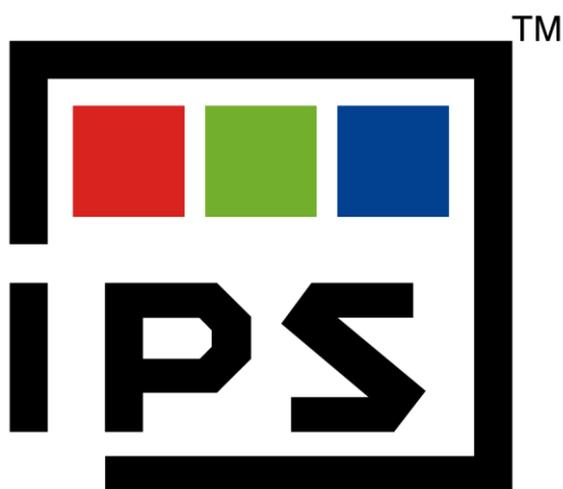




One IPS, More Applications

**4K/60Hz AV Over IP**  
**IPS-TC / IPS-TF**  
**IPS-RC / IPS-RF**  
**IPS-AC / IPS-AF**  
**IPS-M**



**The User Manual**

IPS-Series v1.9

## Installation Precaution

Please pay attention to the following points before installing and using the IPS system:

- The 10GbE Switch used with the IPS system must be from an SDVoE-certified manufacturer and model.
- Before connecting the IPS to the 10GbE Switch, you must enable the DHCP service of the Switch and confirm that the domain setting of the DHCP service is correct to ensure that the IPS is operating in the correct network environment.

## CAUTION

- Follow all instructions marked on the device during use.
- Provide proper ventilation and air circulation and do not use near water.
- It is better to keep it in a dry environment.
- Place the device on a stable surface (for example cart, stand, table, etc.).
- The system should be installed indoors only. Install either on a sturdy rack or desk in a well-ventilated place.
- Make sure the rack is level and stable before extending a device from the rack if necessary.
- Make sure all equipment installed on the rack including power strips and other electrical connectors are properly grounded.
- Only use the power cord supported by the device.
- Do not use liquid or aerosol cleaners to clean the device.
- Always unplug the power to the device before cleaning.
- Unplug the power cord during lightning or after a prolonged period of non-use to avoid damage to the equipment.
- Do not stand on any device while installing the device to the rack.
- Do not attempt to maintain the device by yourself, any faults, please contact your vendor.
- Save this manual properly for future reference.

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For Warranty:

Please follow the warranty policy according to AV LINK's local official distributor; during the warranty period, it is recommended to keep your proof of purchase, accessories, and packaging in place.

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# CHAPTER 1 OVERVIEW

---

## 1.1 Introduction

The IPS system provides a true 4K/60Hz AV over IP solution with Zero compression and Zero latency, it also includes unmatched I/O density, shared infrastructure, increased I/O flexibility, and built-in scalability. In this structure, the controller IPS-M, which is an API-based command server with the built-in web client, provides an efficient way to configure IPS system devices including IPS-TX, IPS-RX, and IPS-AX series devices. IPS-M monitors the status of each device within the network. You can easily use a PC to configure IPS devices through the web client in IPS-M.

## 1.2 IPS-TX



Figure 1-1 IPS-TF



Figure 1-2 IPS-TC

## 1.3 IPS-RX



Figure 1-3 IPS-RF



Figure 1-4 IPS-RC

## 1.4 IPS-AX



Figure 1-3 IPS-AF



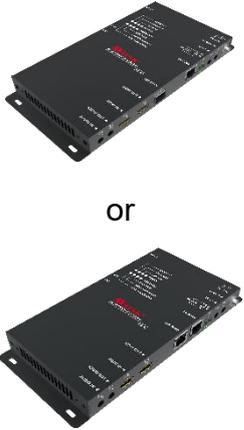
Figure 1-4 IPS-AC

## 1.5 IPS-M



Figure 1-7 IPS-M

## 1.6 Packing

 <p>or</p>	IPS-TF / IPS-TC x 1
 <p>or</p>	IPS-RF / IPS-RC x 1
 <p>or</p>	IPS-AF / IPS-AC x 1
	IPS-M x 1
	Power Adapter x 1
	User Manual x 1

## CHAPTER 2 FEATURES

Feature	
HDMI Input	<ul style="list-style-type: none"> <li>• True 4K/60Hz 4:4:4, HDR</li> <li>• HDMI 2.0 compatible input port</li> <li>• Support HDCP 1.4 and 2.2</li> </ul>
HDMI Output	<ul style="list-style-type: none"> <li>• True 4K/60Hz 4:4:4, HDR</li> <li>• HDMI 2.0 compatible output port</li> <li>• Support HDCP 1.4 and 2.2</li> <li>• Multi-view mode: The video format keeps RGB 8-bit</li> </ul>
10GbE Data Interface	<ul style="list-style-type: none"> <li>• RJ45</li> <li>• SFP+</li> </ul>
Power over Ethernet (POE)	<ul style="list-style-type: none"> <li>• Support Type : POE+/PD</li> <li>• IPS-AC only</li> </ul>
Video Routing	<ul style="list-style-type: none"> <li>• Lightweight 1.4 to 1 artifact-free compression</li> <li>• Time to switch between sources in under 100 milliseconds.</li> <li>• Support Transceiver Mode (Simultaneous transmitter and receiver, IPS-AX only)</li> </ul>
Audio Routing	<ul style="list-style-type: none"> <li>• Lossless audio transmission</li> <li>• HDMI downmixed stereo channel</li> <li>• Support Microphone Input (with Bias voltage)</li> </ul>
1GbE Control Interface	<ul style="list-style-type: none"> <li>• Extension of Gigabit Ethernet data network</li> <li>• Built-in Ethernet switch connects 1GbE to 10GbE interface</li> <li>• Device Control</li> </ul>
USB Routing	<ul style="list-style-type: none"> <li>• USB port: Up to 480 Mbps</li> <li>• USB HID port: Only support Human Interface Devices</li> </ul>
RS-232 Routing	<ul style="list-style-type: none"> <li>• Baud rate up to 115200</li> <li>• Unicast and broadcast routing between devices</li> <li>• Serial data routing between multiple devices</li> </ul>
IR Routing	<ul style="list-style-type: none"> <li>• IR data routing between multiple devices</li> </ul>
Video Scaling	<ul style="list-style-type: none"> <li>• Upscaling (Video Wall) and downscaling (Multi-view)</li> <li>• Multi-source video compositing</li> <li>• Video Wall processing with bezel correction and display synchronization</li> </ul>

# CHAPTER 3 SPECIFICATIONS

## IPS-TX / IPS-RX / IPS-AX Specifications:

VIDEO INPUT (IPS-TX / IPS-AX)	
Video Formats	Up to HDMI 2.0 4K/60Hz 4:4:4, HDR, DisplayPort 1.2
Connector	HDMI Type A DisplayPort (IPS-TX)
VIDEO OUTPUT (IPS-RX / IPS-AX)	
Video Formats	Up to HDMI 2.0 4K/60Hz 4:4:4, HDR
Connector	HDMI Type A
EDID	Read Display EDID
HDCP (IPS-TX / IPS-RX / IPS-AX)	
HDCP	HDCP 2.2/1.4 Compliant
AUDIO INPUT (IPS-AX)	
Audio Format	Analog L/R MIC-IN, 20dB gain
Connector	3.5mm Jack
AUDIO INPUT/OUTPUT (IPS-TX)	
Audio Format	Analog L/R
Connector	3.5mm Jack
AUDIO OUTPUT (IPS-RX / IPS-AX)	
Audio Format	Analog L/R
Connector	3.5mm Jack
SERIAL DATA (IPS-TX / IPS-RX / IPS-AX)	
Channel Capacity	1 bi-directional
Signal Format	RS-232
Data Rate	Up to 115,200 baud rate
Connector	DB-9 / Female (IPS-TX / IPS-RX) Phoenix 3 pin (IPS-AX)

<b>USB (IPS-TX / IPS-RX / IPS-AX)</b>	
Signal Format	USB 2.0
Connector	Type-A
<b>USB HID (IPS-AX)</b>	
Signal Format	USB 1.1
Connector	Type-A
<b>1GbE (IPS-TX / IPS-RX / IPS-AX)</b>	
Connector	Copper / RJ45
<b>10GbE</b>	
IPS-TF & IPS-RF & IPS-AF	Fiber / SFP+
IPS-TC & IPS-RC	Copper / RJ45
IPS-AC	Copper / RJ45 with POE+/PD
<b>POWER CONSUMPTION</b>	
Voltage	+12V DC
Current (Max)	2A
<b>CASE</b>	
Dimensions (LxDxH)	210 mm(L) x 114 mm(W) x 25mm(H)
Construction	Aluminium enclosure with black textured paint finish Iron enclosure with black textured paint finish
Weight	380g (IPS-TX); 390g (IPS-RX); 722g (IPS-AX)

## IPS-M Specifications:

VIDEO OUTPUT	
Video Formats	Up to HDMI 2.0 4K/60Hz 4:4:4, HDR
Connector	HDMI Type A
EDID	Read Display EDID
SERIAL DATA	
Channel Capacity	1 bi-directional
Signal Format	RS-232
USB	
Signal Format	USB 2.0
Connector	Type-A
USB	
Signal Format	USB 3.1 GEN1
Connector	Type-A
USB	
Signal Format	USB Type-C
Connector	Type-C
ETHERNET	
Ethernet Speed	10/100/1000 Base-T
Connector	RJ45
POWER CONSUMPTION	
Voltage	+12V DC
Current (Max)	2A
CASE	
Dimensions (LxDxH)	210 mm(L) x 114 mm(W) x 25mm(H)
Construction	Aluminium enclosure with black textured paint finish
Weight	656g

# CHAPTER 4 COMPONENTS

## 4.1 Front Panel

These LEDs on the front panel specify the status of Power, Video data, Network packet, and USB routing.



Figure 4-1 IPS-TX front panel



Figure 4-2 IPS-RX front panel



Figure 4-3 IPS-AX front panel



Figure 4-4 IPS-M front panel

## **LED Indicators:**

- **POWER:**
  - ● Yellow Bright: System power on successfully.
  - ● Off: No power or power on fail.
- **DATA IN / DATA OUT:**
  - ● Yellow Blink: Data transmit and receive through Ethernet.
  - ● Off: No Data transmit or receive through Ethernet, or without attaching an Ethernet cable.
- **VIDEO / VIDEO IN / VIDEO OUT:**
  - ● Yellow Bright: Video signal is stable.
  - ● Off: No Video Source or Video signal is unstable, or stop Video Streaming.
- **USB PAIR:**
  - ● Yellow Bright: The USB chip is paired.
  - ● Yellow Blink: The USB chip is not paired.
  - ● Off: No USB chip/FW loaded
- **USB STREAMING:**
  - ● Yellow Blink: USB data traffic present.
  - ● Off: No USB data traffic present.
- **HID STREAMING:**
  - ● Yellow Bright: USB chip is paired.
  - ● Yellow Blink: The USB chip is paired and data traffic is present.
  - ● Off: USB chip is not paired.

## **Connectors:**

- **USB Port:**
  - IPS-TX / IPS-AX (LEX) : Connected to the USB host (e.g. PC) within the 5-meter limitation.
  - IPS-RX (REX) : Connected to the actual USB device within the 5-meter limitation.
- **HID Port:**
  - IPS-AX (LEX) : Connected to the USB host (e.g. PC) within the 5-meter limitation.
- **IR IN / IR OUT:** Connected to Infrared devices (e.g. Infrared remote, receiver or blaster)
- **Audio IN / OUT Port (IPS-TX):** Connected to the speaker, or audio source.
- **Audio OUT Port (IPS-RX / IPS-AX):** Connected to the speaker.

## 4.2 Rear Panel

### **IPS-TX:**

The IPS-TX supports 2 video interfaces on the rear panel including HDMI and DisplayPort (DP). It supports 10GbE network interface including either RJ45 or SFP+.



Figure 4-5 IPS-TC rear panel



Figure 4-6 IPS-TF rear panel

### **IPS-RX:**

The IPS-RX only supports HDMI output on the rear panel. It supports a 10GbE network interface including either RJ45 or SFP+.



Figure 4-7 IPS-RC rear panel



Figure 4-8 IPS-RF rear panel

### **IPS-AX:**

The IPS-AX supports HDMI input and output on the rear panel. It supports a 10GbE network interface including either RJ45 or SFP+.



Figure 4-9 IPS-AC rear panel



Figure 4-10 IPS-AF rear panel

## IPS-M:

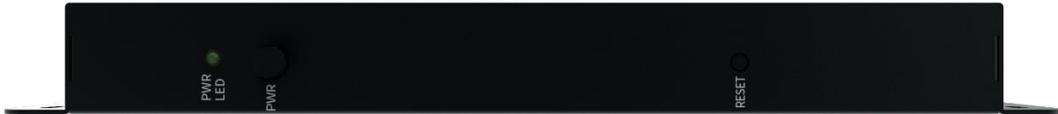


Figure 4-11 IPS-M rear panel

Interface	Description
POWER	Connected to +12V voltage adapter
HDMI IN	Connected to an HDMI (2.0 or above) compatible Source
HDMI OUT	Connected to an HDMI (2.0 or above) compatible Monitor
AUDIO IN	Connected to the audio source
AUDIO OUT	Connected to the speaker
10G SFP+	Connected to 10GbE Switch through fiber cable with SFP+ connector
10G RJ45	Connected to 10GbE Switch through copper cable. (Cat.6A up to 100m)
1G RJ45	<ul style="list-style-type: none"><li>• Extension of Gigabit Ethernet data network</li><li>• Device Control</li></ul>
RS-232	Connected to remote PC for controlling software <ul style="list-style-type: none"><li>• Data routing between devices</li><li>• Date routing between device and application</li></ul>
IR IN	Connected to Infrared receiver devices
IR OUT	Connected to Infrared blaster devices

- For the connection of each interface, please refer to [Chapter 5 Connection](#)

# CHAPTER 5 CONNECTION

## 5.1 IPS system Connections

Through multiple IPS devices, the AV signal source and output destination can be switched and configured. The built-in Audio / Video interface can transmit the signal source to the destination via the 10GbE network and output it with the specified display. You can control the output templates and related configurations to specified displays among multiple signals.

In addition, IPS devices provide the feature that each data stream can be routed output independently. The video signal from an IPS-TX/IPS-AX can be sent to a specified IPS-RX/IPS-AX upon an independently routed. Audio signal from another IPS-TX/IPS-AX can be routed and switched to the same IPS-RX/IPS-AX. This feature allows you to configure the video and audio more flexibly.

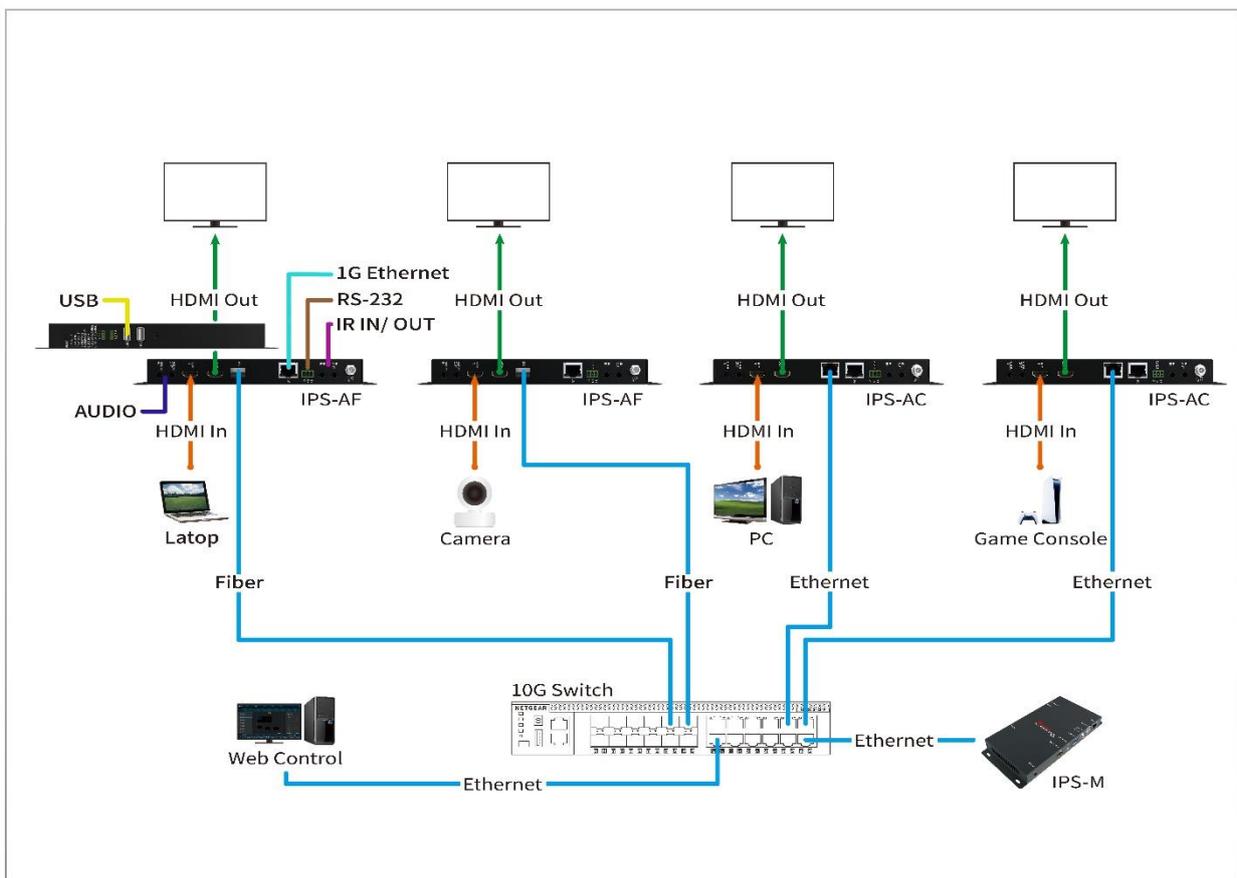


Figure 5-1 IPS system connections

## 5.2 IPS system for KVM

The IPS system supports the KVM Switch application:

- Support USB 2.0 at full 480Mbps bandwidth for control command.
- 10 Gbps of network bandwidth for more USB applications.

Not only keyboard and mouse, but a flash, web cameras, and more.

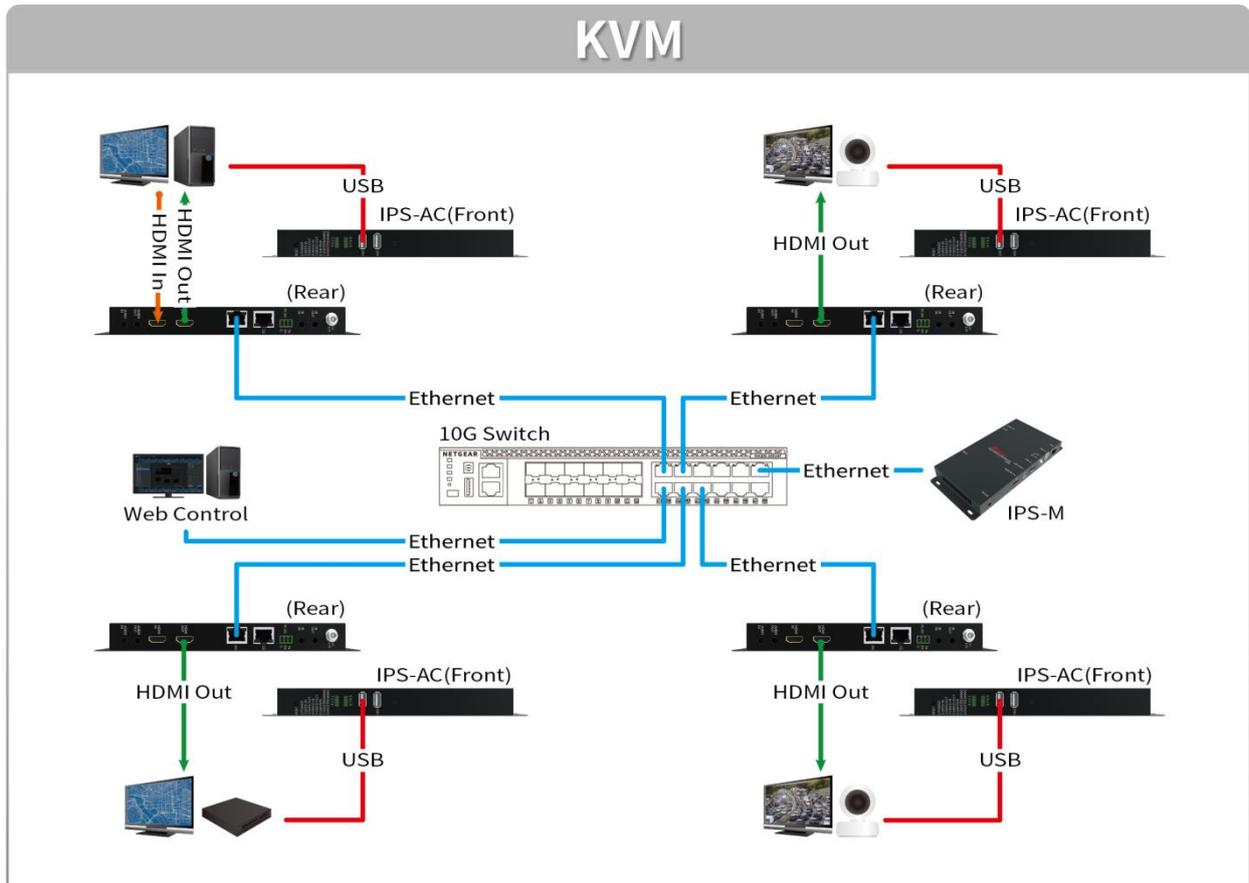


Figure 5-2 KVM application connections

## 5.3 IPS system for Video Wall

The Video Wall mode allows you to output the signal source of a single video through multiple displays.

- The video source is connected to the HDMI interface of a single IPS-TX/IPS-AX.
- Each display is connected to the HDMI interface of each IPS-RX/IPS-AX.
- The IPS-TX/IPS-AX transmits video signals to each IPS-RX/IPS-AX by a 10GbE Switch.

The IPS system supports crops and scales display features, and the built-in scaler engine is used to cut out a single video to display the cropped area on the screen.

