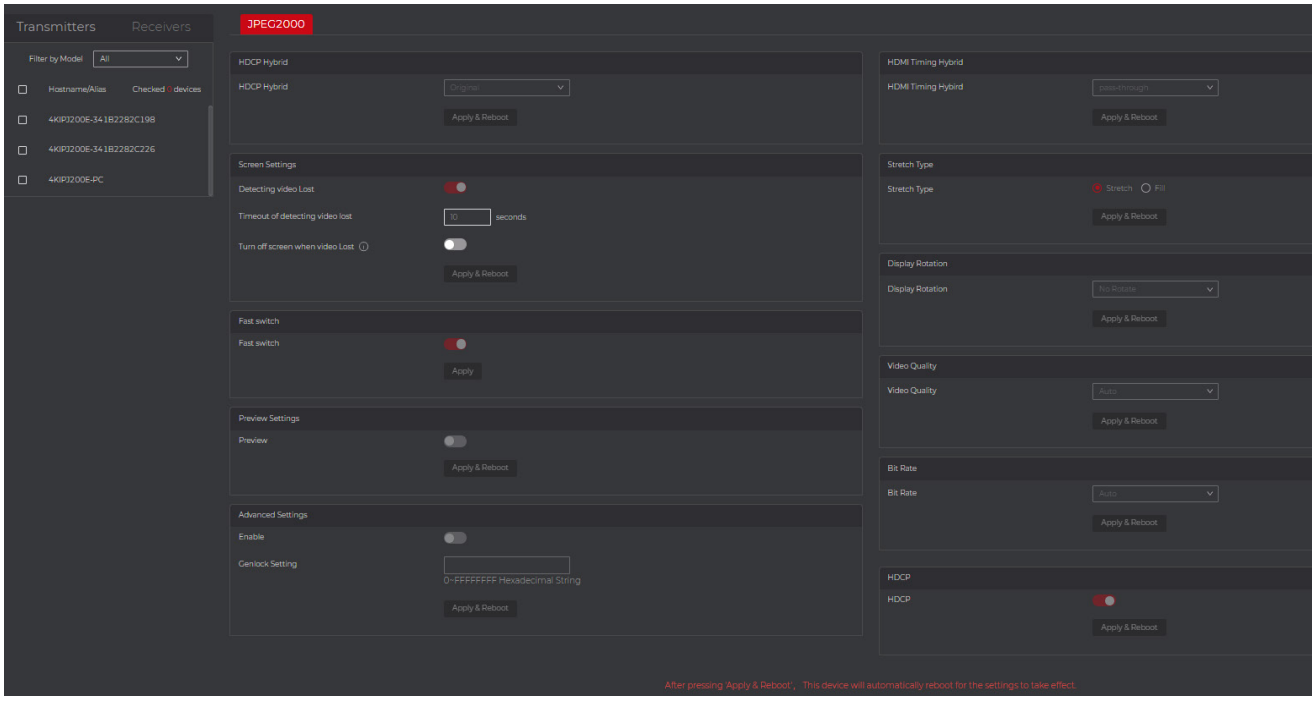
IP Address



Here is how to perform batch setting of IP addresses for multiple devices:

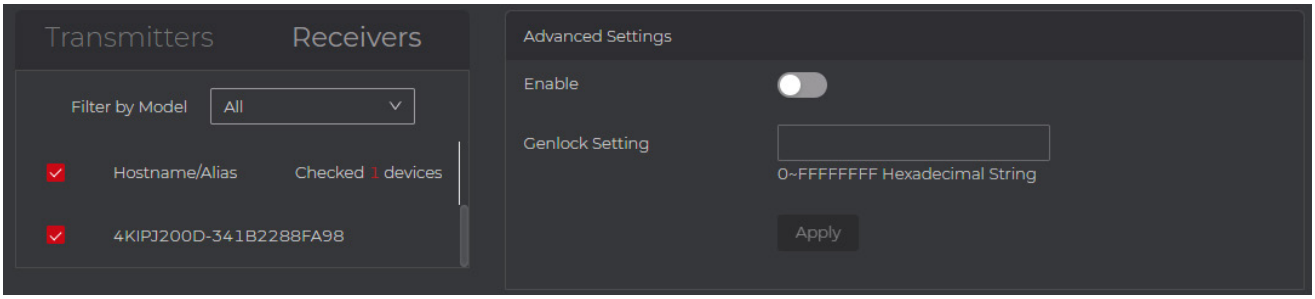
1. Select desired encoders or decoders from the “Transmitters”/”Receivers” list.
2. If the IP mode is set as DHCP, each device will obtain a valid IP address dynamically from the DHCP server; if Static is selected, you need to fill in the “Starting IP address”, “Ending IP address”, “Subnet Mask” and “Gateway” fields.
   IMPORTANT:
   - ✓ Since the controller doesn’t verify the validity of the IP address setting items above, please fill in the information with caution.
   - ✓ Recommended range for IP addresses is between XXX.XXX.XXX.2 ~ XXX.XXX.XXX.253.
   - ✓ The total IP address number shall not be less than the actual device quantity, otherwise exceptions will occur.