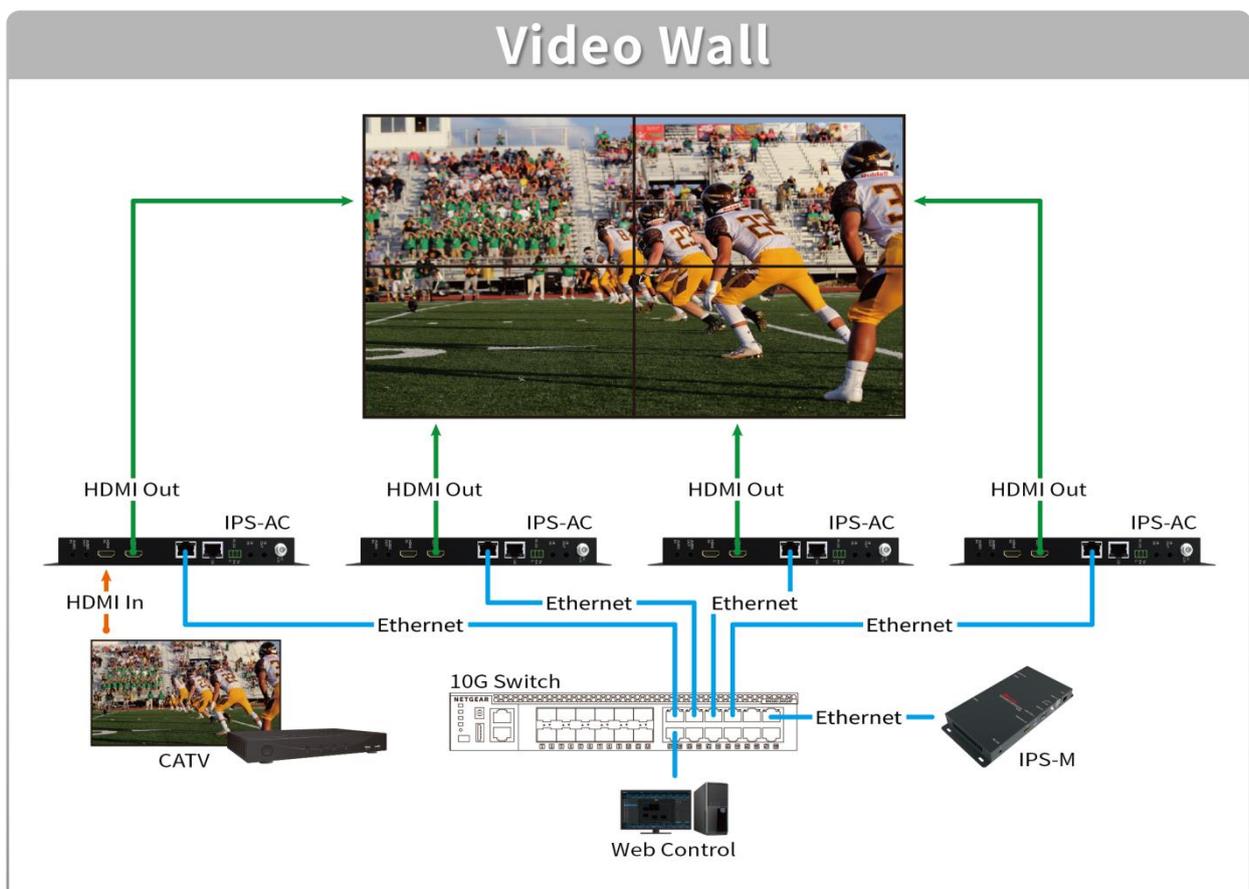


Figure 5-3 Video Wall application connections

## 5.4 IPS system for Matrix Switch

The input image of each IPS-TX/IPS-AX can be freely switched to the specified IPS-RX/IPS-AX for output. Through the **ROUTING** configuration of the IPS-M, the video signal is rendered seamlessly on realistic on the screen.

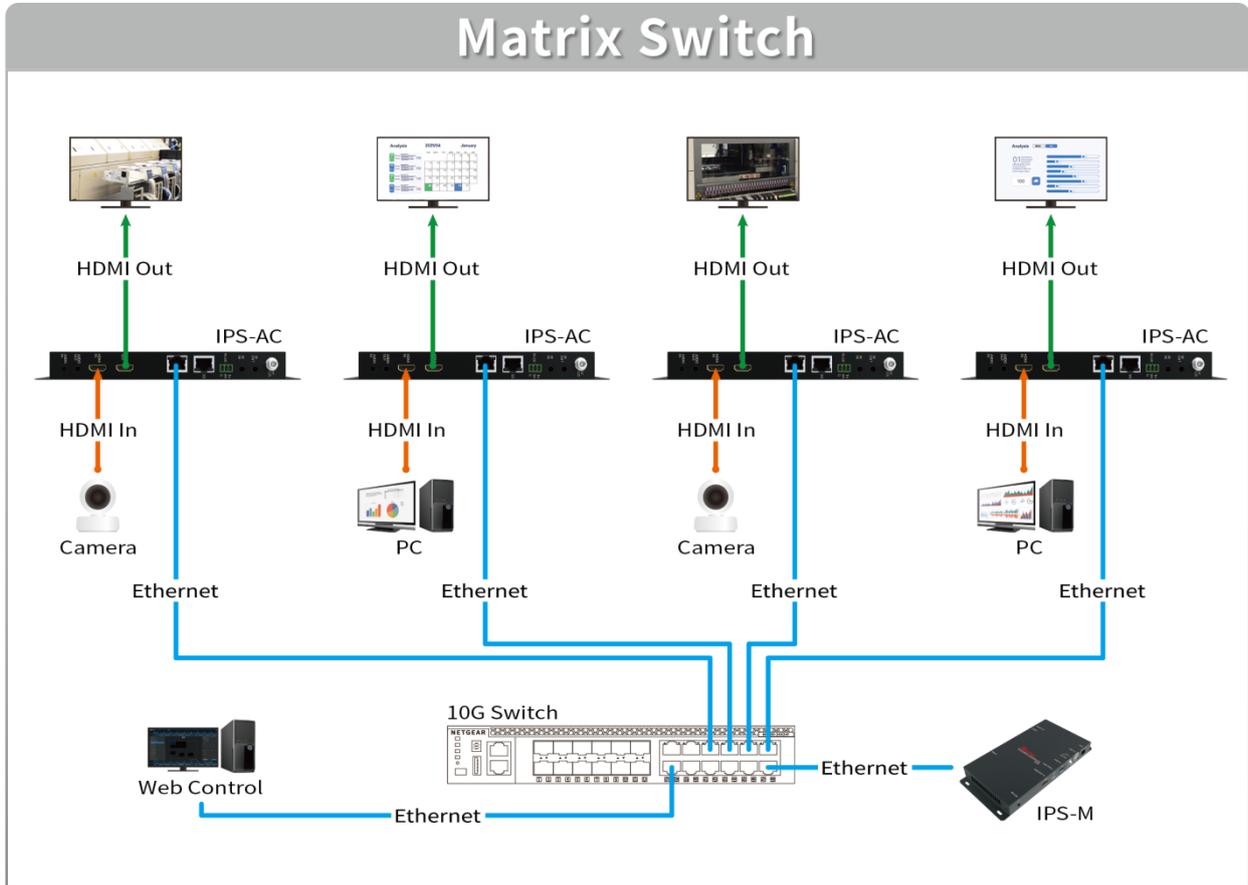


Figure 5-4 Matrix Switch application connections

## 5.5 IPS system for Multi-view

The multi-view feature allows you to combine multiple video signals into a specified screen. You can see multiple different video signals or PIP (Picture in picture) on one screen.

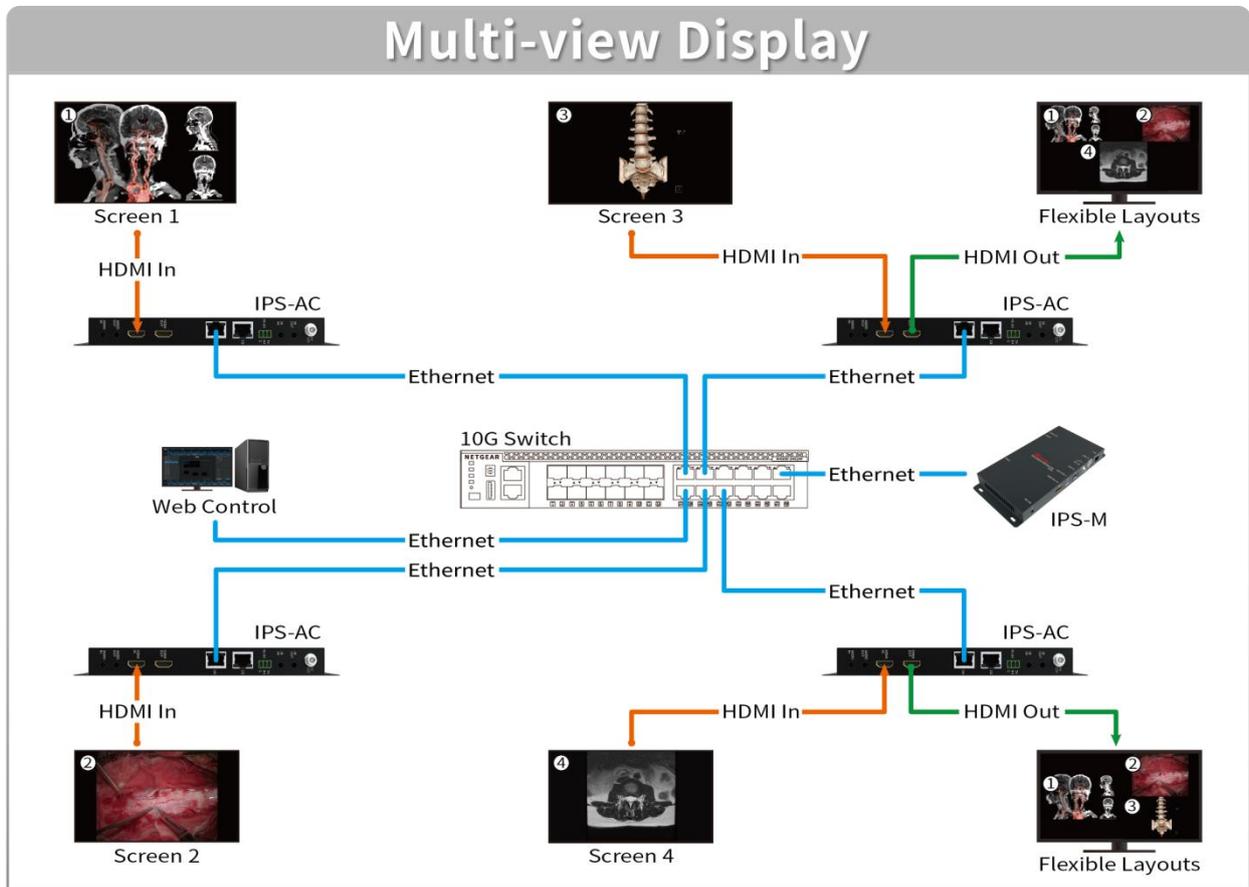


Figure 5-5 Multi-view application connections

## 5.6 Audio Routing

Through the IPS system, Digital and Analog Audio signals can be output individually described below:

When the Analog Audio of the IPS-TX is specified for **"Analog Audio Output"**:

The Analog Audio and HDMI Output of the IPS-RX, Analog Audio of the IPS-TX can be as an audio output to transmit the audio signal that comes from the HDMI Input of the IPS-TX.

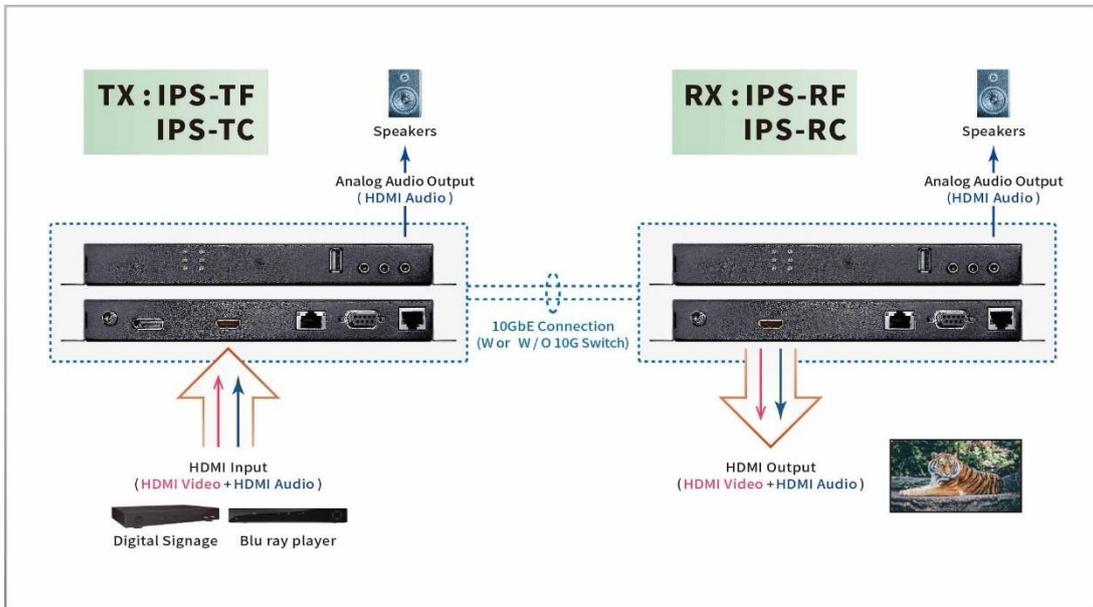


Figure 5-6 IPS-TX Analog Audio Output routing

When the Analog Audio of the IPS-TX is specified for **"Analog Audio Input"**:

The Analog Audio and HDMI Audio Input of the IPS-TX can be transmitted to the HDMI Output of the IPS-RX and Analog Audio Output respectively.

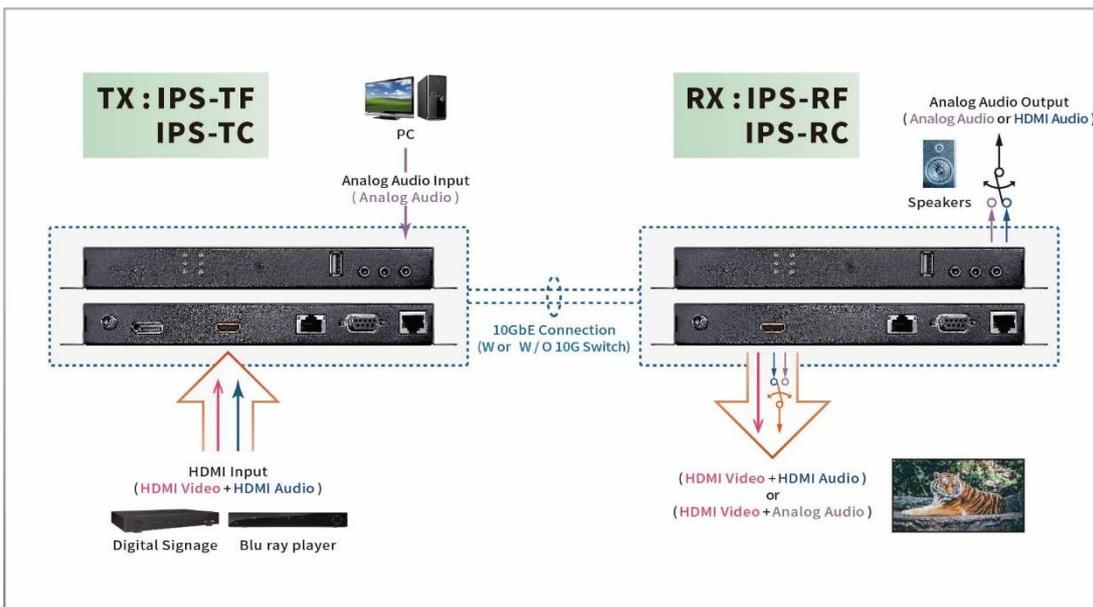


Figure 5-7 IPS-TX Analog Audio Input routing

# CHAPTER 6 OPERATION

---

## 6.1 Switch Configuration

You must ensure your switch matches the following requirements:

- Support 10GbE connectivity per port
- Support IGMP version 2

And the switch is configured appropriately:

- Enable IGMPv2 Snooping
- Enable IGMP Fast Leave
- Disable Unregistered Multicast Flooding

## 6.2 Powering On

To power on the IPS-M, you have to:

1. Plug the IPS-M power cable
2. Press the power button of the IPS-M for 3 seconds

To power on the IPS-TX, IPS-RX, or IPS-AX, you have to:

1. Plug the IPS-TX, IPS-RX, or IPS-AX power cable

If you use the IPS-AC with a POE-supported switch, you can power on the IPS-AC with an Ethernet cable or power cable.

## 6.3 Powering Off and Restarting

If it is necessary to power off or restart a component of the IPS system, you have to:

1. Unplug the power cable of the target component
2. Wait a few seconds and execute powering-on operation according to the component type

## 6.4 Powering Sequence

You should power on each component of the IPS system in the following sequence:

1. Power on the IPS-M
2. Ensure the IPS-M is ready by checking the IPS-M Information is shown on the screen
3. Power on the IPS-TX, IPS-RX, and IPS-AX

## 6.5 Hot Plugging

The IPS-TX, IPS-RX, IPS-AX, and IPS-M support USB hot plugging without shutting down the device.

# CHAPTER 7 WEBSITE CONFIGURATIONS

The system provides the IPS-M with the build-in website for you to configure the whole system. Supported web browsers are described below:

- Chrome (the latest version)
- Firefox (the latest version)
- Safari (the latest version)

We recommend you use Chrome for the appropriate experience.

## 7.1 IPS-M

Before beginning website configurations, you need an IPS-M controller to set up and control all the IPS devices. The IPS-M is the main manager for website configurations. It uses the network to communicate with the IPS devices. The IPS-M helps you set up each IPS device for video and audio routing, Video Wall building, and other functions. Moreover, a built-in website in the IPS-M provides simple operations for you to quickly configure the whole system. For normal operation, we suggest it should be always keeping the IPS-M online in the system.

### 7.1.1 IPS-M Connections

1. Connect Cat 5e cable to the **Ethernet port**.
2. Connect the power adapter cable to **Power Jack**.
3. Connect the display device to the **HDMI output port** for the IPS-M Information.

### 7.1.2 IPS-M Information

After connecting the IPS-M to a display by HDMI cable, the IPS-M Information shows the URL of the build-in website for you to open by the supported browser as following figure:

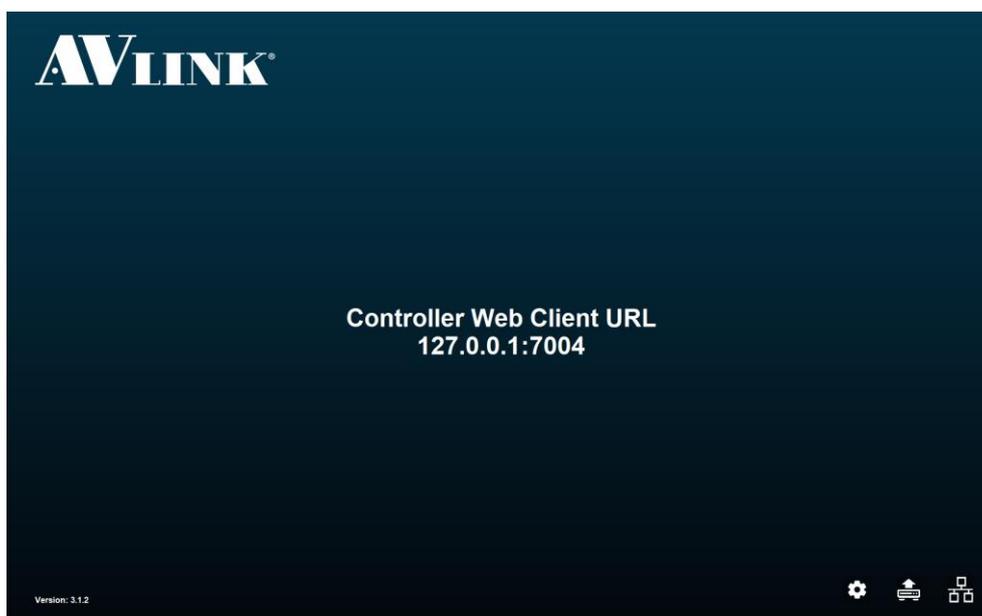


Figure 7-1 IPS-M information

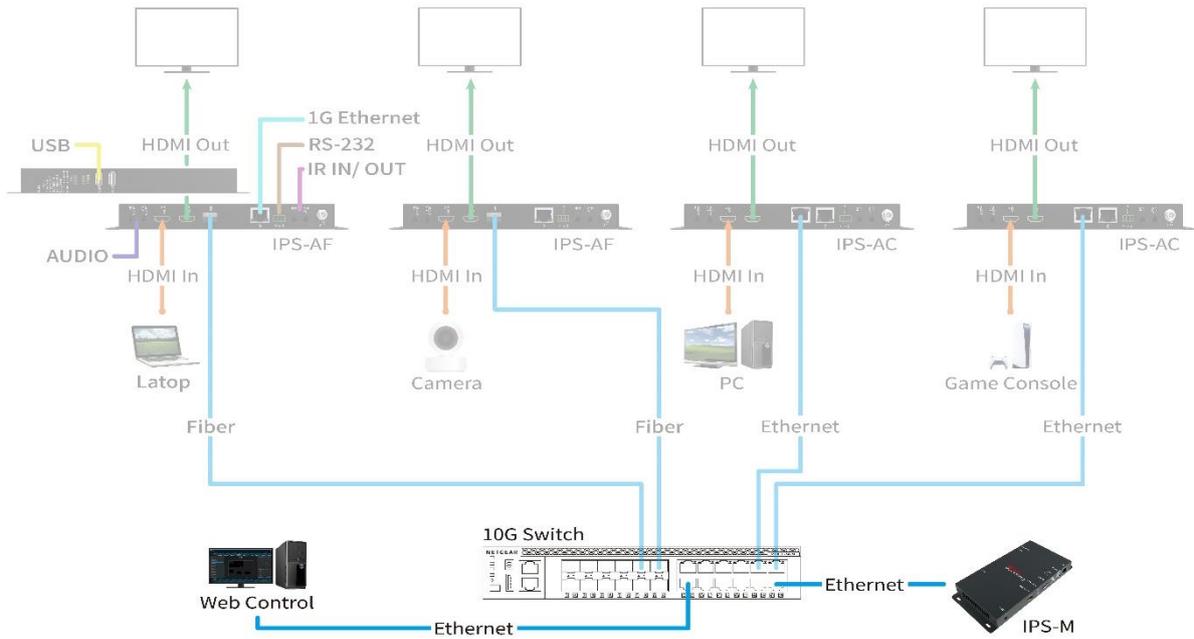
-  System: Configure the IPS-M system time. Please ensure the time zone of the IPS-M and your control PC or Laptop is the same to have the correct schedule feature.

-  Upgrade: Launch the IPS-M upgrade wizard.
-  Network: Configure the IPS-M network settings.

**PC connection steps:**

To open the build-in website and start to configure the system, please follows the steps below:

1. Connect your PC to switch with an Ethernet cable.
2. Open the supported browser and enter the URL of the built-in website.



**Figure 7-2 IPS-M connections**

## 7.2 General Setting

Type in the IPS-M website URL in the browser to enter the main screen of the IPS-M application. The IPS-M application includes **ROUTING**, **LAYOUT**, **SHOW**, **SCHEDULE**, and **DEVICE** configurations.

- Click AV LINK logo  will pop up the **ABOUT** copyright window.
- Click System setting button  will pop up **System Preference** window, it allows you to set the preferred **temperature format** and **units of length**.

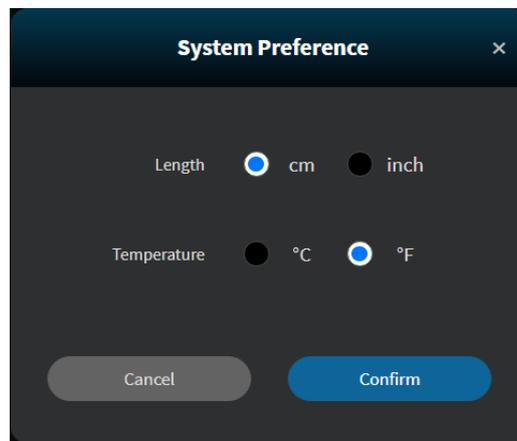


Figure 7-3 System Preference window

## 7.3 Routing

Routing is the main page described below:

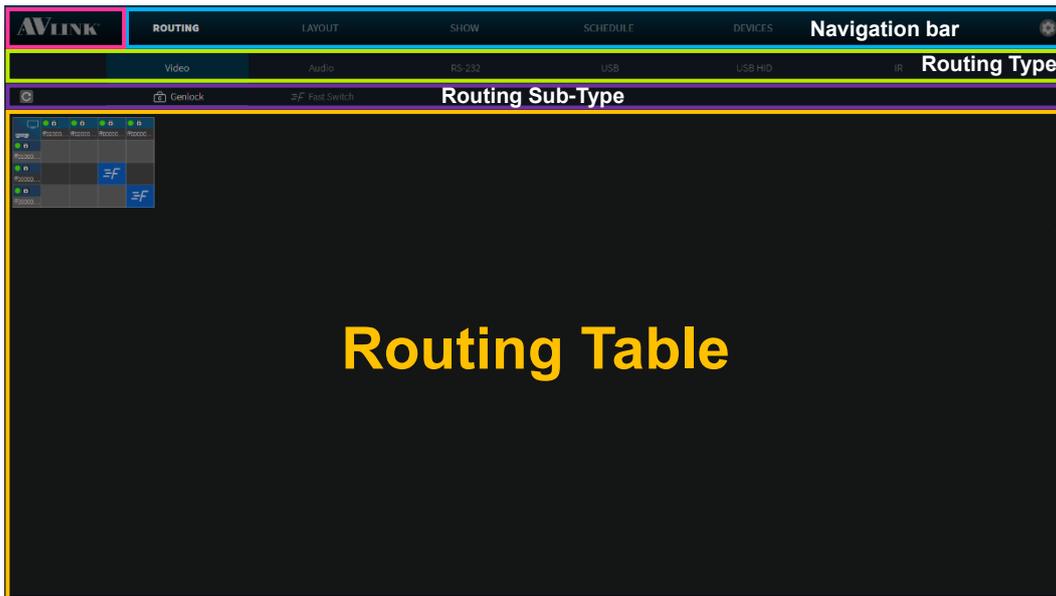


Figure 7-4 ROUTING configuration

The **ROUTING** configuration page, it allows you to view the channel of signal transmissions, and configure the IPS-TX / IPS-RX / IPS-AX channels including **Video**, **Audio**, **RS-232**, **USB**, **USB HID** and **IR** types.

- Refresh the Routing Table button 
- Routing Table Grid component

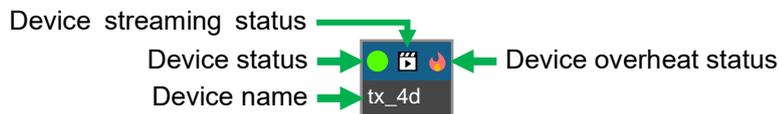


Figure 7-5 Routing Table Grid component

- Routing Table Crosshair highlight

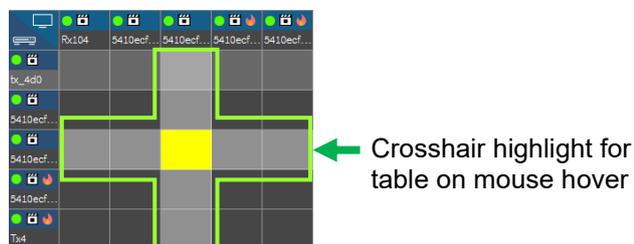


Figure 7-6 Routing Table Crosshair highlight

## 7.3.1 Video

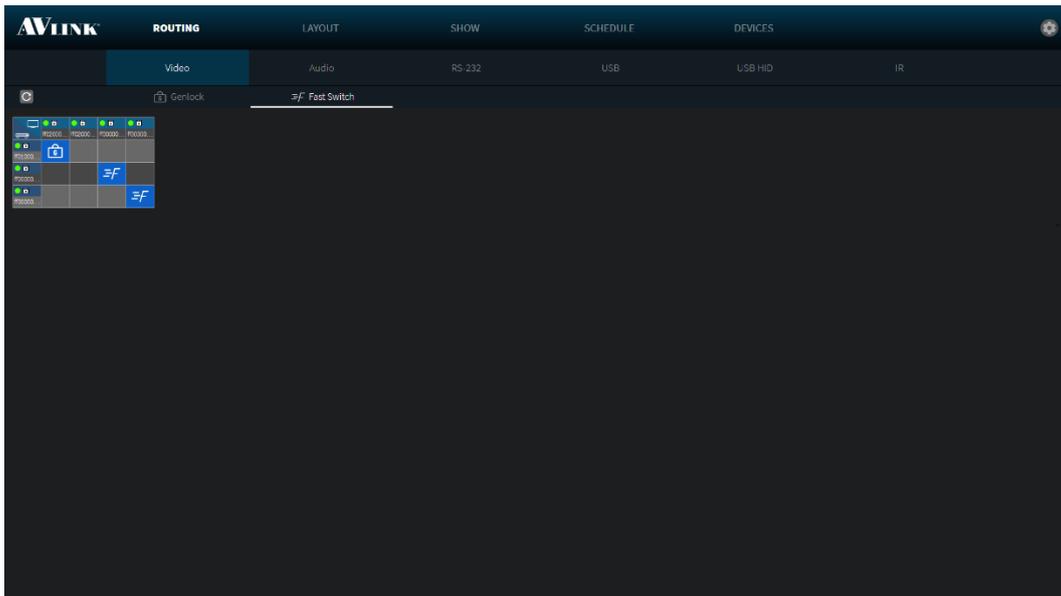


Figure 7-7 Video type in ROUTING configuration



**Display** (Table Column Header) – IPS-RX & IPS-AX



**Source** (Table Row Header) – IPS-TX & IPS-AX

Select **Video** routing mode:



**Genlock:** Select this mode to configure **Display** to synchronously display video from **Source**, but **Display** takes a few seconds to switch between different **Source**.



**Fast Switch:** Select this mode to configure **Display** to quickly switch video between different **Source**, but **Display** does not promise displayed video is synchronous to **Source**.

- **Subscribe** – Click at the position that corresponds to the horizontal (x-axis) or vertical (y-axis) grid → (represent by crosshair highlight)
- Re-click to **unsubscribe**

## 7.3.2 Audio

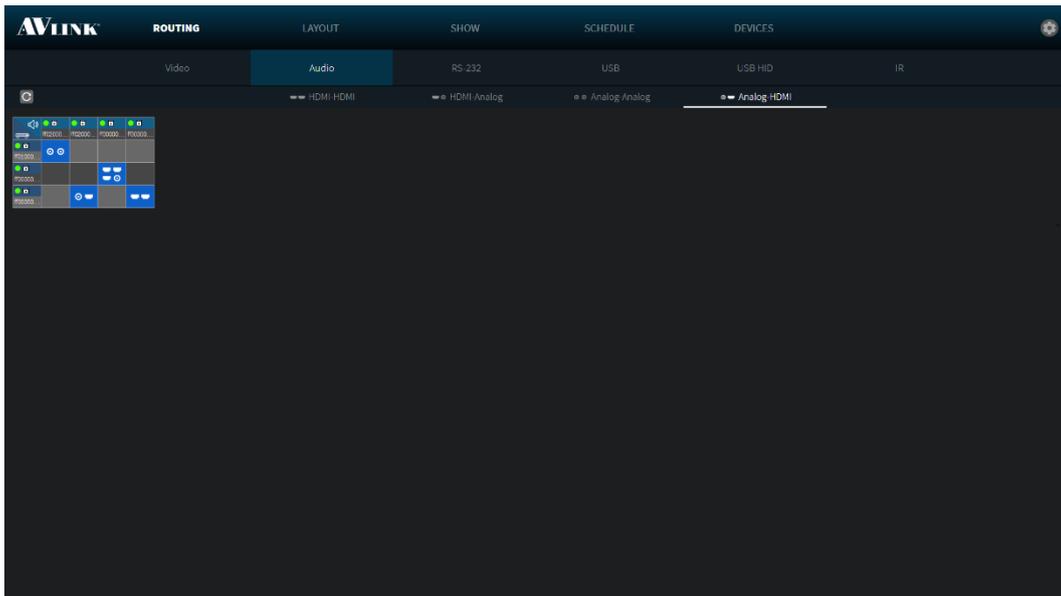


Figure 7-8 Audio type in ROUTING configuration



**Destination** (Table Column Header) – IPS-RX & IPS-AX



**Source** (Table Row Header) – IPS-TX & IPS-AX

In the **Audio** routing mode, we support 4 kinds of combinations described below:

1.  HDMI – HDMI (HDMI input – HDMI output)
2.  HDMI – Analog (HDMI input – Analog output)
3.  Analog – Analog (Analog input – Analog output)
4.  Analog – HDMI (Analog input – HDMI output)

- **HDMI – HDMI & Analog – HDMI** cannot be configured at the same time
- **HDMI – Analog & Analog – Analog** cannot be configured at the same time

If audio is from a different Source, which cannot be shown with these Sub-Type, there are 2 possibilities illustrated below:

- **HDMI – HDMI & HDMI – Analog**
- **Analog – Analog & Analog – HDMI**

**Note:** If the device audio analog interface is set to **output**, the device **cannot** be as **Source** and **Destination**, therefore the device row or column will be disabled to click.

### 7.3.3 RS-232

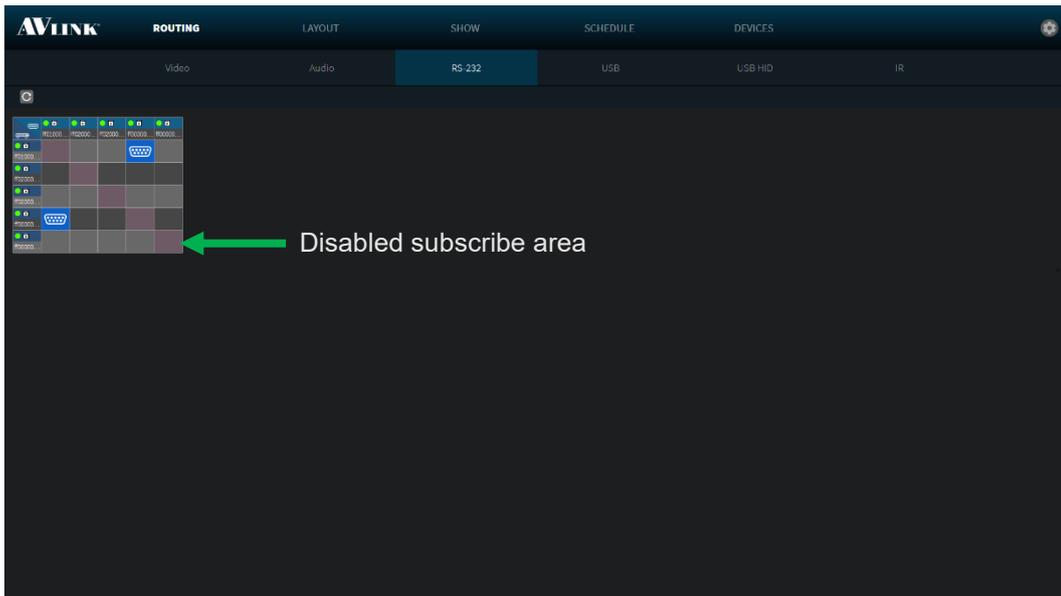


Figure 7-9 RS-232  type in ROUTING configuration

 **Destination** (Table Column Header) – IPS-TX & IPS-RX & IPS-AX

 **Source** (Table Row Header) – IPS-TX & IPS-RX & IPS-AX

The RS-232 is a bi-direction interface through which signals can be transmitted and received. The IPS-TX, IPS-RX, and IPS-AX can be a **Source** / **Destination**.

**Note:** RS-232 cannot subscribe itself.

## 7.3.4 USB

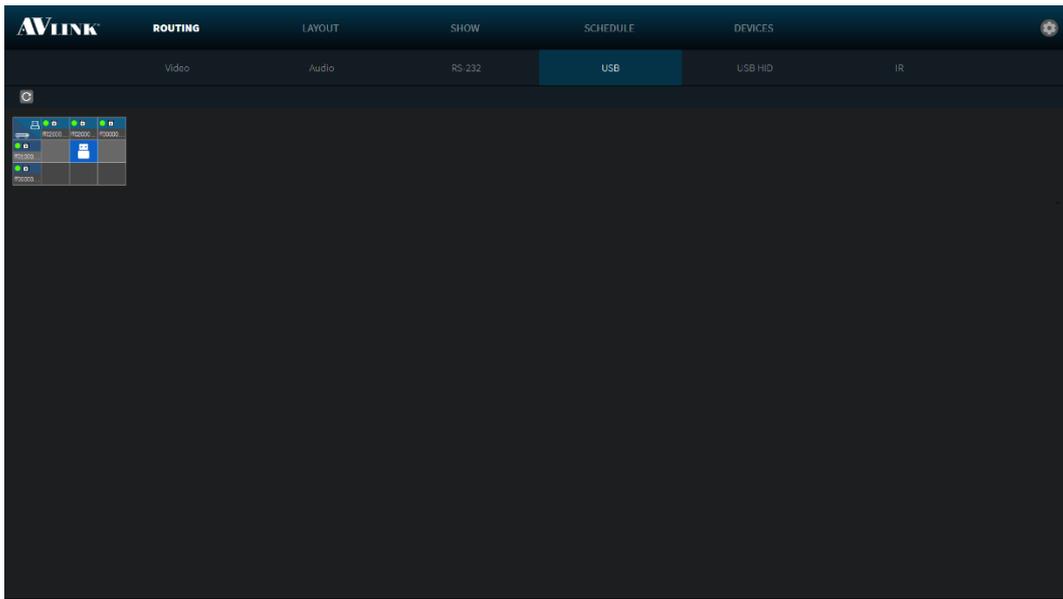


Figure 7-10 USB  type in ROUTING configuration

 **Destination** (Table Column Header) – REX

 **Source** (Table Row Header) – LEX

You can configure USB routing between **Source** and **Destination** on this page.

## 7.3.5 USB HID

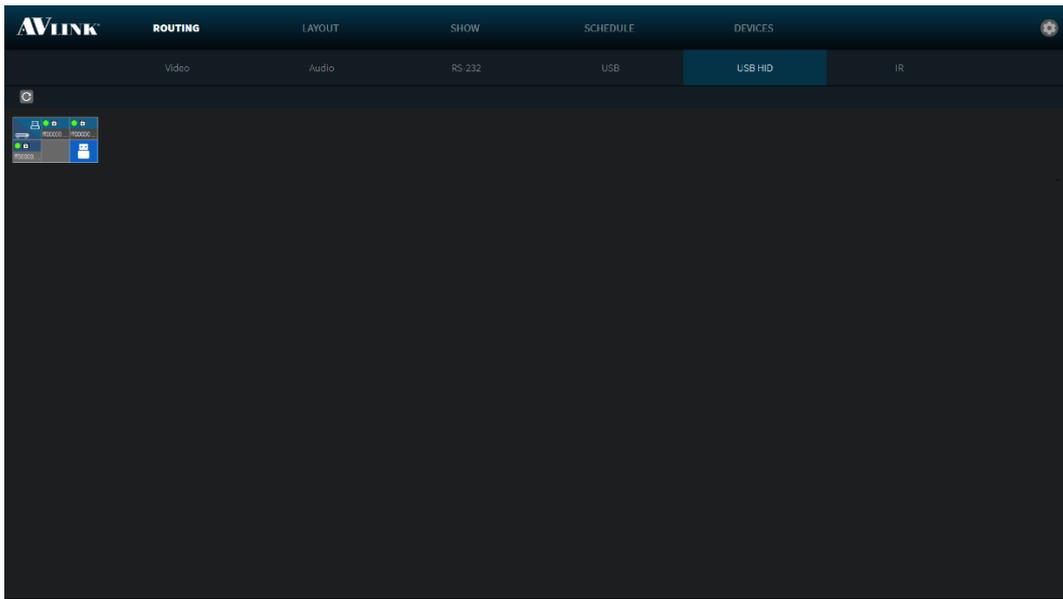


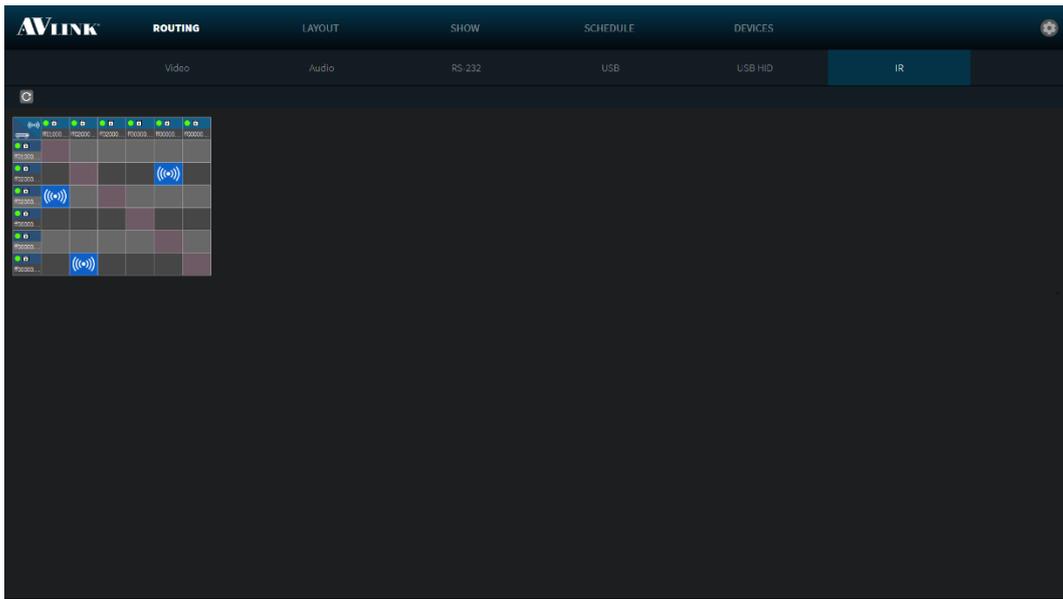
Figure 7-11 USB HID  type in ROUTING configuration

 **Destination** (Table Column Header) – REX (IPS-AX)

 **Source** (Table Row Header) – LEX (IPS-AX)

You can configure USB HID routing between **Source** and **Destination** on this page.

## 7.3.6 IR



**Figure 7-12 IR (( )) type in ROUTING configuration**

**(( )) Destination** (Table Column Header) – IPS-TX & IPS-RX & IPS-AX

**(=) Source** (Table Row Header) – IPS-TX & IPS-RX & IPS-AX

The IR is a bi-direction interface through which signals can be transmitted and received. The IPS-TX, IPS-RX, and IPS-AX can be a **Source / Destination**.

**Note:** IR cannot subscribe itself.

## 7.4 Layout



Figure 7-13 LAYOUT configuration

In the **LAYOUT** configuration page, you can configure the layout upon the provided features.

## 7.4.1 Layout component

### 7.4.1.1 Layout Template

Click **Add** button  on the top of Layout File List, it will pop up **Layout Template** window allowing you to configure a layout and name it.

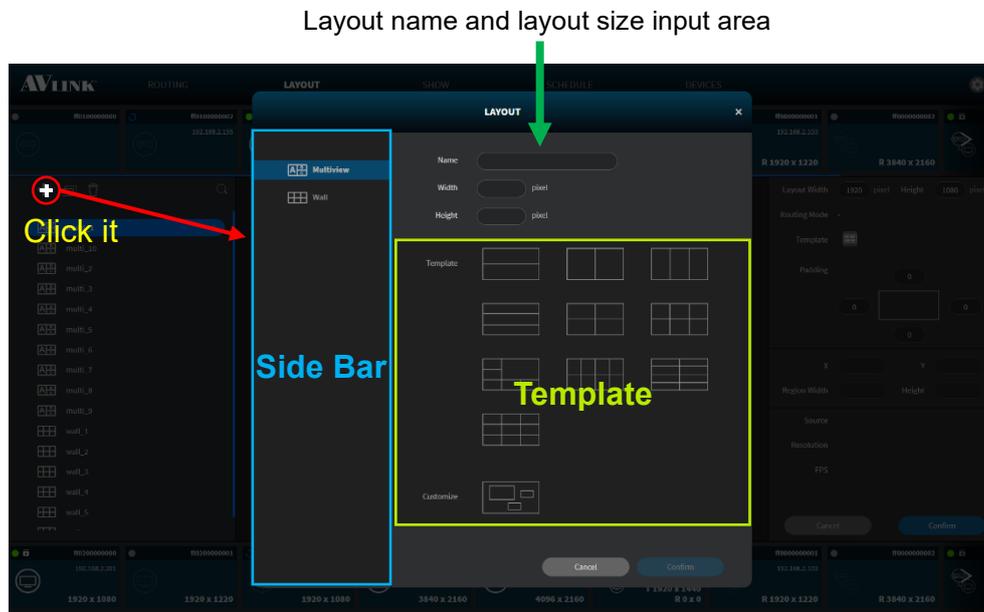


Figure 7-14 Layout Template window

### 7.4.1.2 Layout File List

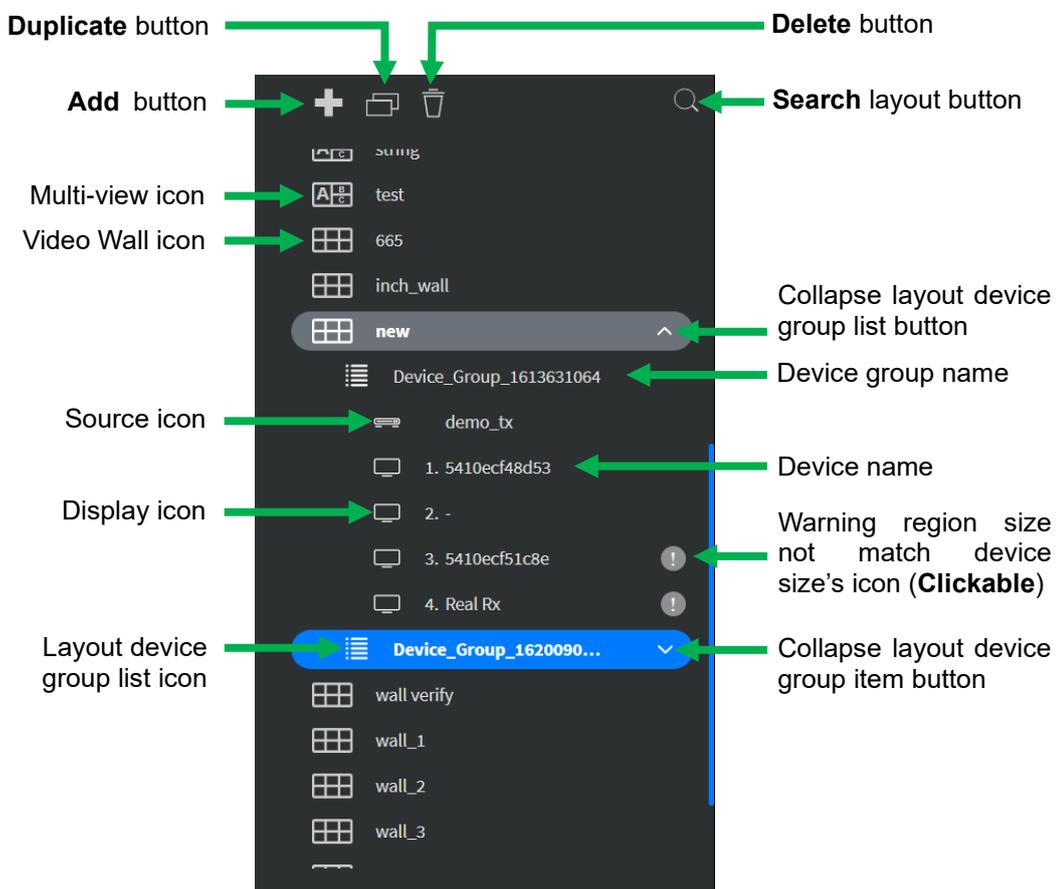
**Layout File List** shows saved layouts including Multi-view  and Video Wall  types.