Video



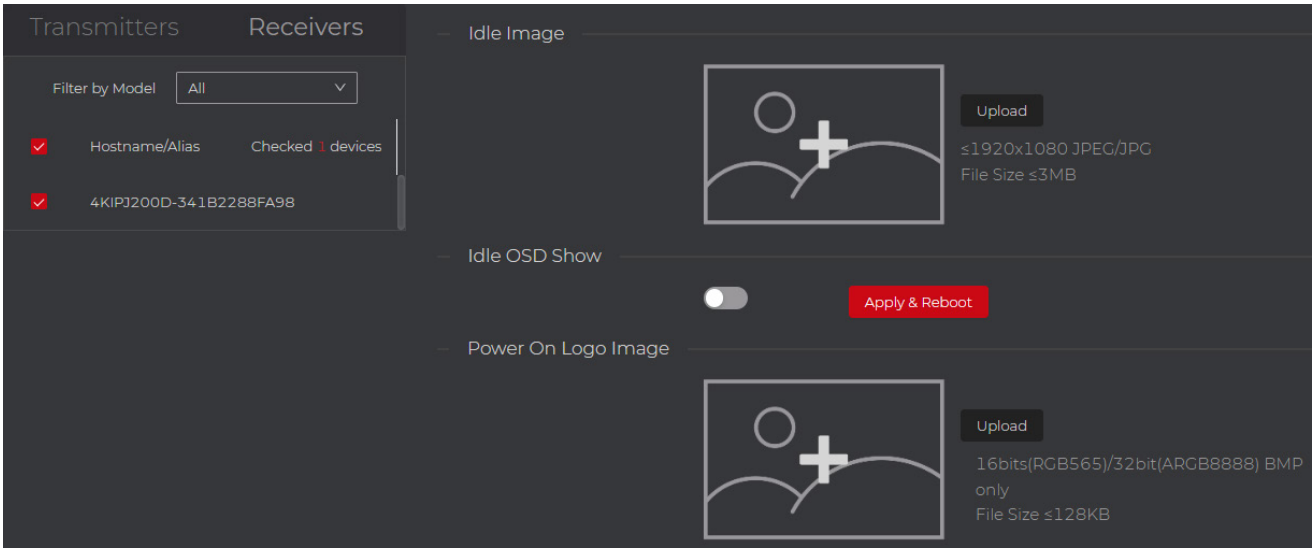
For more information about video settings, please refer to section Video Settings of JPEG2000 Encoders and Video Settings of JPEG2000 Decoders.

Audio



For more information about video settings, please refer to section Audio Settings of JPEG2000 Encoders and Audio Settings of JPEG2000 Decoders.

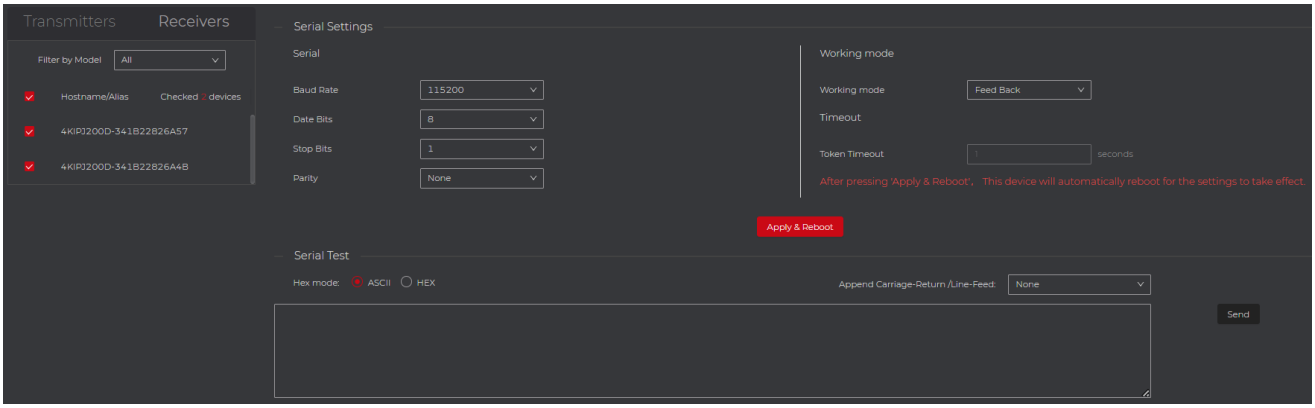
Image



This page is for settings of idle image and splash image on decoders.

- Idle Image: To configure an image for the decoder that enters standby state to output.
- Idle OSD Show: If enabled, the decoder outputs OSD information in the condition that it enters standby state.
- Power On Logo Image: To configure a splash image for the decoder when the decoder is powered on.

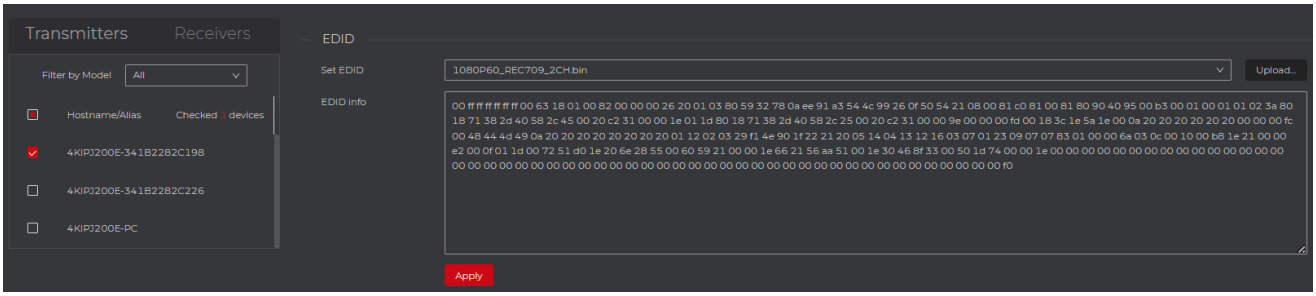
Serial



The page is for settings of serial parameters and commands.

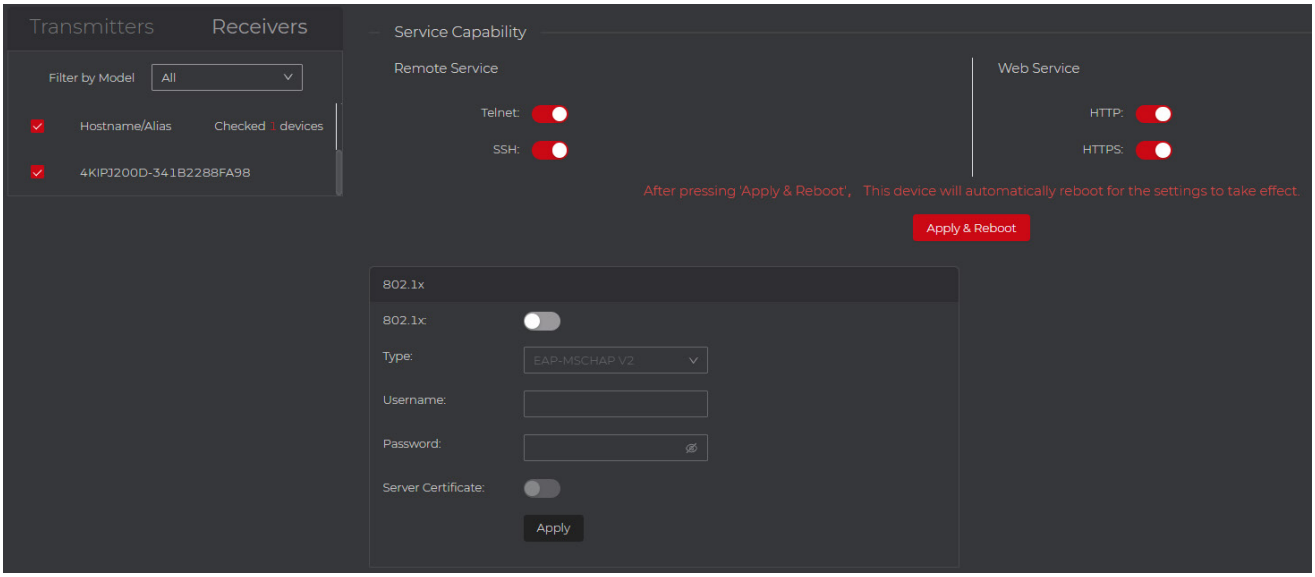
- Serial: For settings of serial parameters.
- Working mode:
  - Feed Back: The selected encoder(s) or decoder(s) will communicate with the controller through RS232 ports.
  - Pass-through: For bidirectional RS232 communication between the associated encoders and decoders.
- Token Timeout: In Pass-through mode, you need to define the token timeout. Default token timeout is 1 second. If an encoder is associated with multiple decoders, the first decoder that sends data to the encoder's serial port will be granted the token and authorized to communicate with the encoder. The token expires when this decoder is inactive for a defined period of time, after which another decoder can obtain this token and route to the encoder.
- Serial Test: Type serial command in the textbox and tap "Send", it will be sent to the selected device through RS232 ports.

EDID



This page is for importing EDID to encoders.

Security



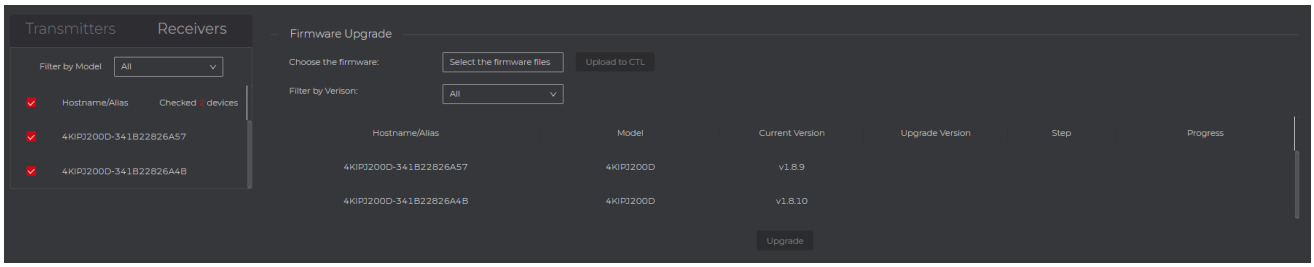
This page is for settings of security protocols.

- Remote Service:
  - Telnet:
    - ⇨ Enable：To enable telnet to establish an open and insecure connection to the device(s) (on port 23 by default), which allows selected device(s) to send/receive API commands to/from the computer.
    - ⇨ Disable: To disable telnet service.
  - SSH:
    - ⇨ Enable: To enable SSH to establish an encrypted and secure connection to the device(s) (on port 10022 by default).
    - ⇨ Disable: To disable SSH service.
- Web Service:
  - HTTP: To provide an open and unencrypted access to the web server of the device(s) on port 80.

- HTTPS: To provide an encrypted and secure access to the web server of the device(s) on port 443.

- 802.1x:
  802.1x is a port-based protocol that uses RADIUS server to authenticate devices which ensures certain devices (clients) are granted access to a network.
  Two authentication types are provided: EAP-MSCHAPV2 and EAP-TLS. EAP-MSCHAPV2 requires a Username and a Password to authenticate a device; while EAP-TLS requires a Username, a CA certificate, a client certificate, a private key and a private password to be uploaded.