Each layout will have at least 1 device group. Device group allows you to use the same layout and transformed device group to achieve change sources or displays.

The **Duplicate** button  can make a copy exactly like the layout or device group you selected.

The **Delete** button  allows you to delete the layout or device group you selected from system. Moreover, you can delete the assigned device from the group by selecting device.

**Select & Click** a layout to display the design of it in the **Canvas Edit Area**.



**Figure 7-15 Layout File List**

### 7.4.1.3 Canvas Edit Area

After selecting a layout, you can use **Canvas Edit Area** to start editing content. Further, when selecting a device group, you can drag the device and assign it to a region. In this area, you can select the **General** mode or the precise **Grid** mode by clicking the **Grid toggle** button as shown below.

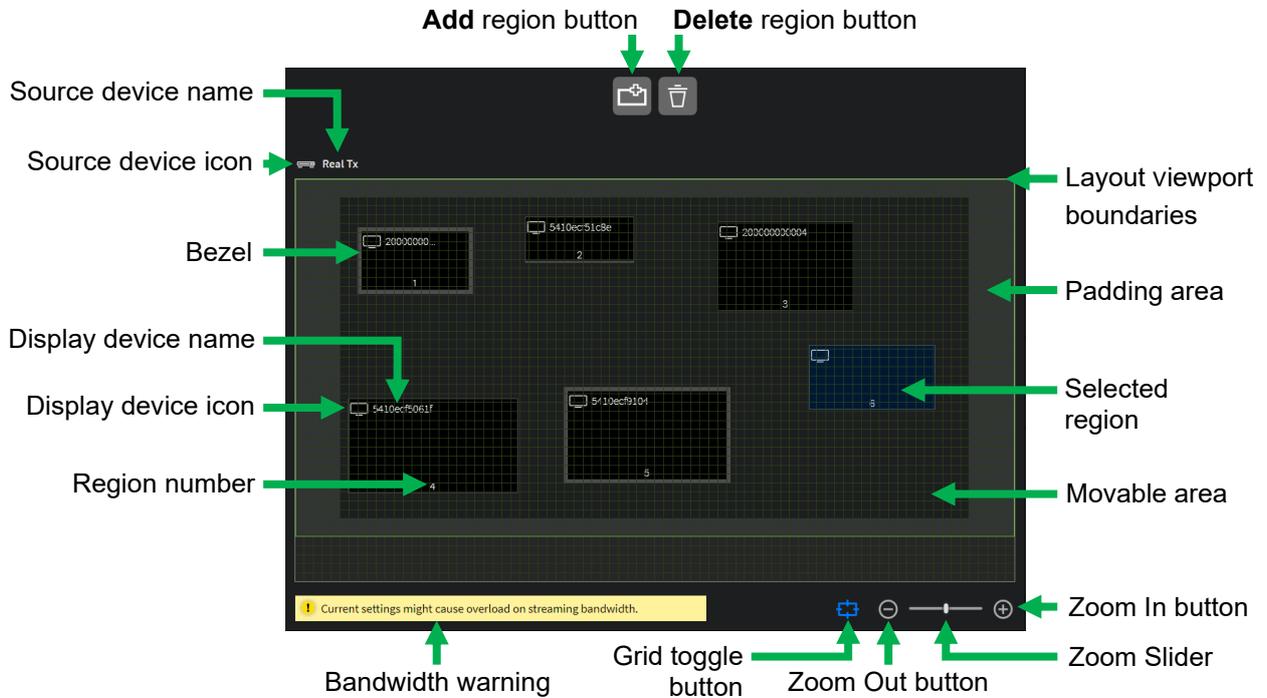


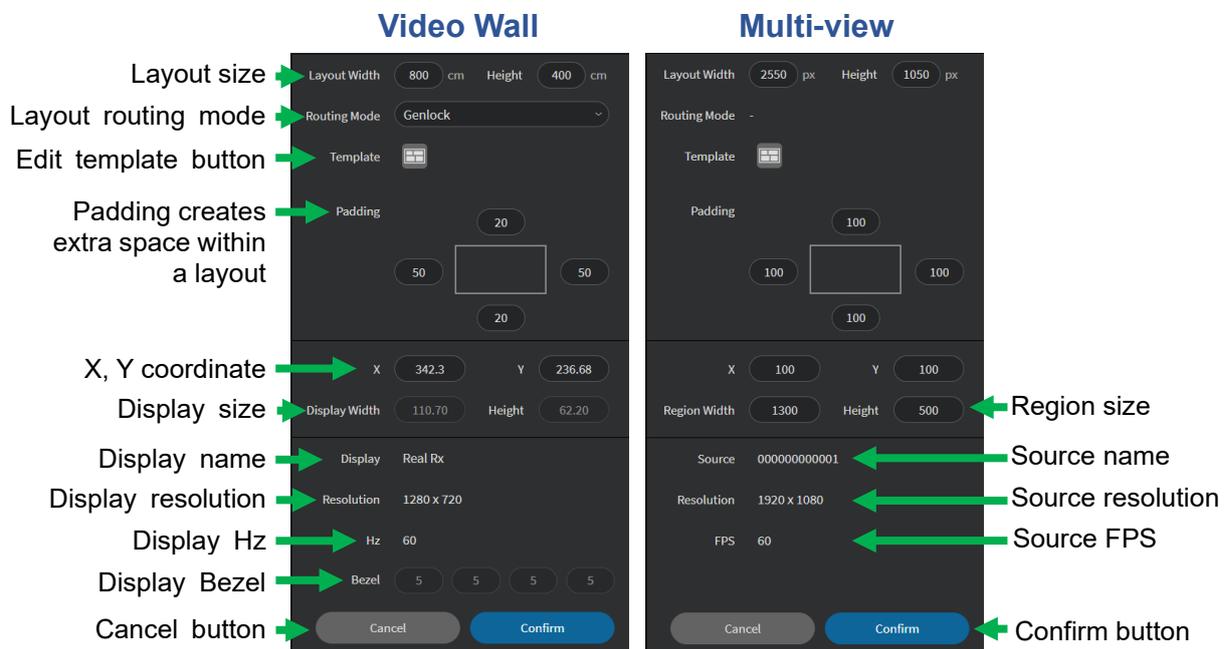
Figure 7-16 Canvas Edit Area

### 7.4.1.4 Layout Device Info

On the **Layout Device Info** area, you can adjust the layout width, height, and padding. Furthermore, you can adjust the region's coordinates, width and height of the output video, and view bezel compensation for the gap between displays.

When using **Video Wall** layout, the display's bezel gaps introduce space that was not intended to be there resulting in a disjointed image that is not continuous across all displays.

Click **Confirm** button  to save or **Cancel** button  to abandon all changes.



**Figure 7-17 Layout Device Info**

**Note:** Bezel compensation info is only applicable for **Video Wall** layout. You can edit Bezel and Display size on the **Screen** Tab of **DEVICE** configuration page.

### 7.4.1.5 Device Card

On the top of **LAYOUT** configuration screen shows you the **Source** (IPS-TX and IPS-AX) device card list and the bottom of **LAYOUT** configuration screen shows the **Display** (IPS-RX and IPS-AX) device card list.

#### IPS-TX device card

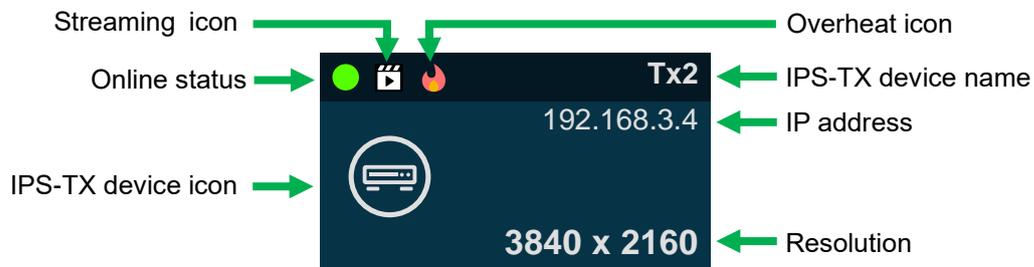


Figure 7-18 IPS-TX device card

#### IPS-RX device card



Figure 7-19 IPS-RX device card

#### IPS-AX device card

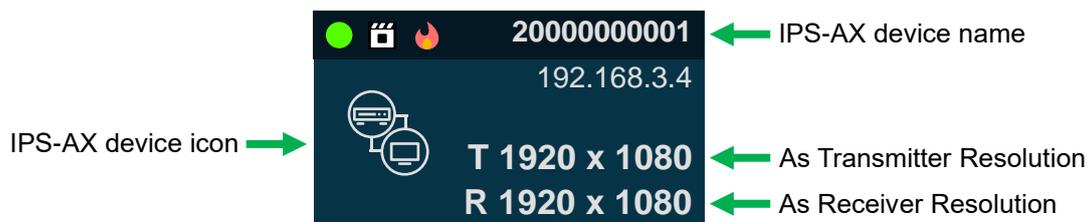


Figure 7-20 IPS-AX device card

- Press the **Alt** key

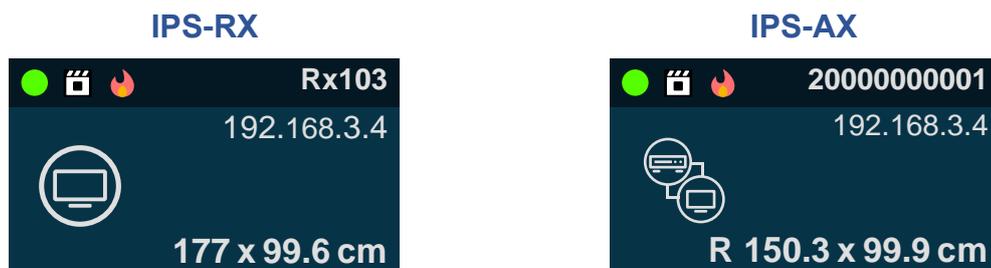


Figure 7-21 Press Alt key device card

### 7.4.1.6 Device Card Status

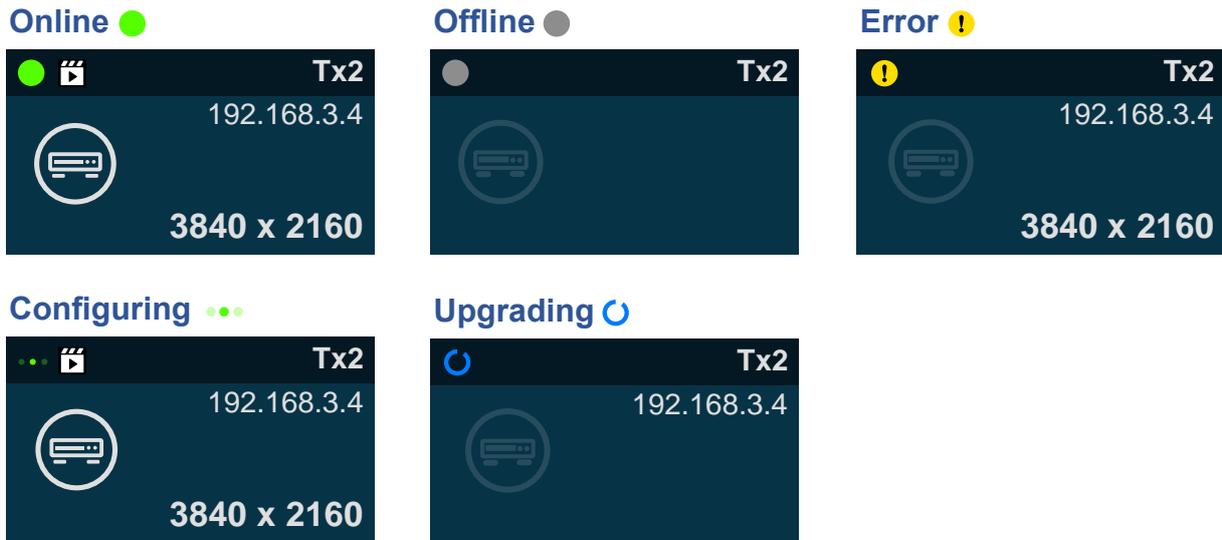


Figure 7-22 Device card status

### 7.4.1.7 Device Card Streaming Status

If the IPS-TX / IPS-RX / IPS-AX devices **Start** live video streaming, card will show **streaming** icon . If these devices stop video streaming, card will show **non-streaming** icon .



Figure 7-23 Device card streaming status

### 7.4.1.8 Device Card Overheat Status

When the IPS-TX / IPS-RX / IPS-AX device temperature is over **80°C (176°F)**, the overheat icon  will display on the device card.

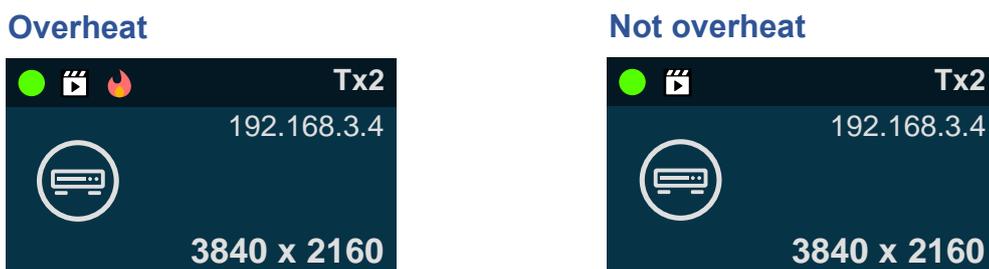


Figure 7-24 Device card overheat status

## 7.4.2 Multi-view

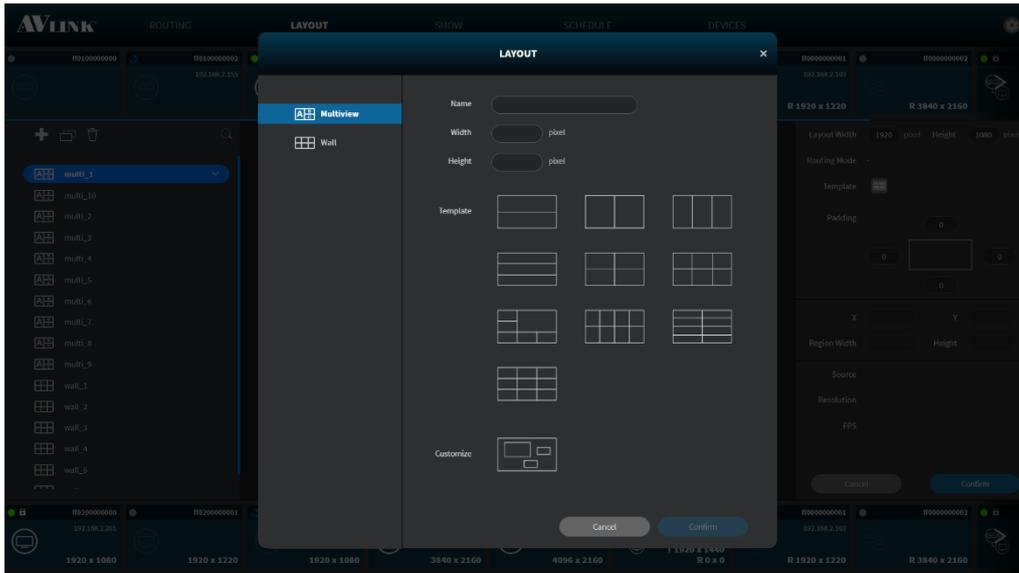


Figure 7-25 Multi-view  Layout Template window

- **Template** – Most common **Multi-view** layout templates. Region size and the coordinates of the vertices of a region are according to the layout size proportion.
- **Customize** – Using drag features to create your layout.

## 7.4.3 Video Wall

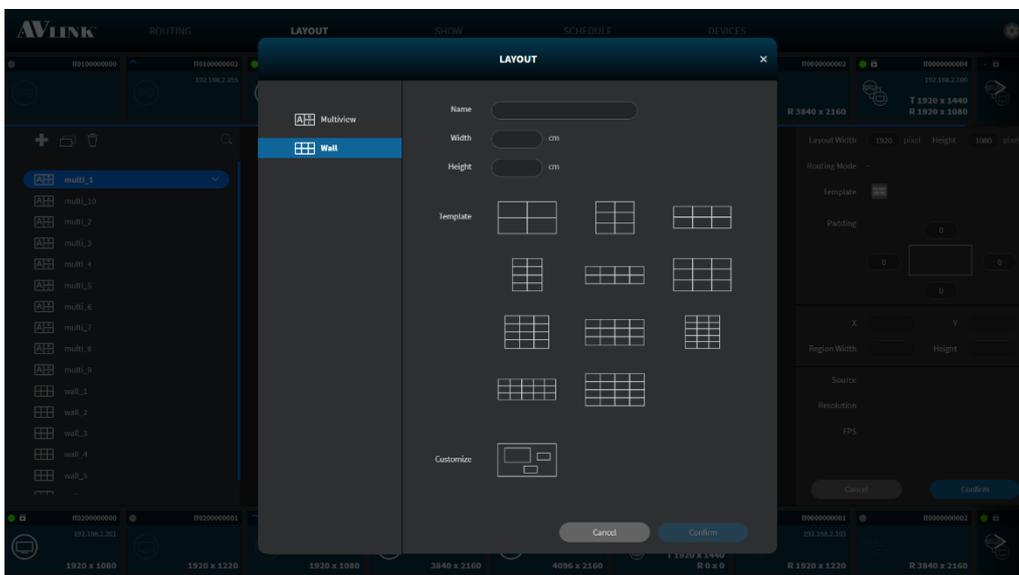


Figure 7-26 Video Wall  Layout Template window

- **Template** – Most common **Video Wall** layout templates. Region coordinates of the vertices are according to the layout size proportion. Further, the region size is one fifth according to the layout size.

## 7.4.4 Create a New Multi-view / Video Wall Layout

1. Click on one layout in the Layout File List.
2. Click **Add** button  on the top of Layout File List.
3. Select mode (Multiview / Video Wall) from **Side bar**.
4. Enter name and set layout size in the textbox.
5. Select a **Template** or **Customize**.
6. Click  to create a new Multi-view or Video Wall layout.

## 7.4.5 Create a New Device Group

1. Click on one device group in the Layout File List.
2. Click **Add** button  on the top of Layout File List.

## 7.4.6 Duplicate Layout / Device Group

1. Select a layout / device group that you want to duplicate.
2. Click **Duplicate** button  on the top of Layout File List.

## 7.4.7 Edit Layout

Select a device group in Layout File List. Then, set **Source** and **Display** devices in the layout by dragging device card into region in **Canvas Edit Area**. Below figures show an example of Multi-view layout ([Figure 7-27](#)) ([Figure 7-28](#)):

- Drag the Source card / Display card, and then mouse hover on the region / canvas will show a **blue border**.
- Selected region's **background** will change to **blue**.

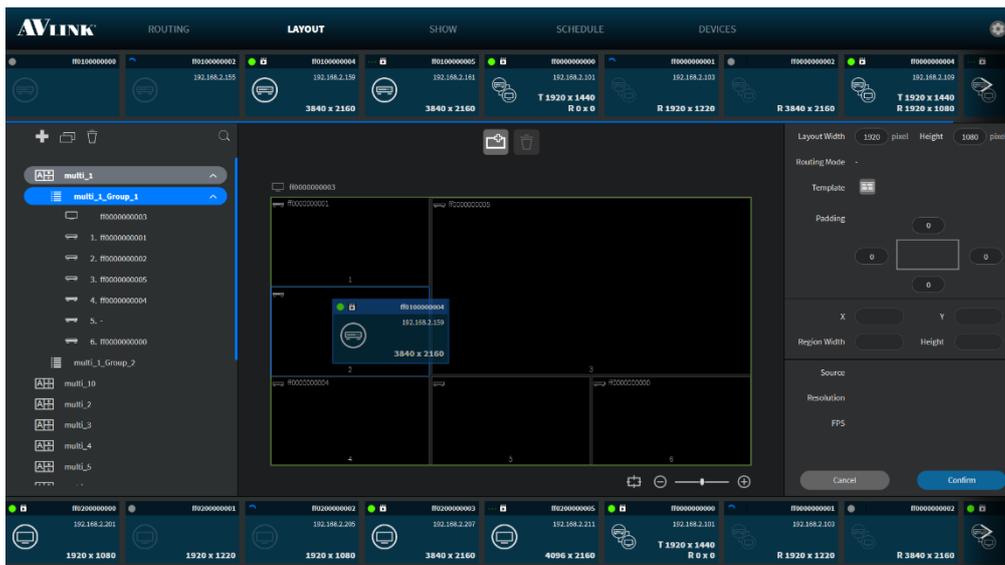
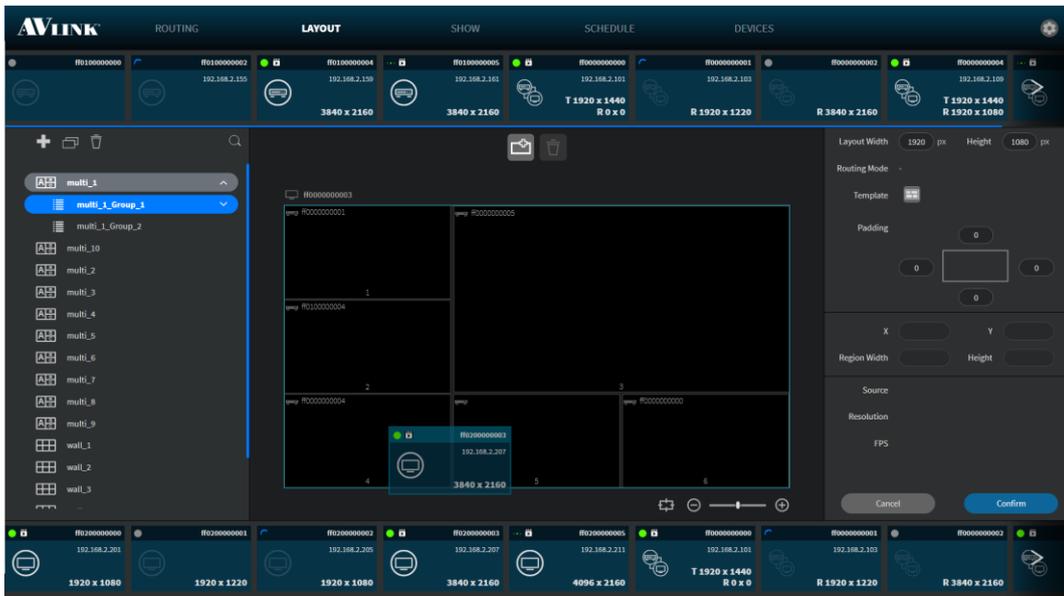


Figure 7-27 Source assignment in Multi-view layout



**Figure 7-28 Display assignment in Multi-view layout**

- In Video Wall layout, after dropping the device card to a region, the region's width and height will resize according to the device display size.