Firmware



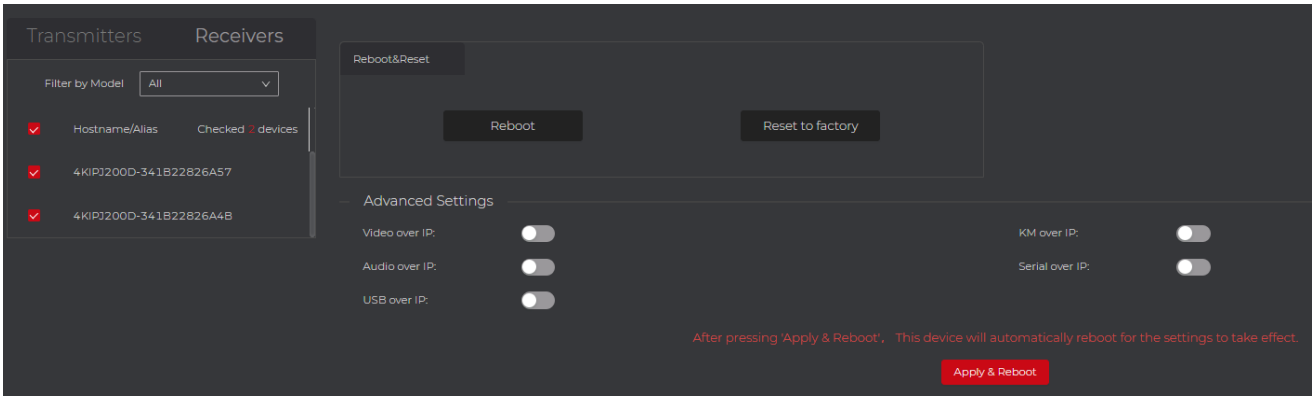
To perform firmware upgrade:

1. Select target device(s) from “Transmitters” or “Receivers” list.
2. Click “Select the firmware files” to browse for the local firmware upgrade file, select “Upload to CTL” to upload the file to the selected devices.

IMPORTANT: Make sure the file name conforms to the format of *[model.version].bin* (e.g. 4KIPJ200D_v1.8.10.bin), otherwise upgrade may fail.

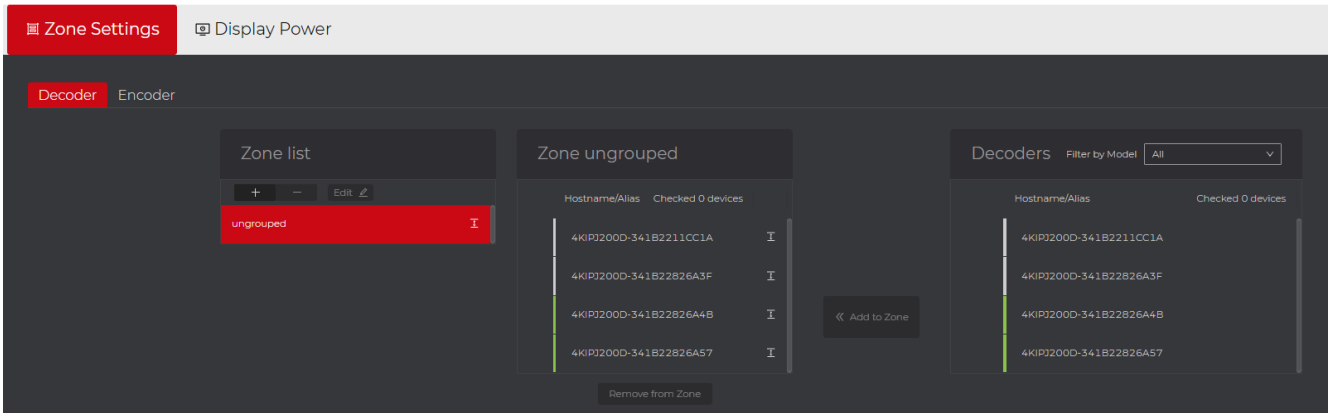
3. Click “Upgrade” to perform upgrade process, which will take a few seconds. The devices will reboot once upgrade is complete.

Others



This page is for settings of reboot, reset and advanced items.

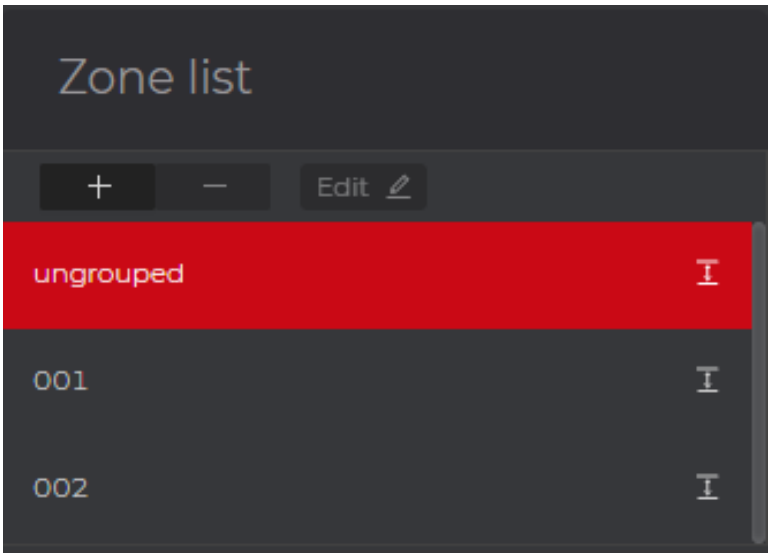
Group



This page is for managing groups and configurating commands to control attached displays on/off, so that you can use VisusalM app to control encoders and decoders in a visualize and convenient way.

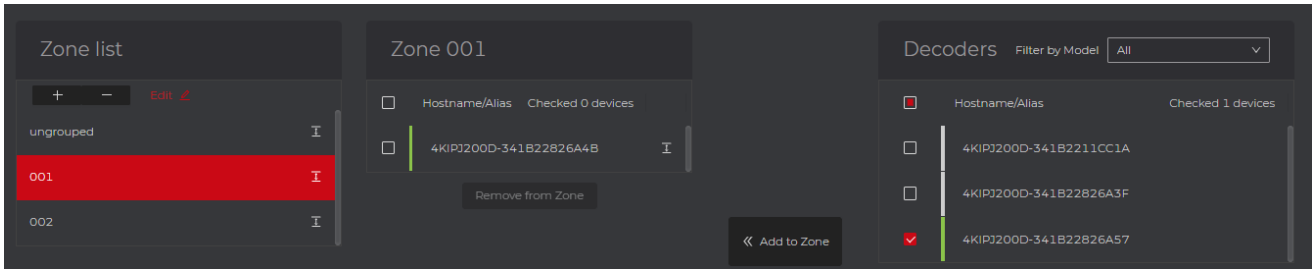
Zone Settings

- +: Click to create a new group.
- -: Click to delete the selected group.

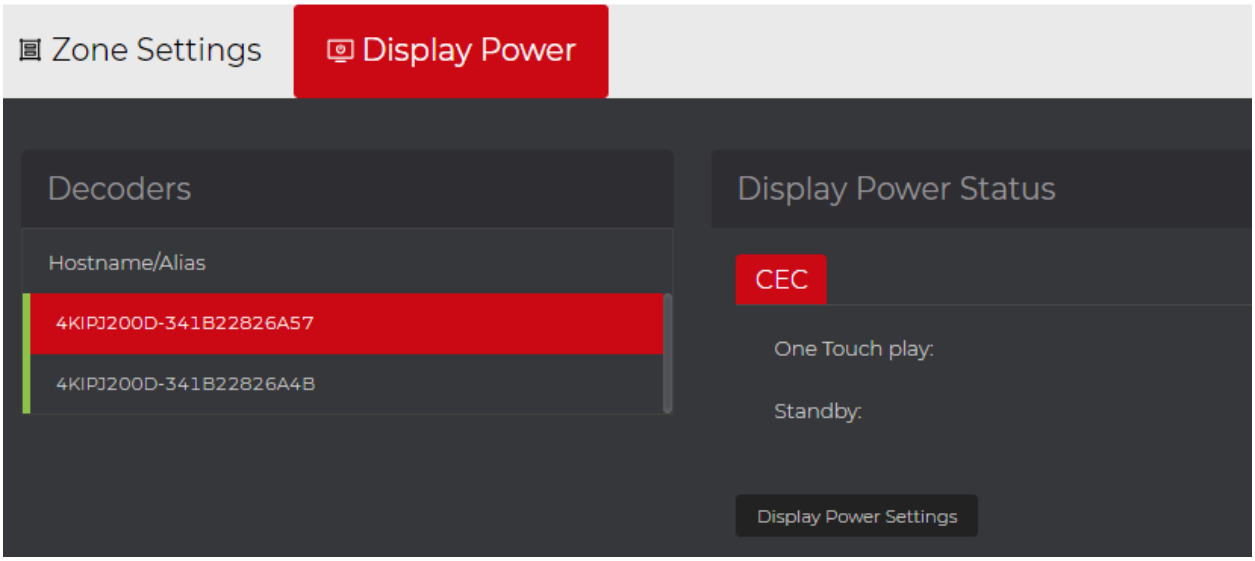


To add certain decoders to a group:

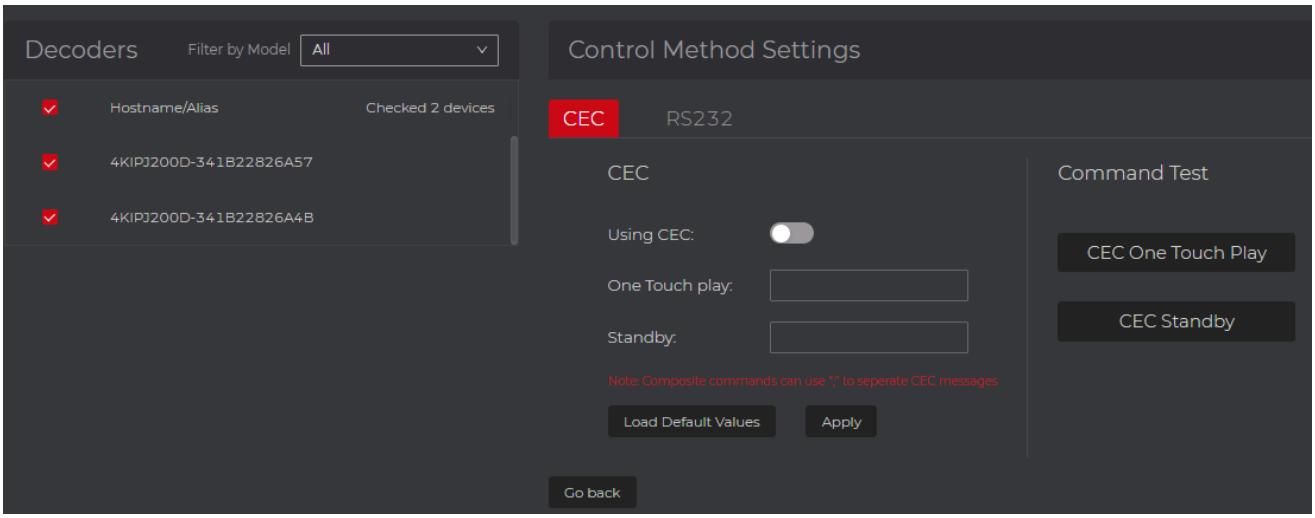
1. Select a group from “Zone list”.
2. Select target decoder(s) from “Decoders” list, tap “<< Add to Zone”. The decoder(s) will appear in the corresponding group.