Drag a **Source** (IPS-TX / IPS-AX) device card

Layout	Multi-view	Video Wall
Canvas		
Desired region	✓	
Background		✓

Drag a **Display** (IPS-RX / IPS-AX) device card

Layout	Multi-view	Video Wall
Canvas		
Desired region		✓
Background	✓	

- After dragging **Source** (IPS-TX / IPS-AX) device cards or **Display** (IPS-RX / IPS-AX) device cards, the **Layout Device Info** area will show the configured information.
- Edit **Width** and **Height** of the selected layout



**Figure 7-29 Layout Width and Height setting**

- Select **Routing Mode** on **Video Wall** layout.



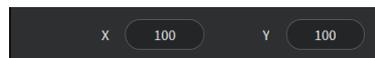
**Figure 7-30 Routing Mode setting**

- Click **Template button**  to edit the layout template, you can **re-select** the layout template.
  - **Current** – Existing layout file you have edited.
- Adjust **Padding** to create extra space within the layout.



**Figure 7-31 Layout Padding setting**

- Adjust **X** and **Y** coordinates of the region.



**Figure 7-32 Region X and Y coordination setting**

- Edit **Width** and **Height** of the selected region.



**Figure 7-33 Region Width and Height setting**

- Click **Grid toggle**  under **Canvas Edit Area**, which makes it easier to align regions by giving you a visual grid line.
- Click **Add button**  to add region into the canvas or click **Delete button**  (select a region to **enable** Delete button) to delete the selected region ([Figure 7-34](#)).

Click to **Add** region



Click to **Delete** region



Figure 7-34 Effect of Add and Delete region

- Zoom Out / Zoom In or using the sliding bar to adjust the zooming.

Zoom Out



Zoom In

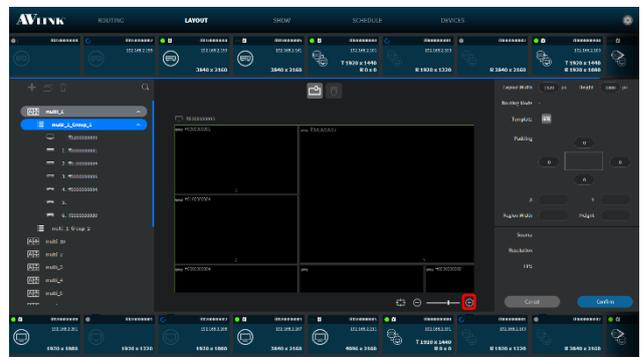


Figure 7-35 Effect of Zoom Out and Zoom In

- Click to **Save and Play**.
- **Rename** layout / device group  
**Mouse hover** the layout name / device group name and **double-click** it.

Layout



Device Group



Figure 7-36 Edit layout / device group name

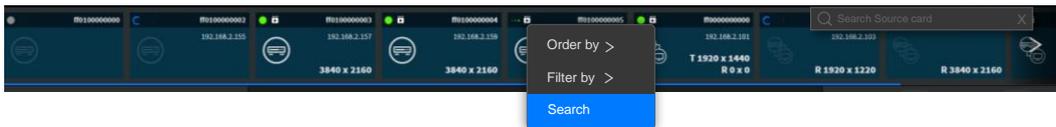
## 7.4.8 Layout Context Menu



Figure 7-37 Context menu of layout

- Click **Search** – pop up a search bar for Source / Display card lists

### Source card list search bar



### Display card list search bar

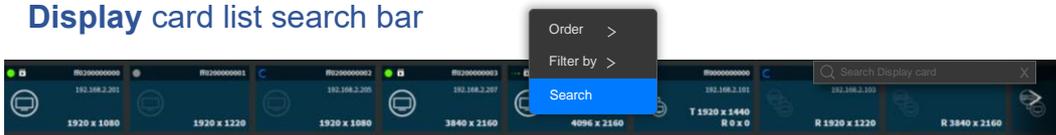


Figure 7-38 Search bar of Source / Display card list

- Hover **Order by** will show the sub-context menu

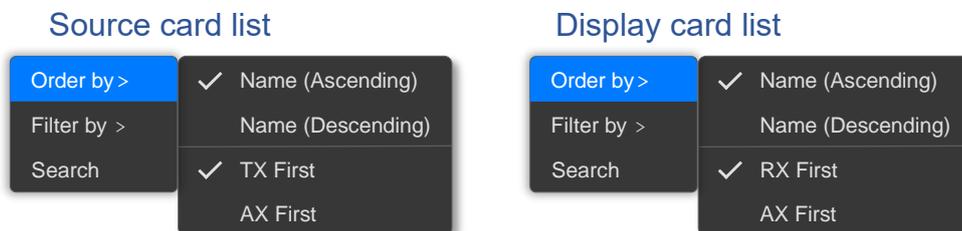
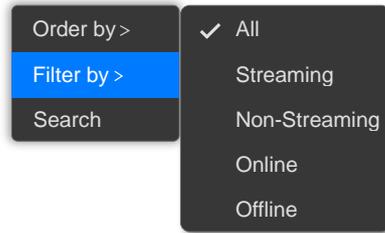


Figure 7-39 Card list's context menu of Order by

- Hover **Filter by** will show the sub-context menu

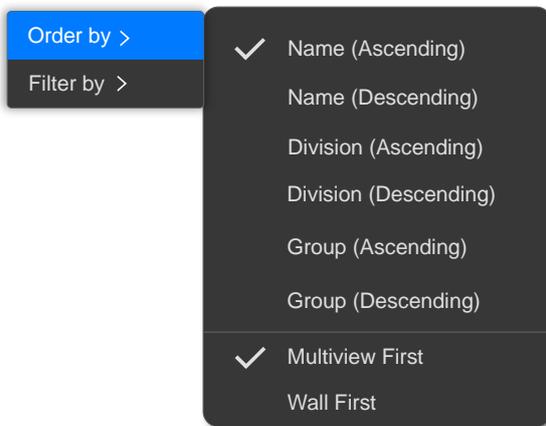
Source / Display card list's Filter by



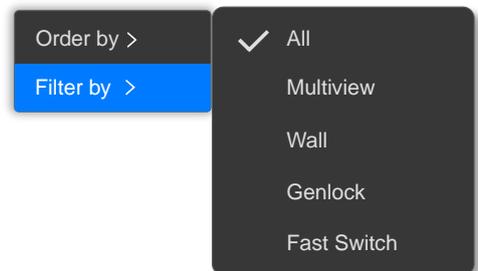
**Figure 7-40 Card list's context menu of Filter by**

- Layout File List's context menu

Order by



Filter by



**Figure 7-41 Layout File List's context menu**

## 7.4.9 Delete Layout

Select a layout that you want to delete, then click **Delete** button  to show **DELETE LAYOUT** confirmation message on popup. Click **Delete** to delete the layout.

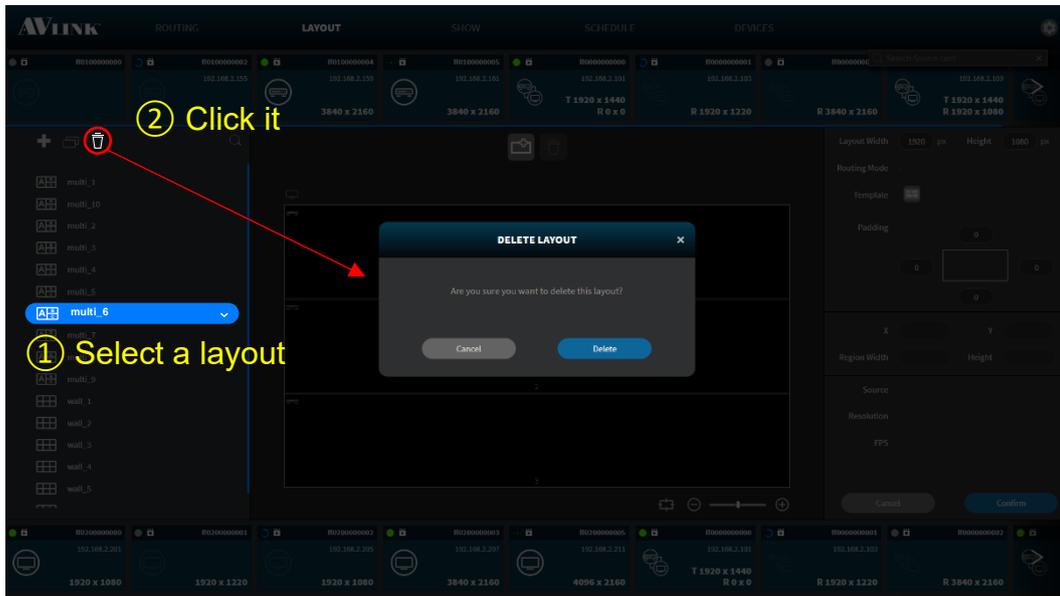


Figure 7-42 Popup of DELETE LAYOUT confirmation message

## 7.4.10 Delete Layout Device Group

Select a device group that you want to delete, then click **Delete** button  to show **DELETE LAYOUT DEVICE GROUP** confirmation message on the popup. Click **Delete** to delete the layout device group.

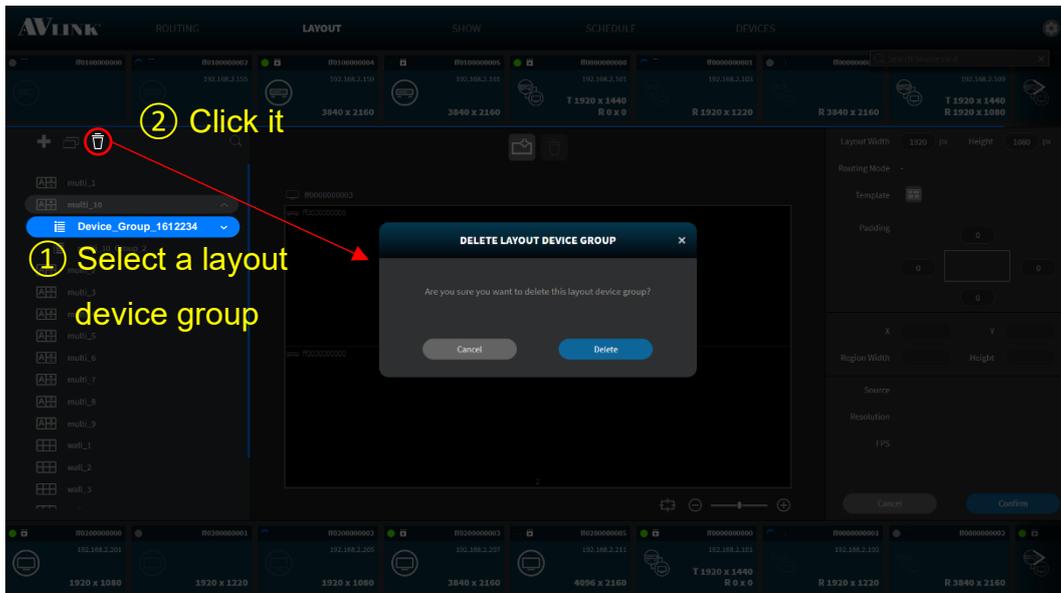


Figure 7-43 Popup of DELETE LAYOUT DEVICE GROUP confirmation message

## 7.4.11 Remove Device from Region

Select a device that you want to remove from the assigned region, then click **Delete** button  to show **REMOVE DEVICE** confirmation message on the popup. Click  to remove the device.

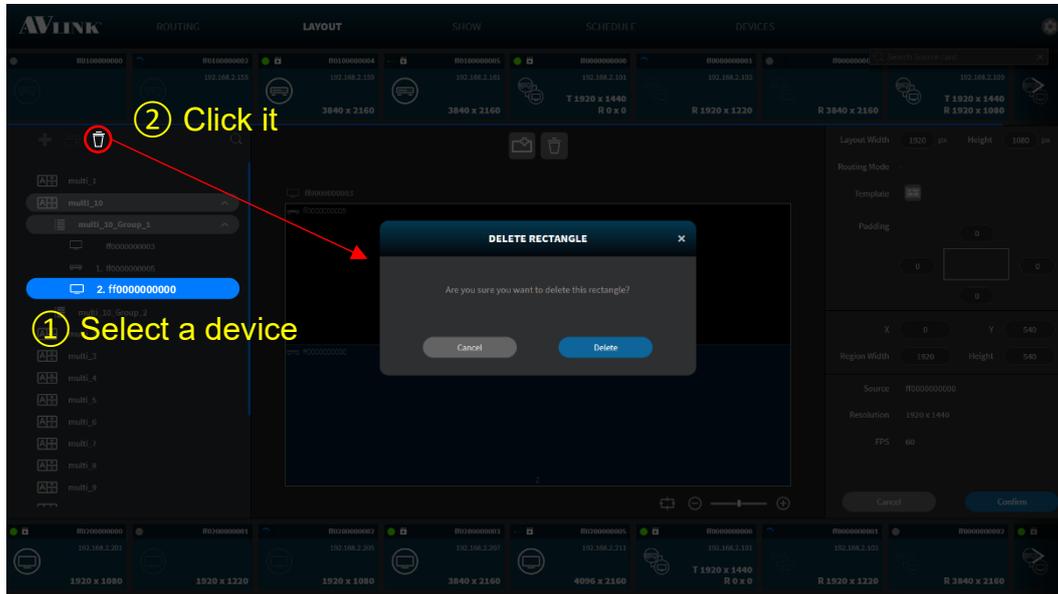


Figure 7-44 Popup of REMOVE DEVICE confirmation message

## 7.4.12 Preview Source Video

**Mouse hover** over **6** seconds on the online IPS-TX device card to see the preview of the source video.



Figure 7-45 Preview source video

## 7.5 Show

On the **SHOW** configuration page, you can organize the playback time of layout display, video routing, and audio routing.

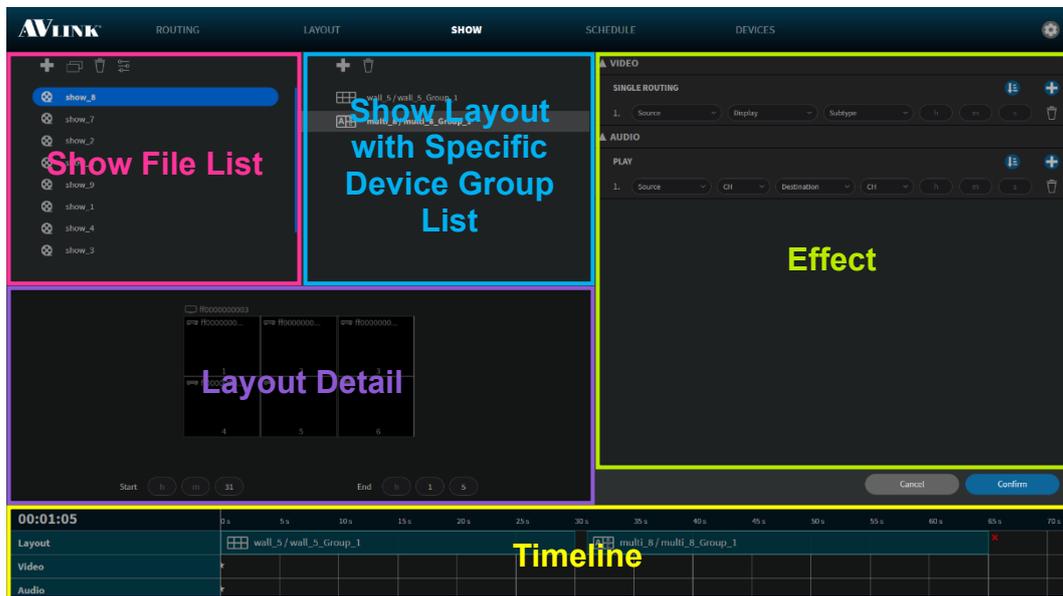


Figure 7-46 SHOW configuration

### 7.5.1 Show Component

#### 7.5.1.1 Show File List

Show File List lists the shows that have been set.

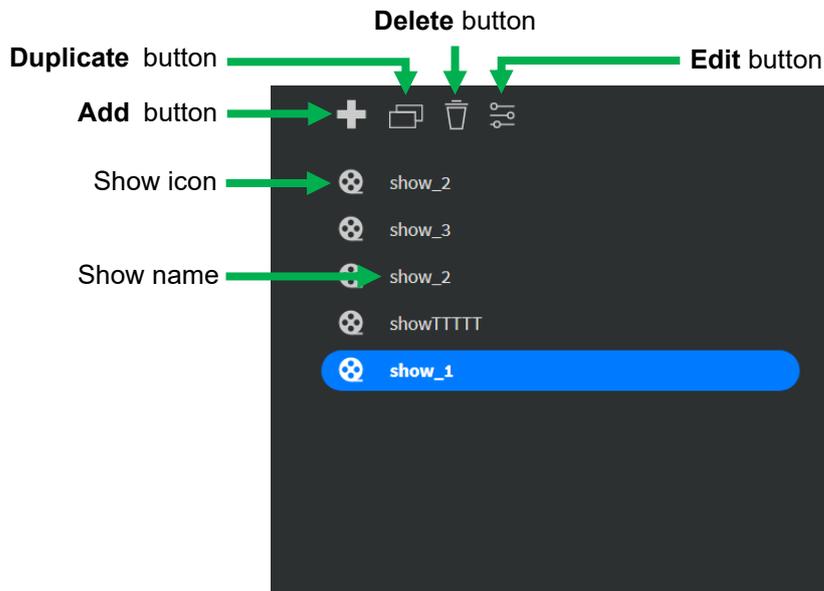


Figure 7-47 Show File List

### 7.5.1.2 Show Layout with Specific Device Group List

This list lists the layout and the selected device group that has been set in this show. Select a layout with device group to enable Delete button .

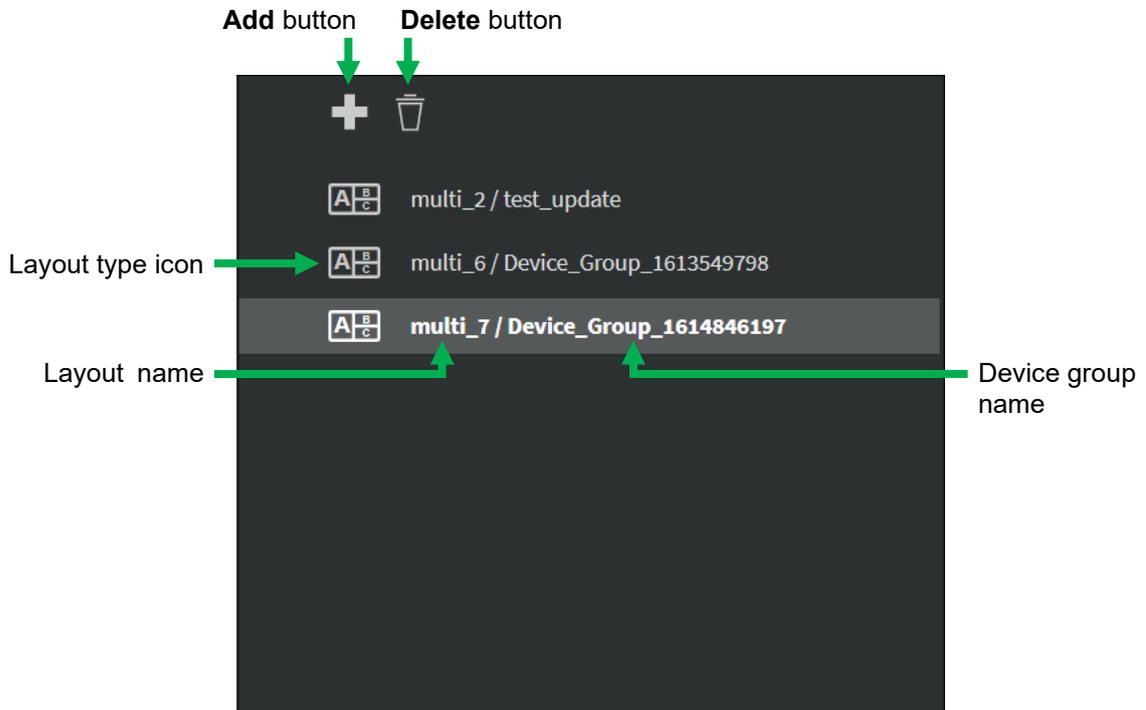


Figure 7-48 Layout with Specific Device Group List of show

### 7.5.1.3 Show Layout Library

Click **Add** button  on the top of layout with specific device group list. It will show **LAYOUT** Library on the popup.

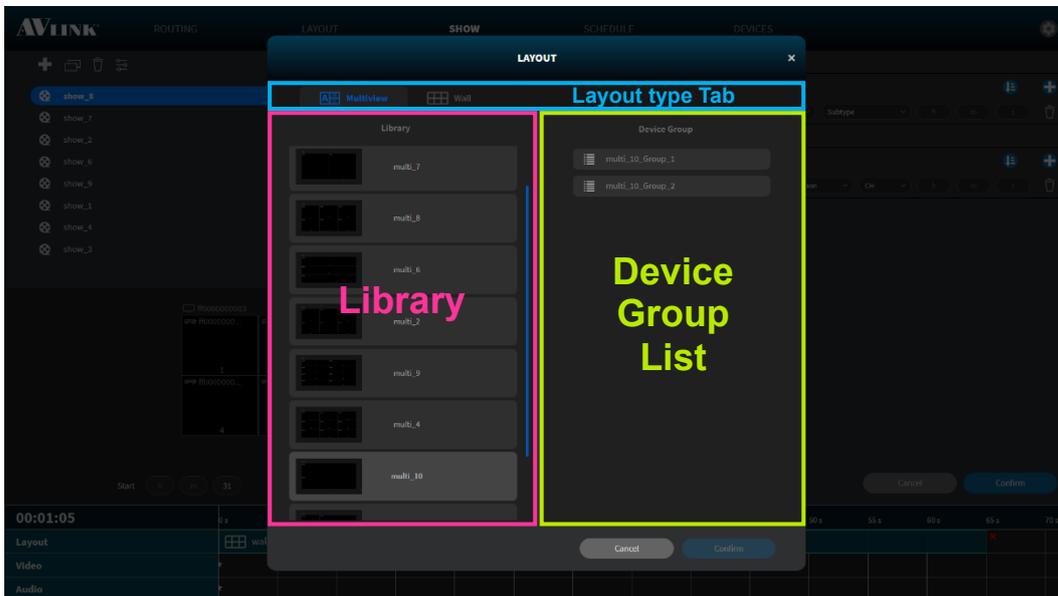


Figure 7-49 Popup of Layout Library (Multi-view)

### 7.5.1.4 Layout Detail

The Layout Detail shows the thumbnail of the selected layout with a specific device group. In this area, you can set the **Start** and **End** time of the layout.

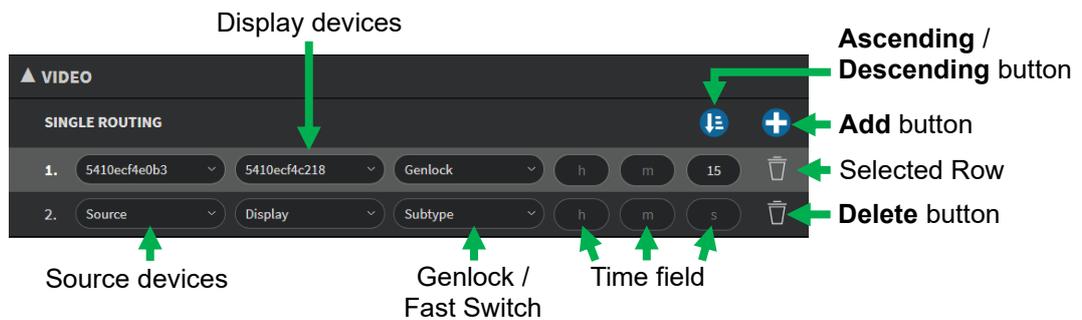


Figure 7-50 Layout Detail

### 7.5.1.5 Effect

- **Video Single Routing Effect**

The effects allow you to subscribe between **Source** (IPS-TX / IPS-AX) and **Display** (IPS-RX / IPS-AX) at the specific moment. Click  to add Single Routing Effect or click  to clear settings. Click Ascending button  or Descending button  to sort the time in ascending or descending order.



**Figure 7-51 Video Single Routing Effect list of show**

- **Audio Play Effect**

In this feature, you can configure the channel of **Source** (IPS-TX / IPS-AX) or **Destination** (IPS-RX / IPS-AX) device to play audio and playback time. Click  to add an Audio Play Effect or click  to clear settings.



**Figure 7-52 Audio Play Effect list of show**

### 7.5.1.6 Timeline

Click and drag your mouse to configure playback time.

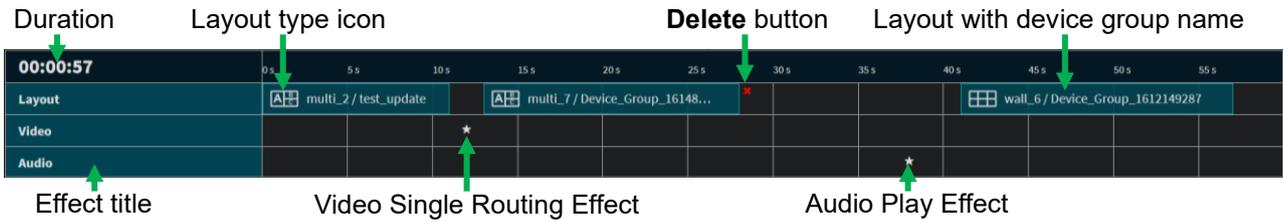


Figure 7-53 Timeline of show

### 7.5.2 Create Show

Click **Add** button **+** on the top of Show File List. It will pop up create **SHOW** form. Enter the show name and configure the duration to play. Then, click confirm button to create a show.

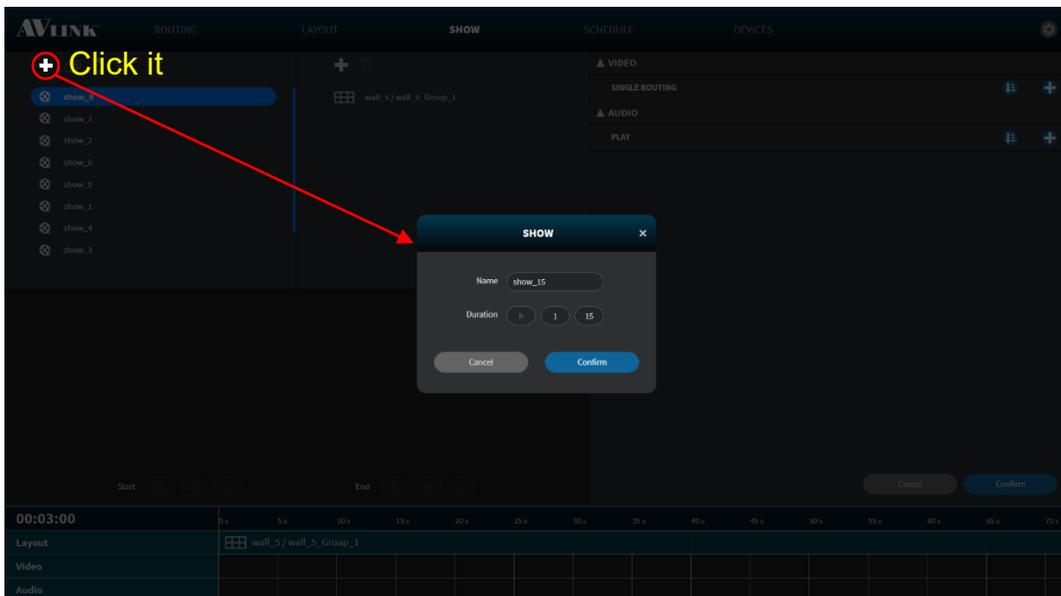


Figure 7-54 Create show

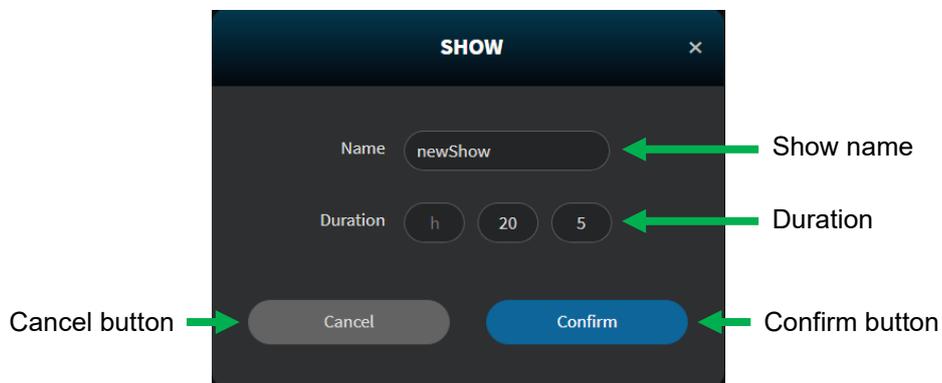


Figure 7-55 Popup of create SHOW form

### 7.5.2.1 Add Layout with Specific Device Group to Show

1. Click **Add** button  on the top of the layout with the specific device group list, it will pop up **LAYOUT** Library window.
2. Select one of the saved layouts and select a specific device group to play from the library.
3. Click **Confirm** to add layout to show.

### 7.5.3 Duplicate Show

1. Select a show that you want to duplicate.
2. Click **Duplicate** button  on the top of Show File List.

### 7.5.4 Edit Show

Click the **Edit** button  on the top of Show File List, you can **rename** and **reset** the duration.

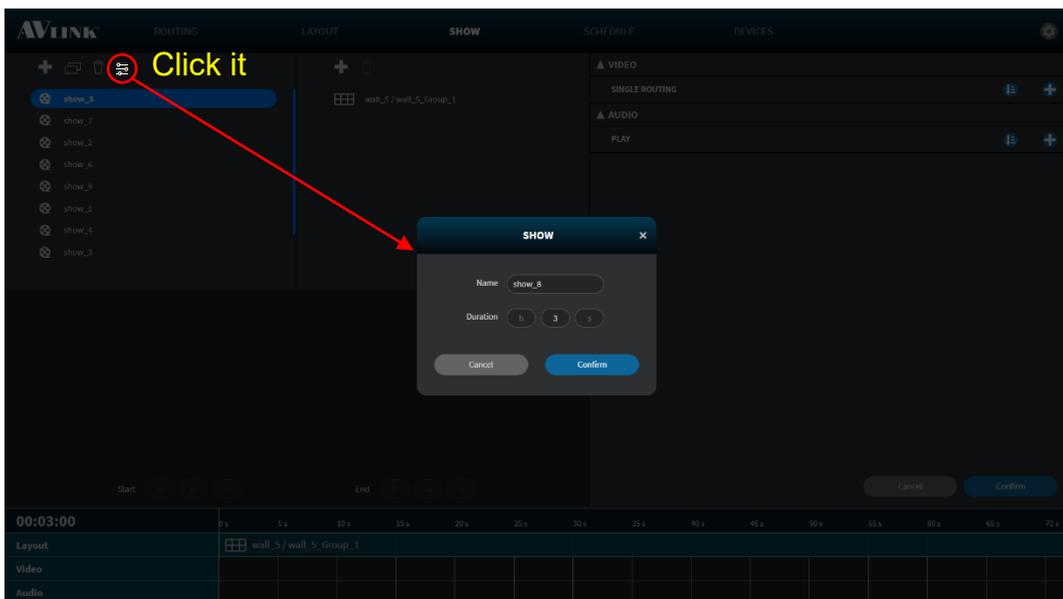


Figure 7-56 Show edit window

- Select the timeline item (click on it), then you can move or delete it.
- Timeline item (layout) is **resizable**, you can increase or decrease the period. Select the item in the timeline (click on it), then drag the edges back and forth.

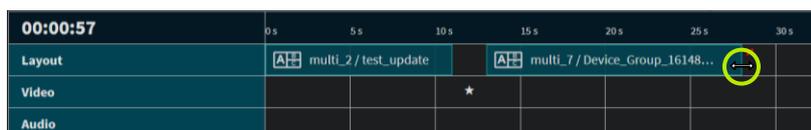
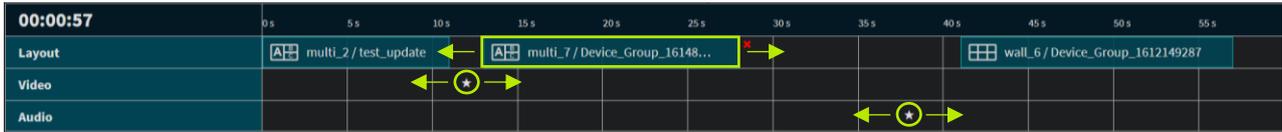


Figure 7-57 Timeline item (layout) resizing

- The timeline items are **draggable**, you can select the item in the timeline (click on them), afterward drag them left or right to **change** the layout, video, or audio time.



**Figure 7-58 Timeline item dragging**

- You can change the way of timeline axis display by scrolling the mouse wheel over the timeline.



**Figure 7-59 Timeline axis display adjustment**

- Drag the timeline to the left or right to view different parts of the timeline.



**Figure 7-60 Timeline movement**

- Click **Confirm** button  to save / send.

## 7.5.5 Delete Show

Click **Delete** button  on the top of Show File List to display **DELETE SHOW** confirmation message on the popup. Click  to delete the show.

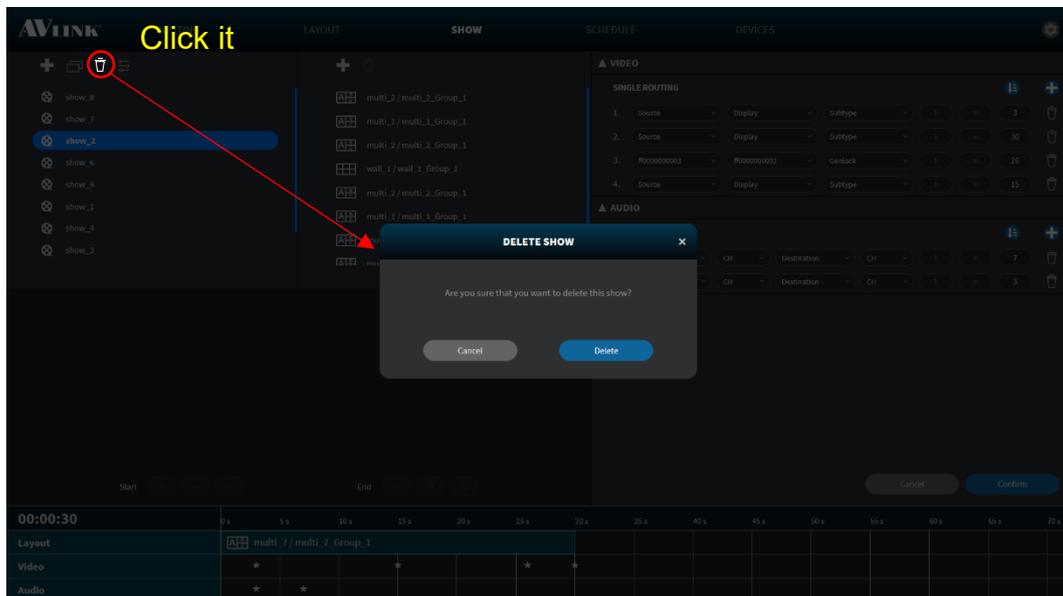


Figure 7-61 Popup of DELETE SHOW confirmation message

## 7.6 Schedule

On the **SCHEDULE** configuration page, the calendar shows you the Show playback schedule. Click **Today** in the top left corner to quickly return to today's date.

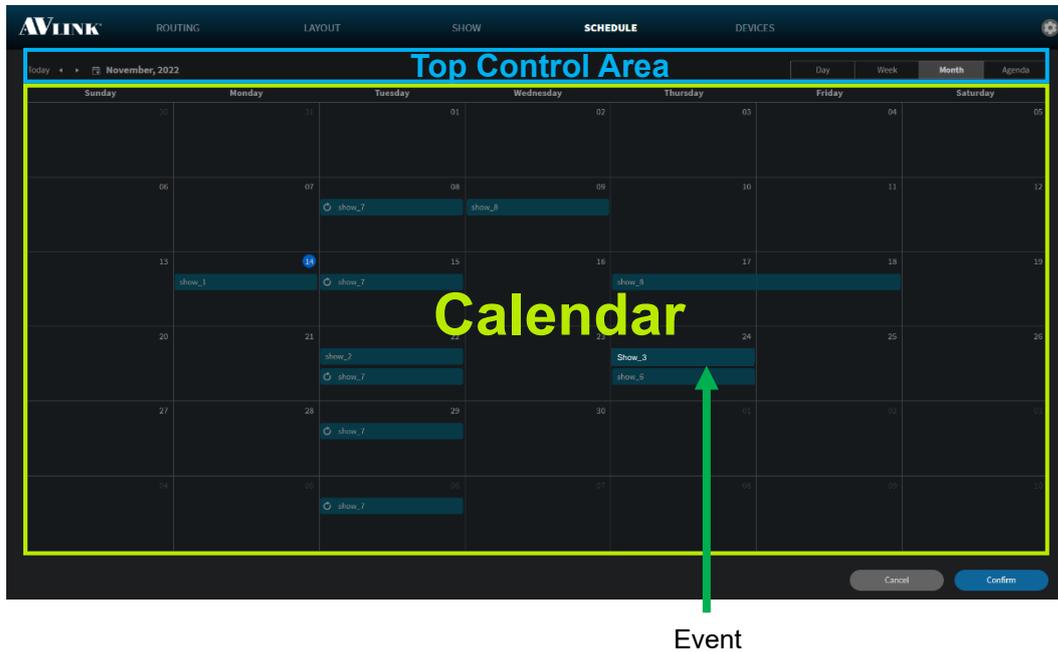


Figure 7-62 SCHEDULE configuration

- **Top Control Area**



Figure 7-63 Top Control Area

- **Calendar Date**

- On the **Week / Month view**, click **Date** will change to the **Day View** of that particular day.

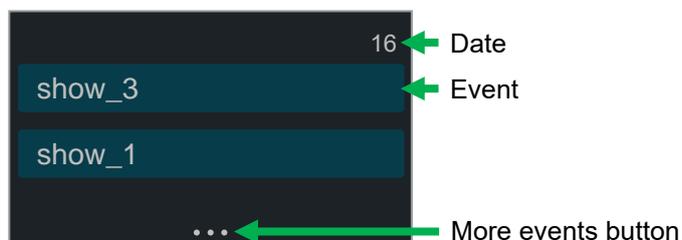


Figure 7-64 Calendar Date

## 7.6.1 Schedule Component

The Schedule Component includes **Day**, **Week**, **Month**, and **Agenda** View.

### 7.6.1.1 Day View

Switch View Tabs **Day** **Wee** **Month** **Agend** to **Day** item, it will navigate to **Day View**.

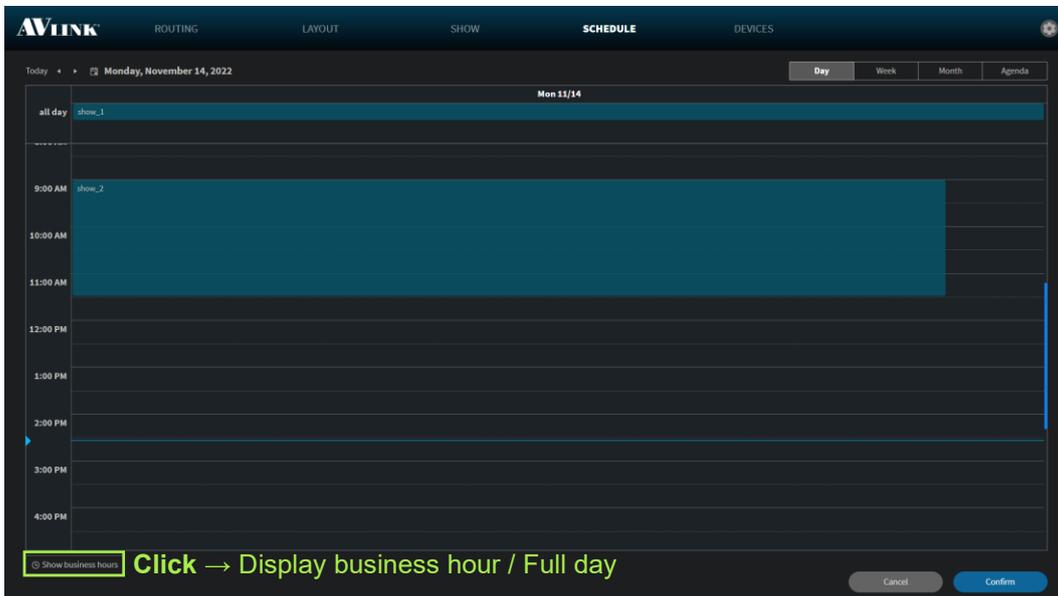


Figure 7-65 Day View in SCHEDULE configuration

### 7.6.1.2 Week View

Switch View Tabs **Day** **Wee** **Month** **Agend** to **Week** item, it will navigate to **Week View**.

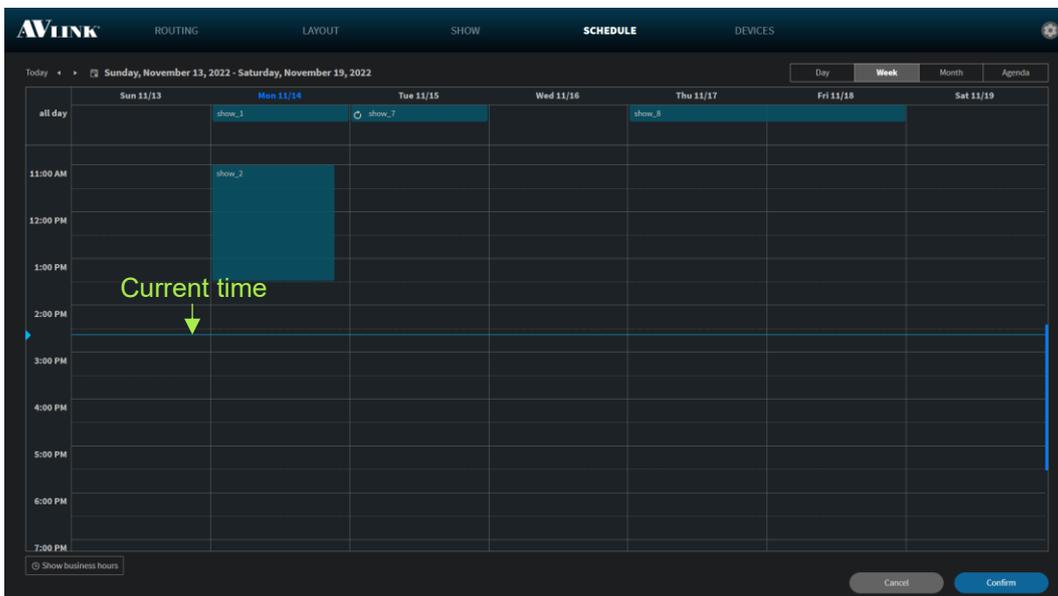


Figure 7-66 Week View in SCHEDULE configuration

### 7.6.1.3 Month View (Default view)

Switch View Tabs **Day** **Week** **Month** **Agenda** to **Month** item, it will navigate to **Month View**.

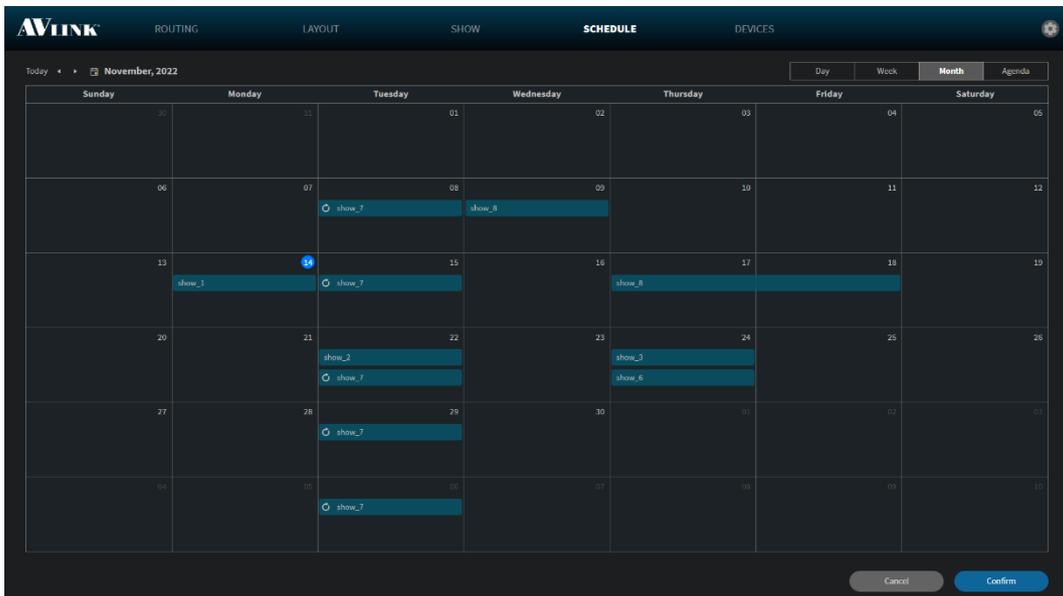


Figure 7-67 Month View in SCHEDULE configuration

### 7.6.1.4 Agenda View

Switch View Tabs **Day** **Week** **Month** **Agenda** to **Agenda** item, the **Agenda View** displays a list of events for a given period of a week.