Display Power

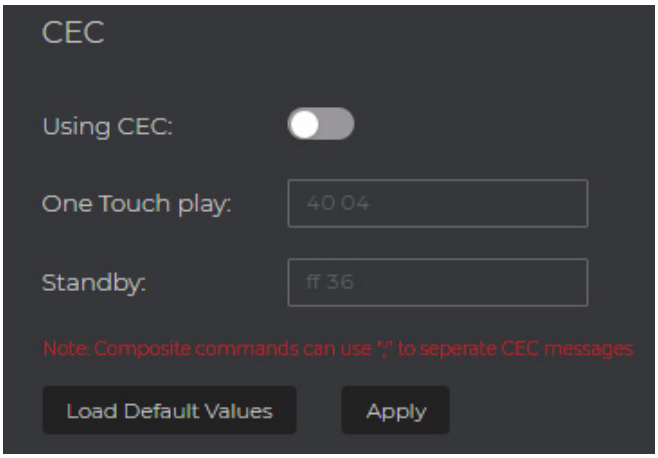


In this page, select “Display Power Settings” to access configuration page.



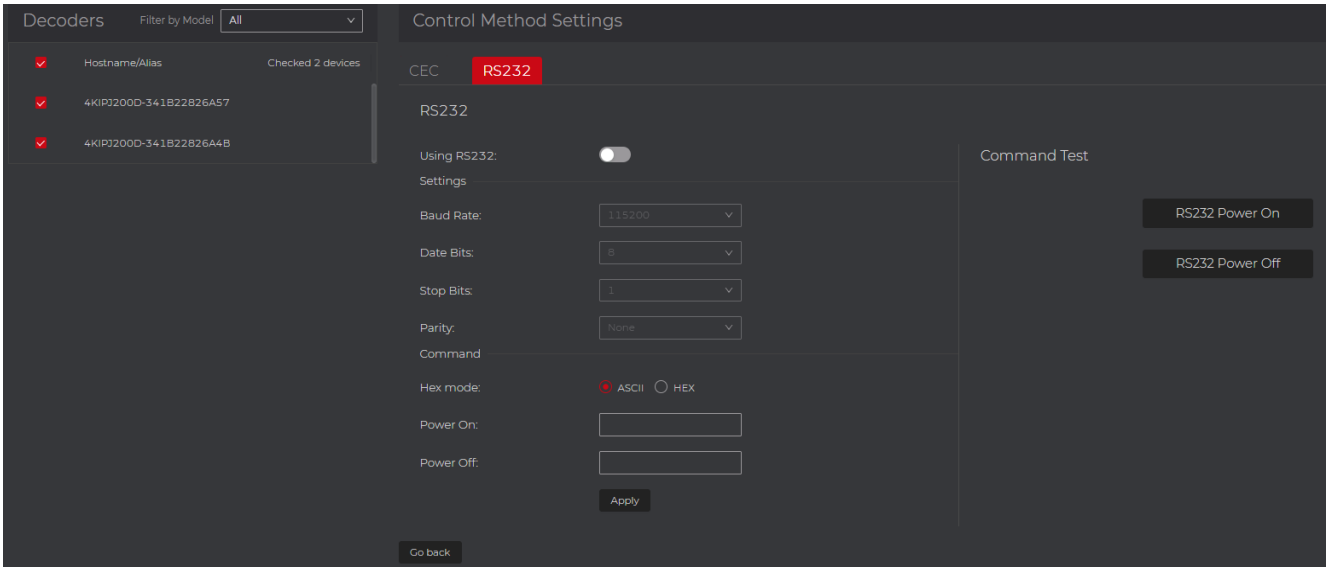
CEC Setting

- Using CEC: If enabled, the attached displays can be controlled through CEC commands.
- One Touch Play: Input the command to wake the display up from standby state.
- Standby: Input the command to make the display enter standby state.
- Load Default Values: To load the default values of One Touch Play and Standby fields, which read as the following:



- Apply: Click to apply settings above.
- Command Test: Click “One Touch Play”/”Standby” to test if the corresponding CEC command that controls the attached display is sent to the display successfully.