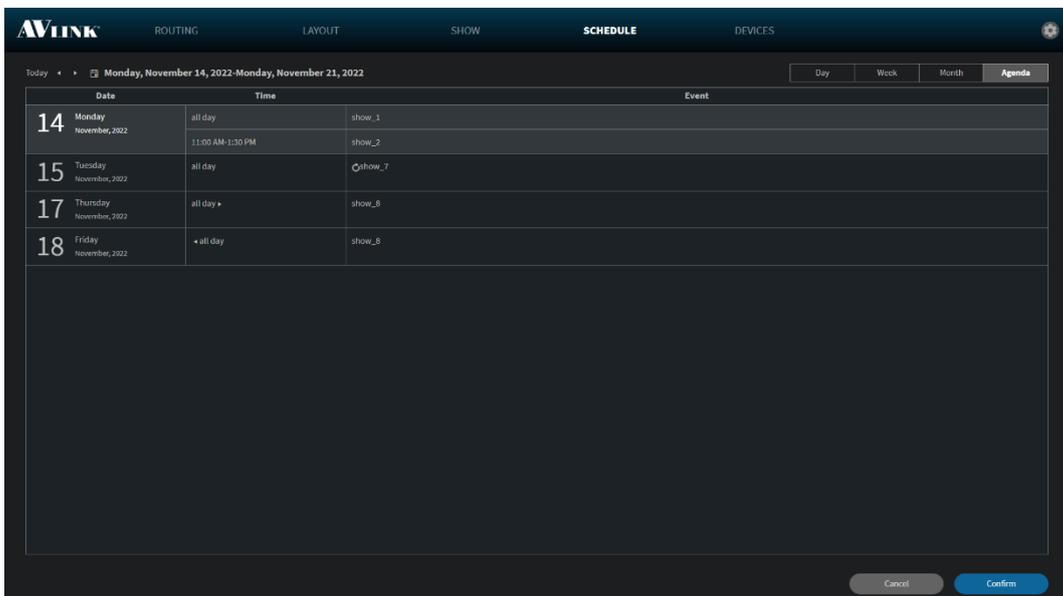


Figure 7-68 Agenda View in SCHEDULE configuration

### 7.6.1.5 Create Event

- On the **Month View** - Double-click on a date which will generate an **EVENT** form.
- On the **Day** or **Week View** - Double-click at a specific time or on the **All-Day** section at the top which will generate an **EVENT** form.
- Select a show from the Show File List selector.
- Fill in the event's most important details.
- Click  to create an event at the date / time you set.

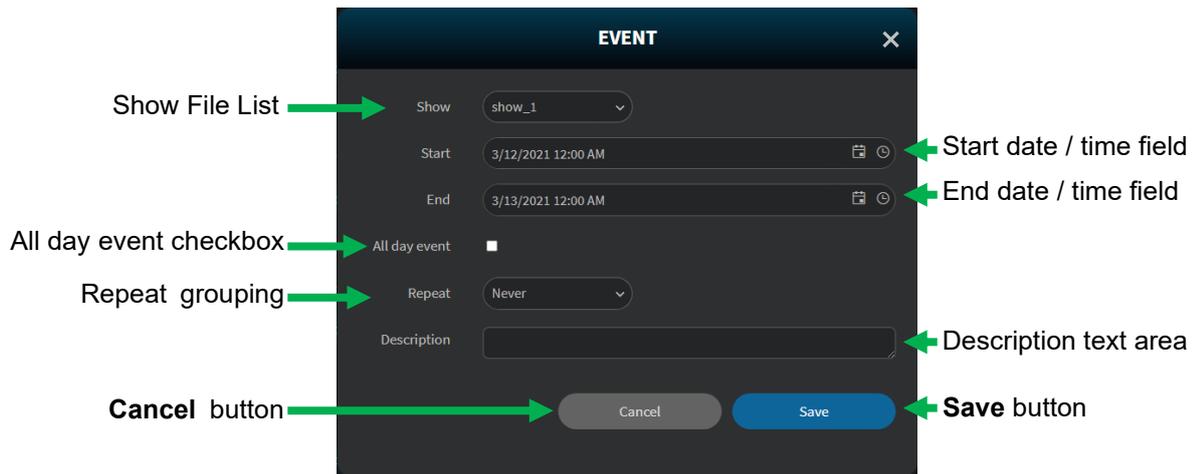


Figure 7-69 EVENT window

- Start / End time field.  
If the **All-day event** is checked, the **Start** and **End** time field will only display the **Date** picker button.

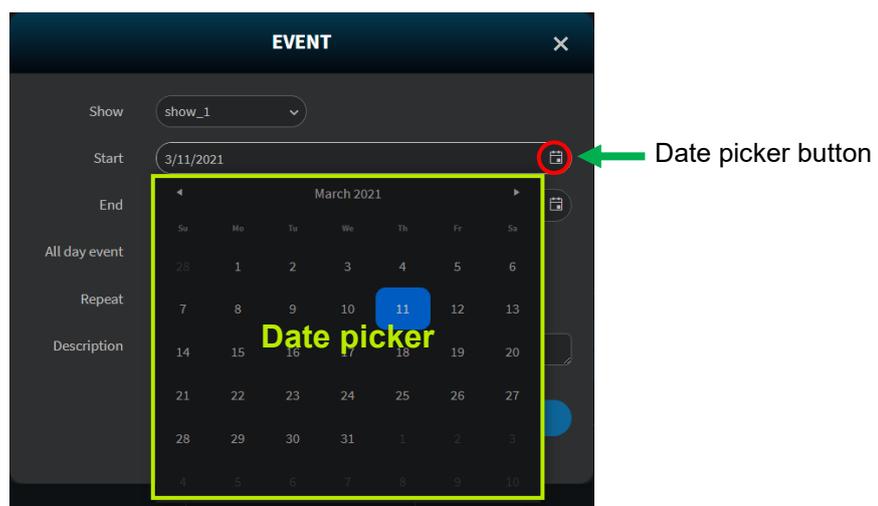


Figure 7-70 Date picker in EVENT window

If the All-day event is **unchecked**, the **Start** and **End** time field will display both the **Date** and **Time** picker buttons.

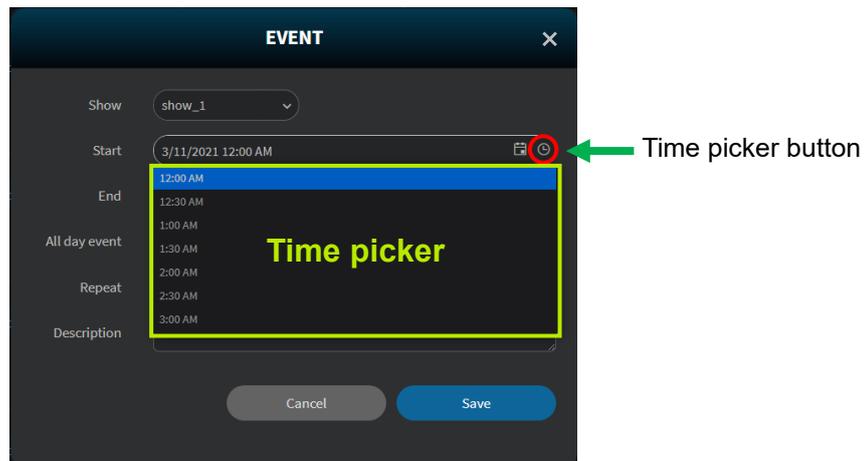


Figure 7-71 Time picker in EVENT window

- Daily Repeat Option.

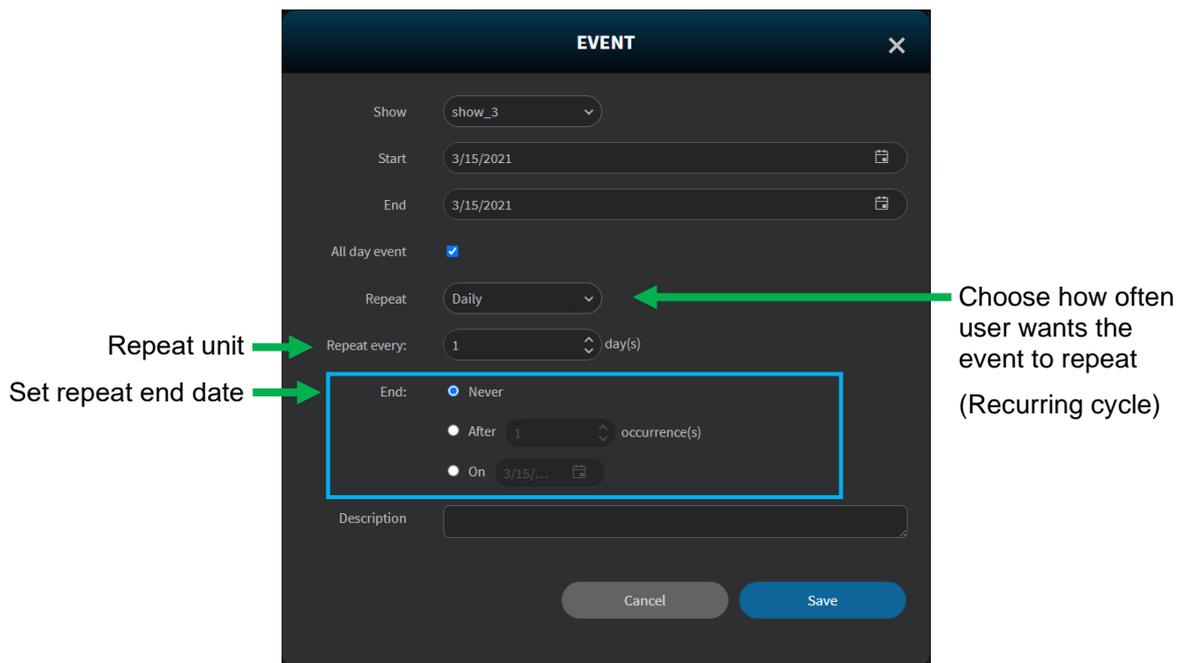
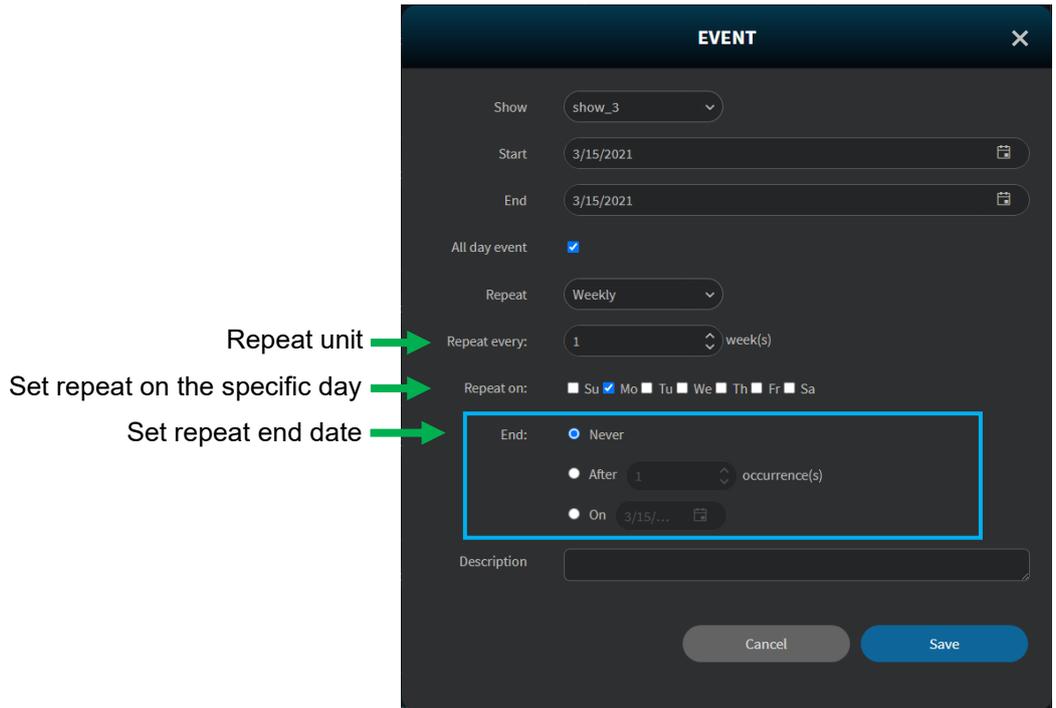


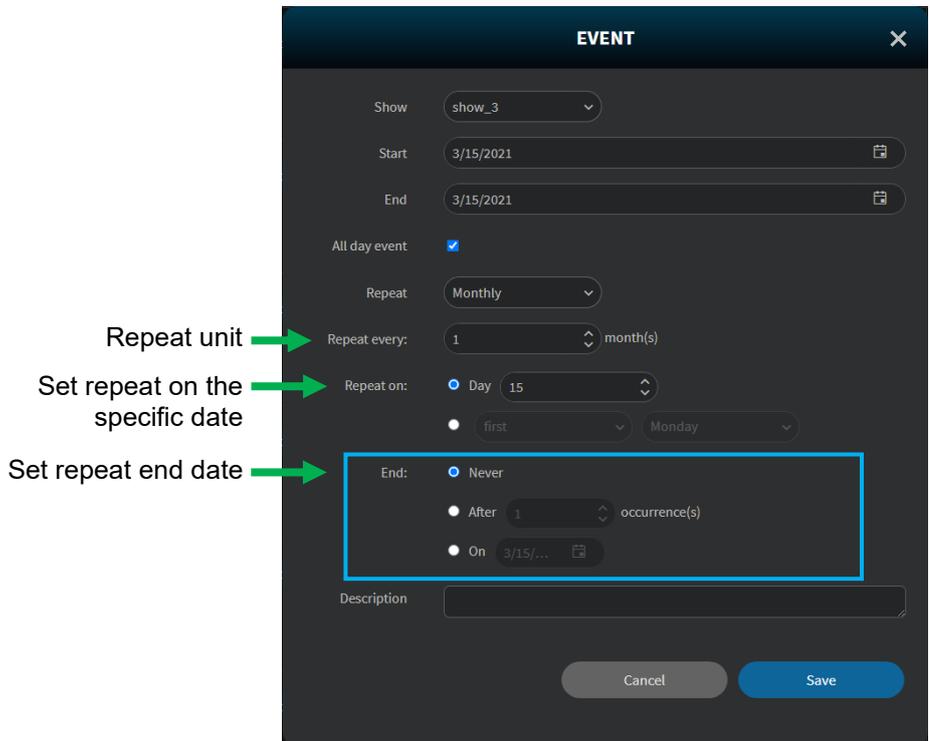
Figure 7-72 Daily Repeat Option in EVENT window

- Weekly Repeat Option.



**Figure 7-73 Weekly Repeat Option in EVENT window**

- Monthly Repeat Option.



**Figure 7-74 Monthly Repeat Option in EVENT window**

- Yearly Repeat Option

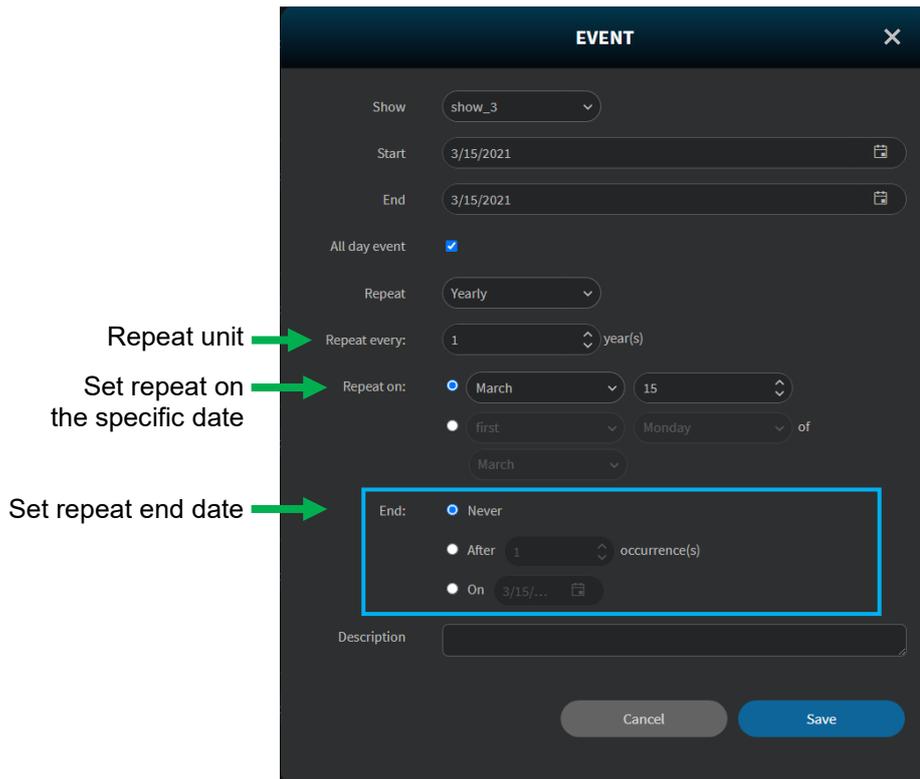


Figure 7-75 Yearly Repeat Option in EVENT window

- Event Outlook

**Once event**



Figure 7-76 Once event component

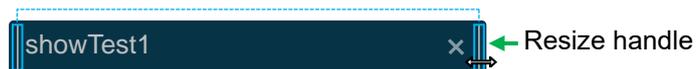
**Recurring event**



Figure 7-77 Recurring event component

**Rearrange event**

- To rearrange an event, drag the edges of the event to extend the start and end dates / times.



**Mouseover** the event, the resize handle will display, and the **cursor** will change to double side arrow.

Figure 7-78 Rearrange event component

### 7.6.1.6 Edit Recurring Event

Double-click the recurring event, it will pop up **EDIT RECURRING ITEM** window allows you to **Edit the series** (blue arrow) or **Edit current occurrence** (lime arrow) event.

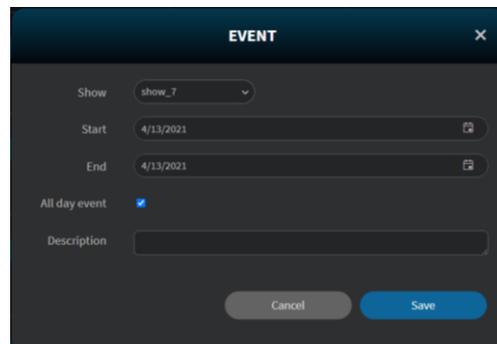
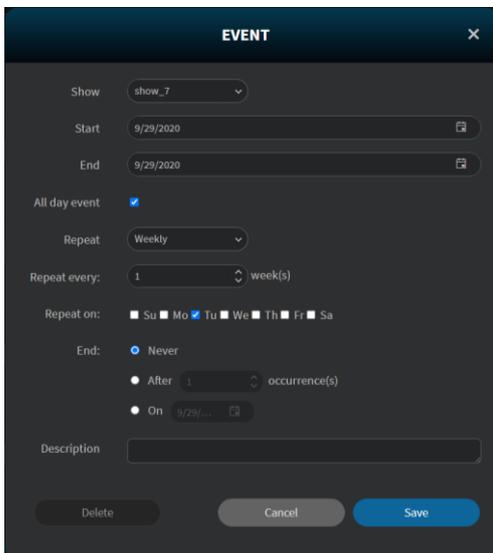
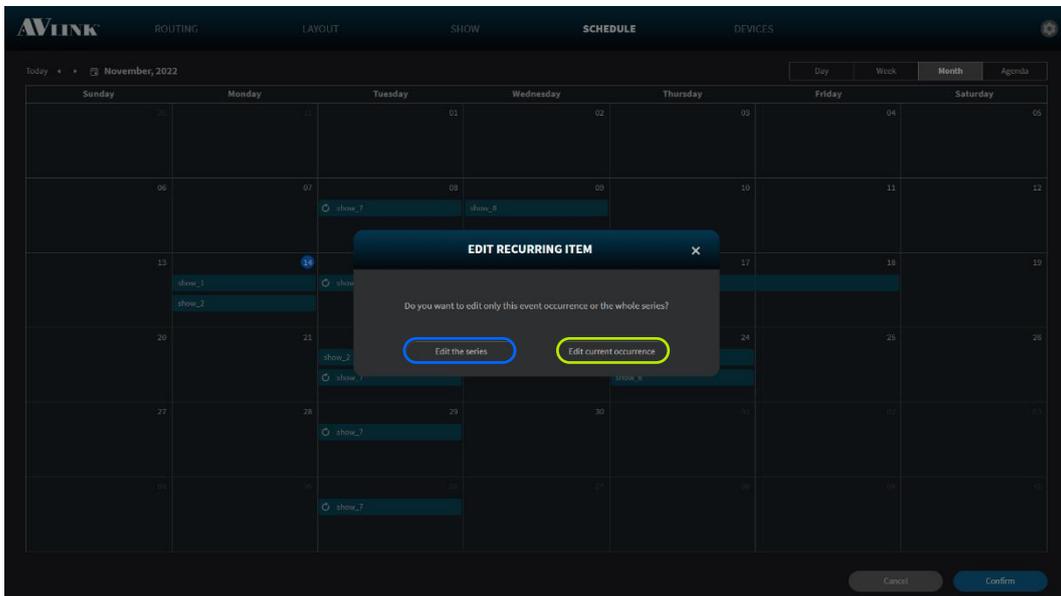


Figure 7-79 Edit recurring EVENT windows

### 7.6.1.7 Edit Event

Double-click the event you want to edit, it will pop up the edit **EVENT** window allowing you to select the configured show, edit the Start, and End time, Repeat setting, All day event selection and Description of the show.

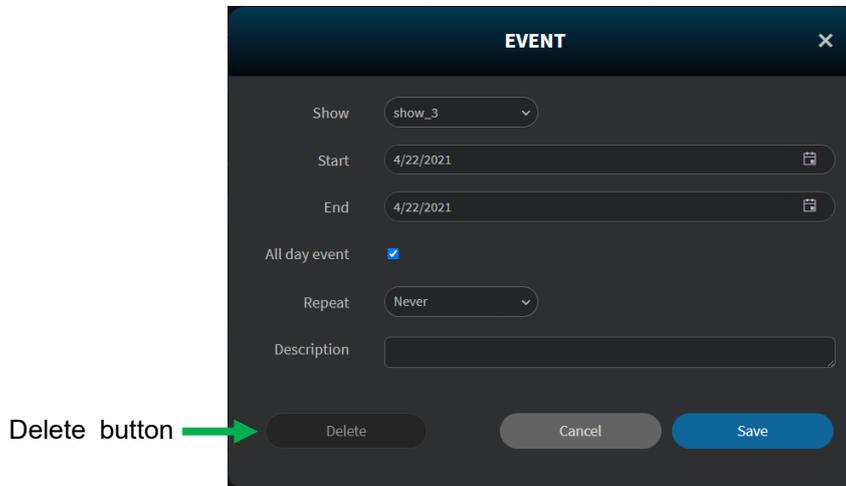


Figure 7-80 Edit EVENT window

### 7.6.1.8 Delete Event

Click **Delete** button  of an event, and pop up **DELETE EVENT** message to confirm.

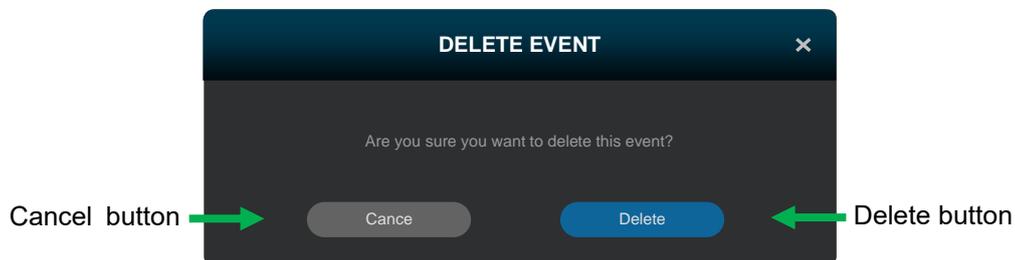


Figure 7-81 Delete EVENT window

## 7.6.2 Edit Schedule

- **Resize:** On the Month, Week, and Day Views, you can **drag the edges** of the event to extend the start and end dates / times of the Calendar event.
- **Rearrange:** On the Month, Week, and Day Views, you can **drag** the calendar event and **drop** it on other date / time ranges to change both the start and end dates / times.
- Click **Confirm** button  to save / send.

## 7.7 Devices

The **DEVICES** configuration page shows you all the information about configured devices. This screen will refresh the IPS-M controller and the IPS-TX / IPS-RX / IPS-AX device's information every 30 seconds automatically.



Figure 7-82 DEVICE configuration

### 7.7.1 IPS-TX / IPS-RX / IPS-AX Device Component

#### 7.7.1.1 Device Info

- **Device** – You can **edit the** IPS-TX, IPS-RX, or IPS-AX device's name and **view** the specific device's basic information. Further, you can click the **Refresh device temperature** button  to get the current online specific the IPS-TX, IPS-RX, or IPS-AX device temperature.

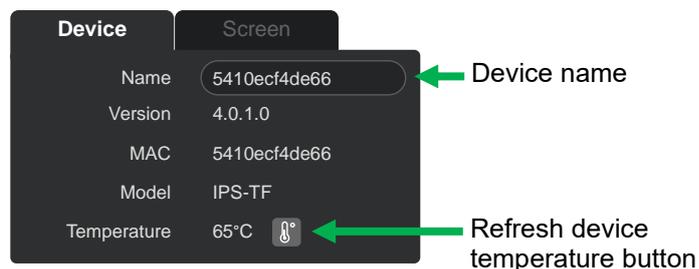
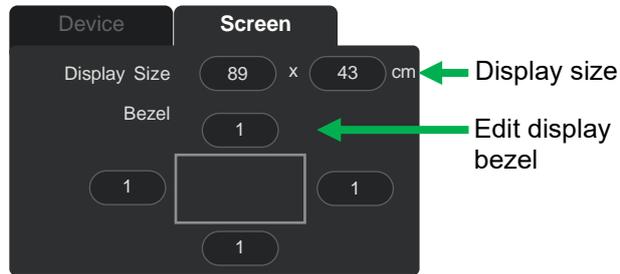


Figure 7-83 Device basic information

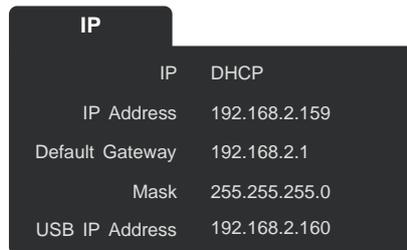
- **Screen** – You can edit the IPS-RX / IPS-AX display size and bezel. With the **Bezel Compensation** setting, it can produce a more continuous image across the displays and provides a more realistic experience.



**Figure 7-84 Screen setting window**

### 7.7.1.2 IP

View selected the IPS-TX / IPS-RX / IPS-AX device network information

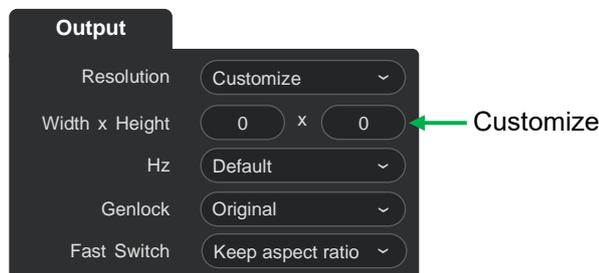


**Figure 7-85 Device network information**

### 7.7.1.3 Output

- Select the **IPS-RX / IPS-AX** device

Selecting the **Resolution** and **Hz** of the IPS-RX / IPX-AX device, using original or scaled video source resolution when routing video in **Genlock** mode, and ratio adjust method in **Fast Switch** mode.



**Figure 7-86 Device output information of the IPS-RX / IPS-AX**

### Resolution selector

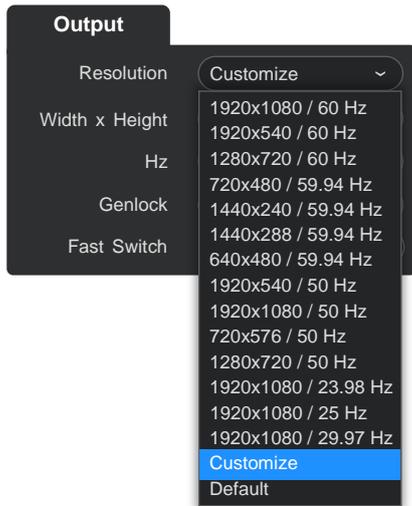


Figure 7-87 Resolution selector of the IPS-RX / IPS-AX

### Hz selector

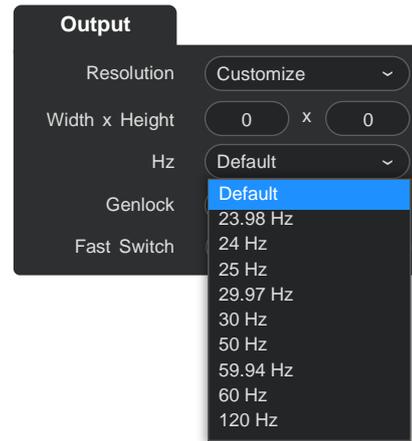


Figure 7-88 Hz selector of the IPS-RX / IPS-AX

### Genlock selector

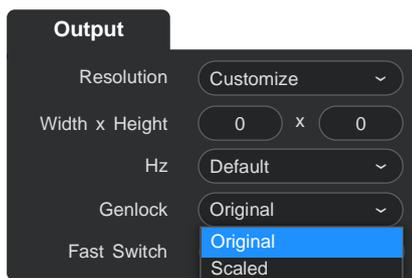


Figure 7-89 Genlock selector of the IPS-RX / IPS-AX

### Fast Switch selector

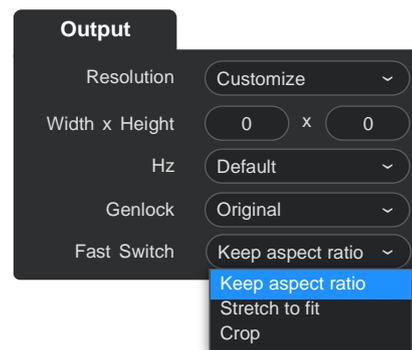


Figure 7-90 Fast Switch selector of the IPS-RX / IPS-AX

### 7.7.1.4 Streaming Information

Click the top **Tabs** to get the information on each interface including **Video**, **Audio**, **RS232**, **USB**, and **IR**.

- **Video** – You can view the device streaming video information. In the IPS-TX, you can switch to an used video interface, HDMI or Display Port.
  - HDCP is designed to prevent theft of digital content, which is another way of saying illicit recording. According to your device, select a suitable HDCP option.

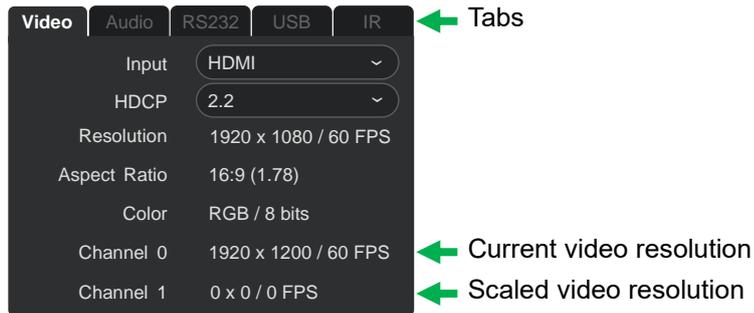


Figure 7-91 Device streaming Video information

- **Audio** – View the **Channels** and **Sample Rate** information. In the IPS-TX, you can change the direction of the audio 3.5mm Jack.

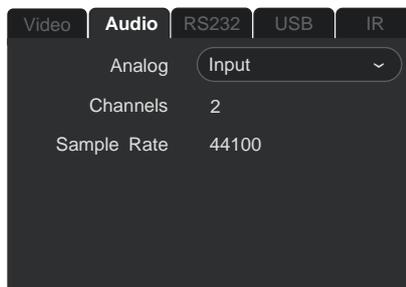


Figure 7-92 Device streaming Audio information

- **RS232** – Configured RS-232 **Baud Rate**, **Data Bit**, **Parity** and **Stop Bit** for specific IPS-TX, IPS-RX, or IPS-AX devices.

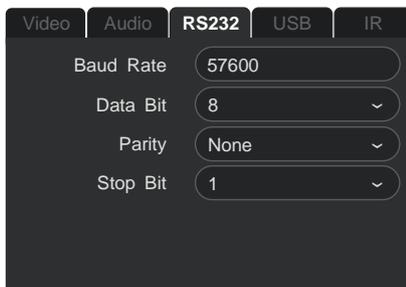


Figure 7-93 Device streaming RS232 information

- **USB** – Configured **USB Role** for specific IPS-TX, IPS-RX or IPS-AX devices. Configured **USB HID Role** for the IPS-AX device.

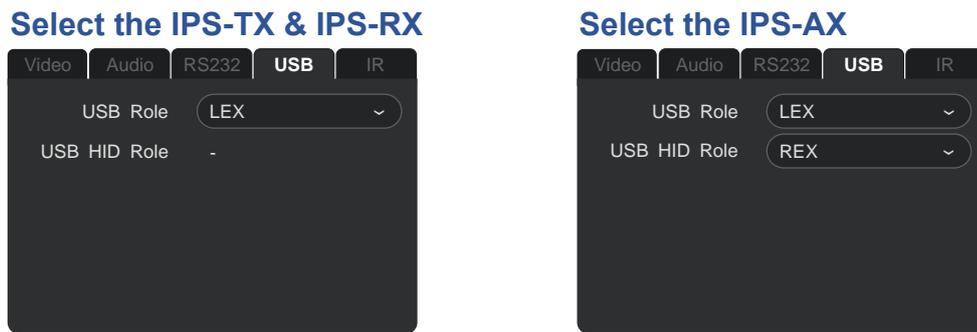


Figure 7-94 Device streaming USB information

### 7.7.1.5 Device's Context Menu

Device card's right-click context menu offers a set of choices (**Refresh**, **Erase**, **Reset**, and **Delete**).

The enabled / disabled state of choices are actions related to the selected device status.

- Right-click:
  - 🔄 **Refresh** – Reload the device's current information.
  - 🧼 **Erase** – Erase custom settings and restore to default.
  - 🔄 **Reset** – Reset configuration of the specific device to the factory default value.
  - ✖ **Delete** – Delete the device from your configuration. (The device is still connected, not configured.)

**Online** ● (The indicator on the upper left corner is on.)



Figure 7-95 Online device's context menu

Offline ●



Figure 7-96 Offline device's context menu

Error !

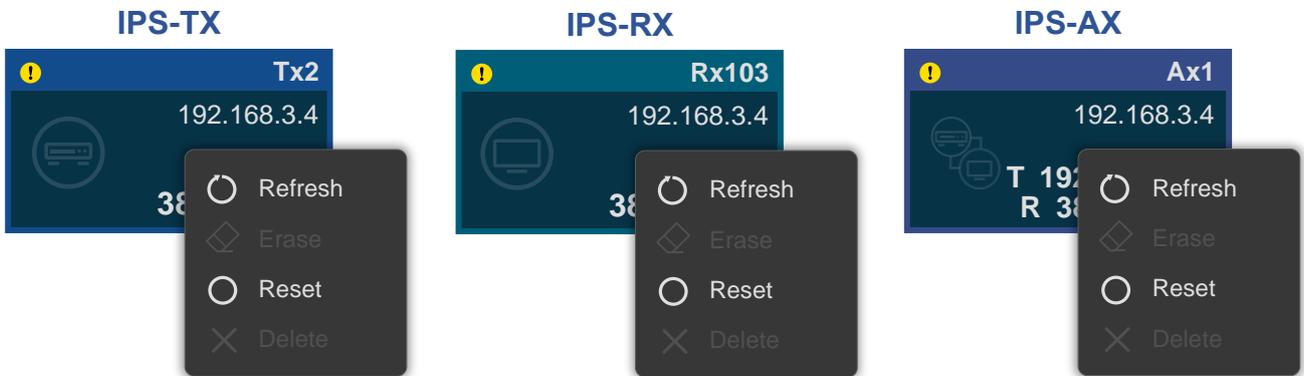


Figure 7-97 Error device's context menu

Configuring ●●



Figure 7-98 Configuring device's context menu

## Upgrading



Figure 7-99 Upgrading device's context menu

- Press the **Alt** key to view configured display size of the IPS-RX and IPS-AX

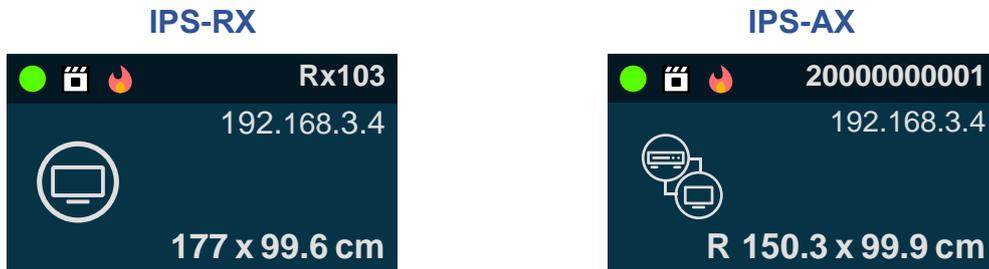


Figure 7-100 Press Alt key

### 7.7.1.6 Edit IP

1. **Mouse hover** on the online IPS-TX, IPS-RX, or IPS-AX device card's **IP address**, and **double-click** it.
2. Select **DHCP** to configure **IP Address**, **Default Gateway**, and **Mask** automatically, or **Manual** to edit them.

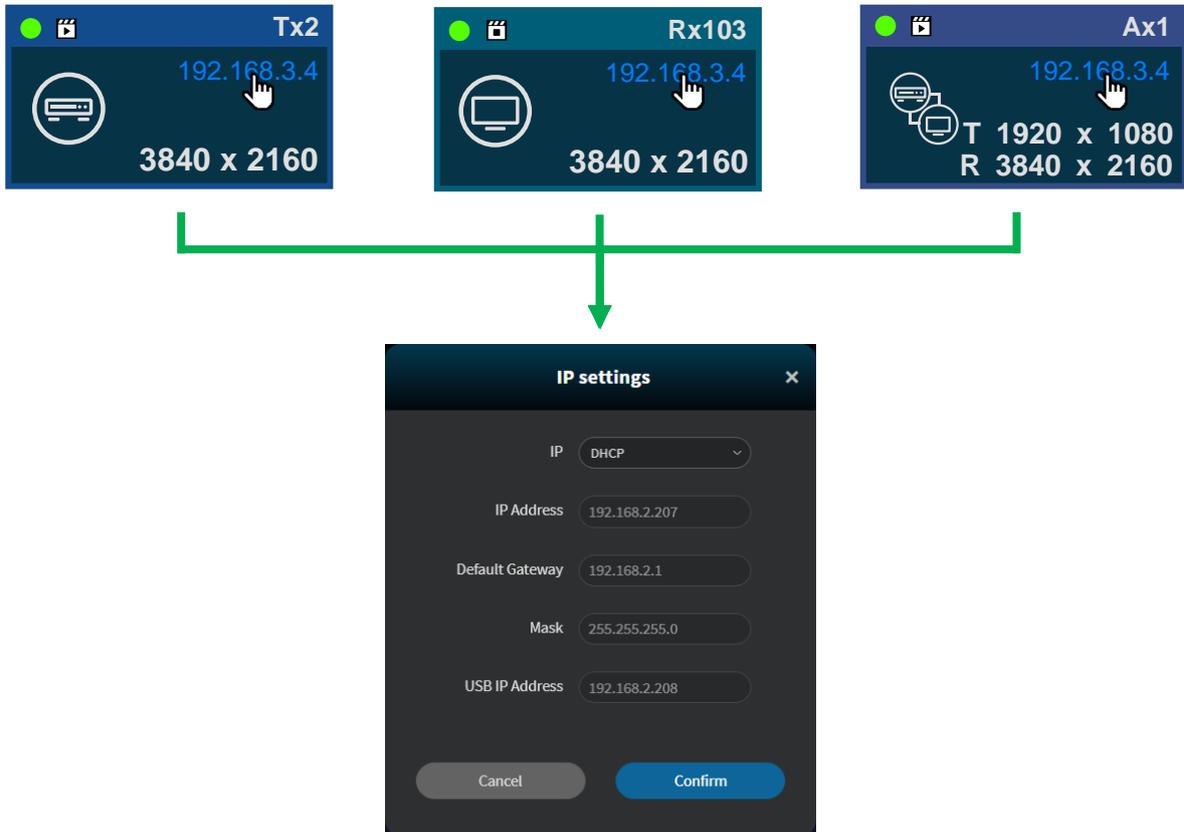


Figure 7-101 Edit device IP window

If the red border is shown on the input field, please check each field matches the correct network configuration rules.

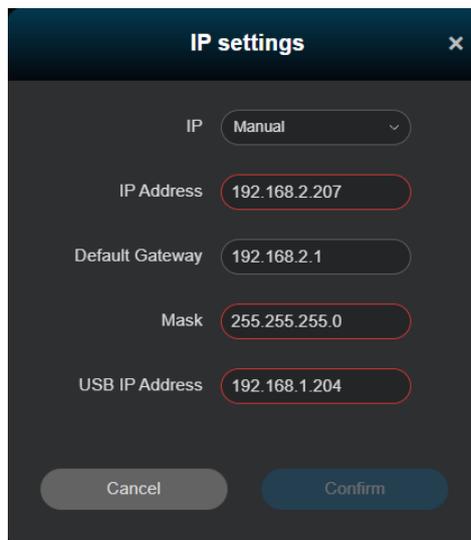


Figure 7-102 Edit device IP window with invalid values

### 7.7.1.7 OSD (On-Screen Display) Control

- Control OSD on /off, and this can be used to adjust the scale factor.

The OSD is applied when the IPS-TX and IPS-RX are running in **Fast Switch video routing, Multi-view, or Video Wall**. The IPS-AX **un-supports** OSD feature.

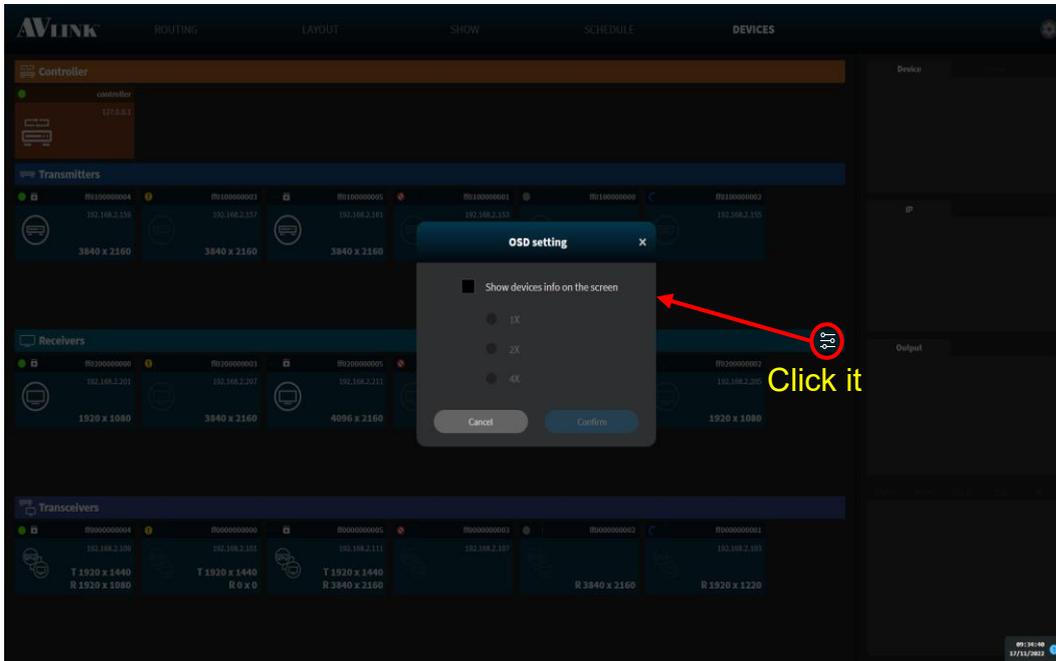


Figure 7-103 Set device OSD window

- Turn **OSD on**
  - You can see the IPS-TX information on the Top-Left of the screen, and the IPS-RX information on the Bottom-Right of the screen.



Figure 7-104 The screen with OSD

- Turn **OSD off**



Figure 7-105 The screen without OSD

## 7.7.2 IPS-M Controller Component

The top of the Device screen shows you the IPS-M controller card.

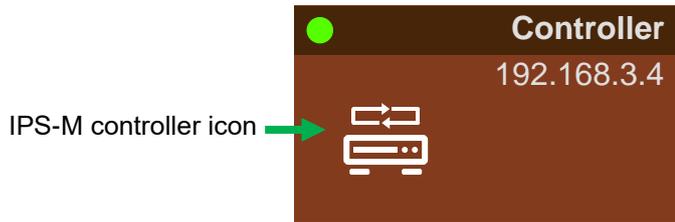


Figure 7-106 IPS-M controller card

### 7.7.2.1 IPS-M Controller

Edit the IPS-M controller's name here.

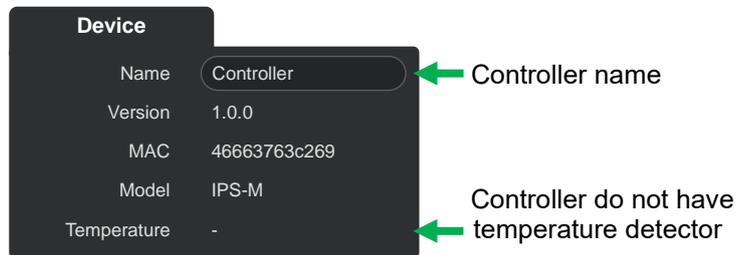


Figure 7-107 IPS-M controller basic information

### 7.7.2.2 IP

View the IPS-M controller's network information.

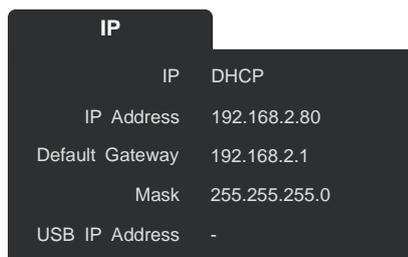


Figure 7-108 IPS-M controller network information

### 7.7.2.3 IPS-M Controller's Context Menu

- Right-click:

**Refresh** – Reload the controller current information.

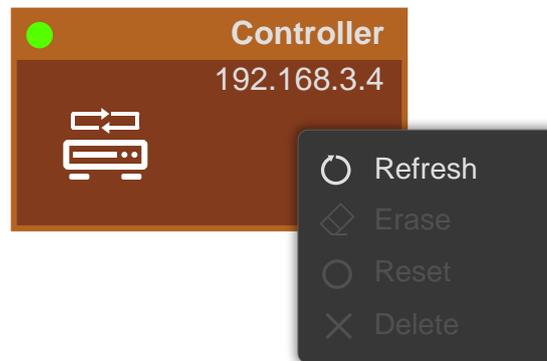


Figure 7-109 IPS-M controller context menu