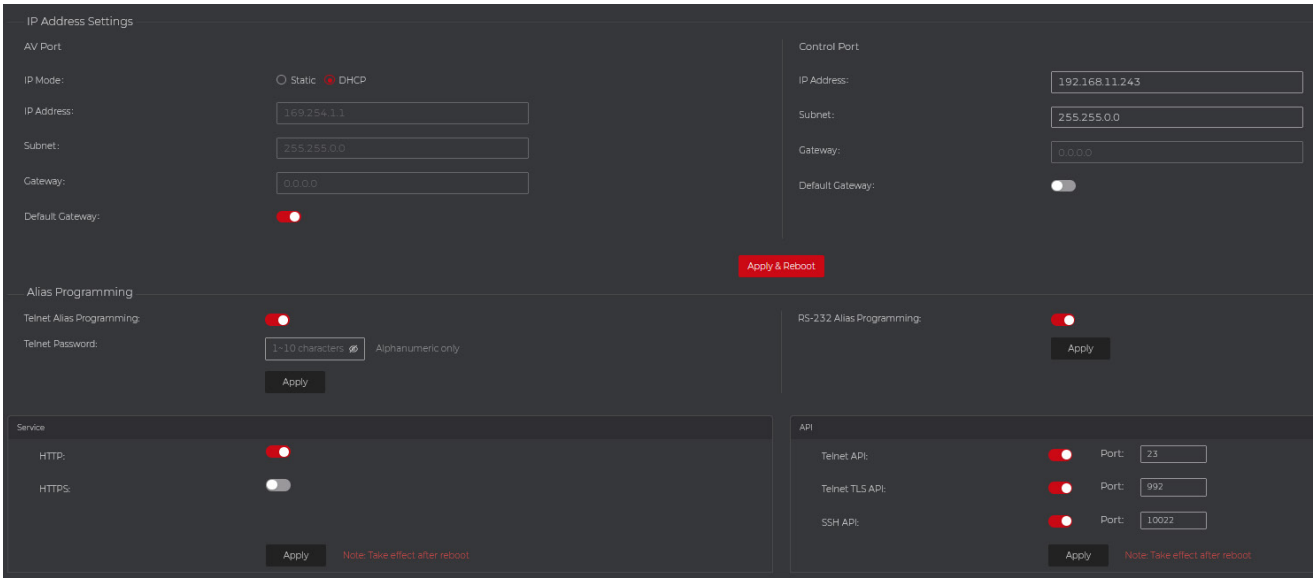
RS232 Setting

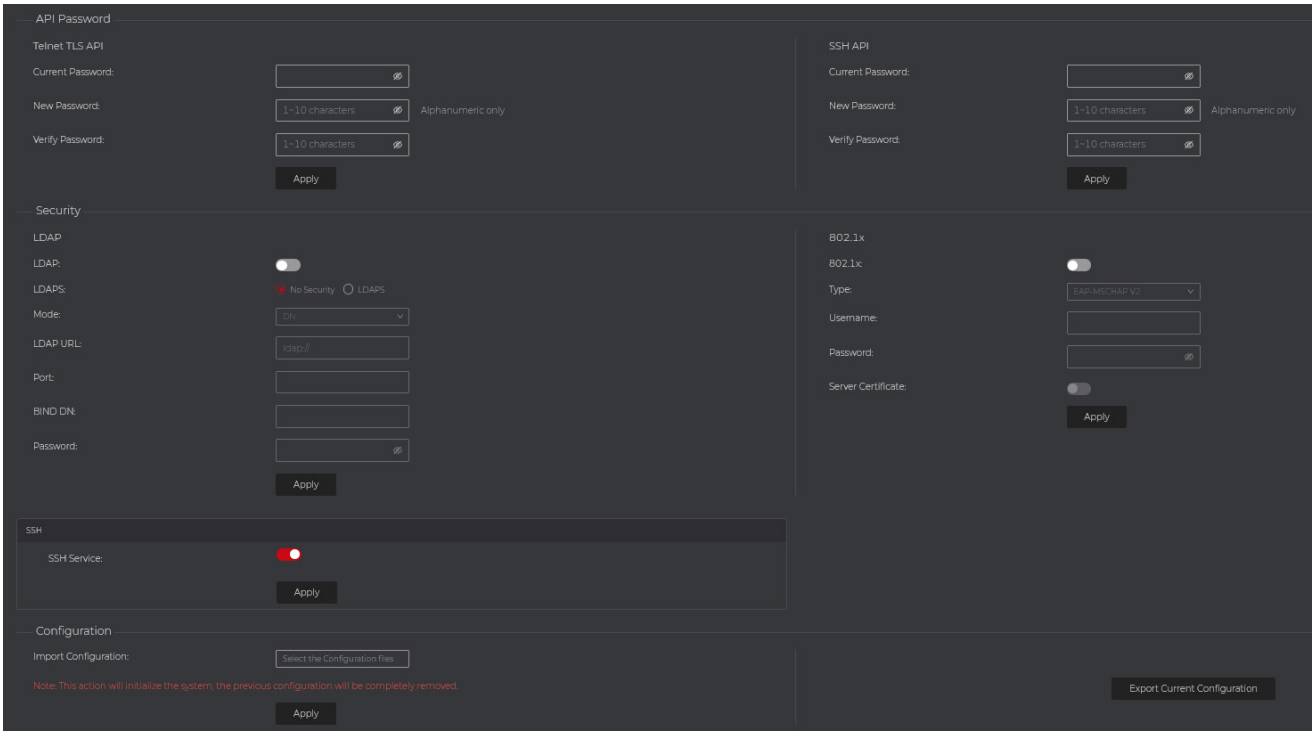


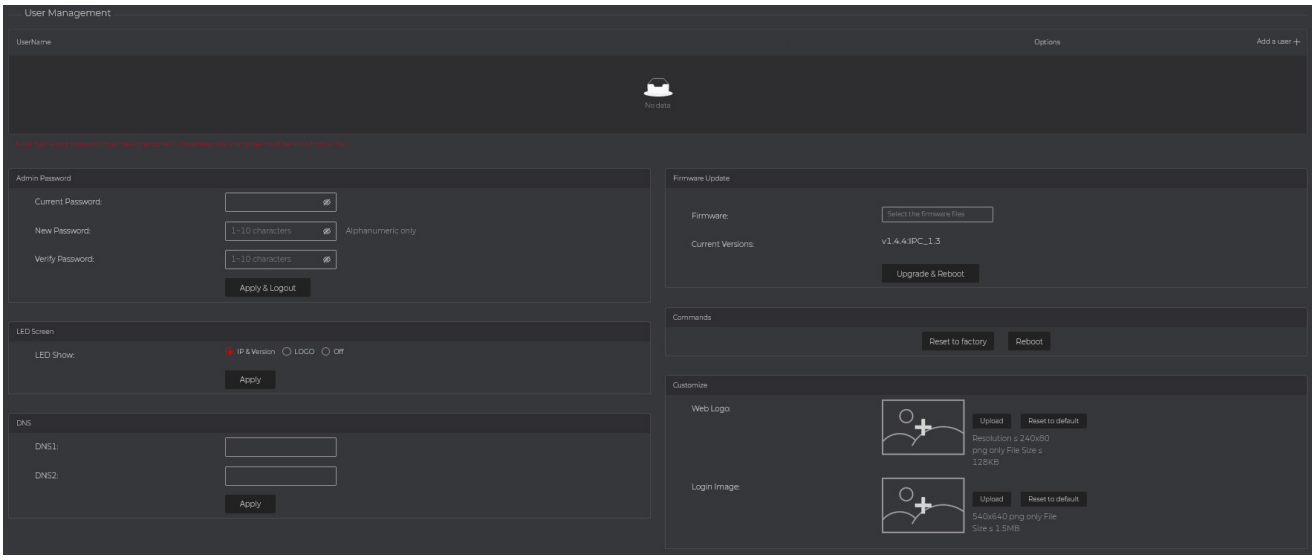
- Using RS232: To enable RS232 control of the attached display.
- Settings: Fill in the value of the serial parameters as required.
- Command: Select the command format and enter serial commands that control the attached display on and off.
- Apply: Click to apply settings above.
- Command Test: Click “RS232 Power On”/”RS232 Power Off” to test if the corresponding serial command is sent to the display successfully.

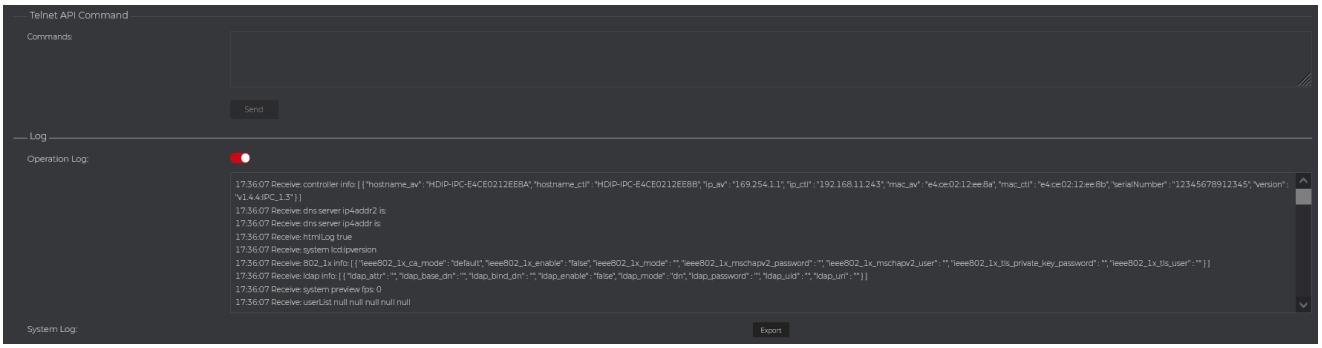
Controller

This page is for management and configuration of the controller regarding IP address, alias name, service, security, login password, firmware upgrade, etc.




API Password
Telnet TLS API
Current Password:
New Password:
1~10 characters
Alphanumeric only
Verify Password:
1~10 characters
Apply
SSH API
Current Password:
New Password:
1~10 characters
Alphanumeric only
Verify Password:
1~10 characters
Apply
Security
LDAP
LDAP:
LDAPS:
No Security
LDAPS
Mode:
DN
LDAP URL:
ldap://
Port:
BIND DN:
Password:
Apply
802.1x
802.1x:
Type:
EAP-MSCHAP V2
Username:
Password:
Server Certificate:
Apply
SSH
SSH Service:
Apply
Configuration
Import Configuration:
Select the Configuration files
Note: This action will initialize the system, the previous configuration will be completely removed.
Apply
Export Current Configuration


User Management
UserName
Options
Add a user
No data
Admin Password
Current Password:
New Password:
1~10 characters
Alphanumeric only
Verify Password:
1~10 characters
Apply & Logout
Firmware Update
Firmware:
Select the firmware files
Current Versions:
v1.4.4.IPC_1.3
Upgrade & Reboot
LED Screen
LED Show:
IP & Version
LOGO
Off
Apply
Commands
Reset to factory
Reboot
DNS
DNS1:
DNS2:
Apply
Customize
Web Logo:
Upload
Reset to default
Resolution ≤ 240x80
png only File Size ≤ 128KB
Login Image:
Upload
Reset to default
540x640 png only File Size ≤ 1.5MB


Telnet API Command
Commands:
Send
Log
Operation Log:
17:36:07 Receive: controller info: [{ "hostname_av" : "HDIP-IPC-E4CE0212EE8A", "hostname_ctl" : "HDIP-IPC-E4CE0212EE8B", "ip_av" : "169.254.1.1", "ip_ctl" : "192.168.11.243", "mac_av" : "e4:ce:02:12:ee:8a", "mac_ctl" : "e4:ce:02:12:ee:8b", "serialNumber" : "12345678912345", "version" : "v1.4.4.IPC_1.3" }]
17:36:07 Receive: dns server ip4addr2 is:
17:36:07 Receive: dns server ip4addr is:
17:36:07 Receive: htmlLog true
17:36:07 Receive: system lcdipversion
17:36:07 Receive: 802_1x info: [{ "ieee802_1x_ca_mode" : "default", "ieee802_1x_enable" : "false", "ieee802_1x_mode" : "", "ieee802_1x_mschapv2_password" : "", "ieee802_1x_mschapv2_user" : "", "ieee802_1x_tls_private_key_password" : "", "ieee802_1x_tls_user" : "" }]
17:36:07 Receive: ldap info: [{ "ldap_attr" : "", "ldap_base_dn" : "", "ldap_bind_dn" : "", "ldap_enable" : "false", "ldap_mode" : "dn", "ldap_password" : "", "ldap_uid" : "", "ldap_uri" : "" }]
17:36:07 Receive: system preview fps: 0
17:36:07 Receive: userList null null null null null
System Log:
Export



AV Access
Simplify your life