



High Speed Makes Easy

4K/60Hz AV Over IP Solution

IPS-TC / IPS-TF

IPS-RC / IPS-RF

IPS-AC / IPS-AF

IPS-M



The User Manual

IPS-Series V.30

The IPS system installation and usage instruction

The following items are conditions that must be followed in the construction of the IPS system, please read carefully and confirm before use.

- The 10G Switch used with the IPS system must be an SDVoE certified manufacturer and model.
- Before connecting the IPS to 10G 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.
- If the specified IP address is to be used in the installation environment, the setting of the IP cannot be a continuous number, for example: (192.168.1.5, 192.168.1.7, 192.168.1.9)
- As from item 3, when specifying the IP, "192.168.1.50" or more represents N, then the IP required by USB will be the tail number for the next IP group, that is, N+1.

CAUTION

- Follow all instructions marked on the device during using.
- 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 (example cart, stand, table, etc.).
- The system should be installed indoor 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 with 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. Based on this structure, AV LINK controller IPS-M provides an efficient way to configure the AV over IP system upon the IPS-TX and IPS-RX. This IPS-M is an API based command server, and you can easily use PC to configure the IPS-TX and IPS-RX connected to Ethernet switch. The IPS-M can also monitor the status of each device within the network.

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 1-5 IPS-AF



Figure 1-6 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 2
	User Manual x 1

CHAPTER 2 FEATURES

Feature	
HDMI Input	<ul style="list-style-type: none"> • True 4K/60Hz 4:4:4, HDR • HDMI 2.0 compatible input port • Support HDCP 1.4 and 2.2
HDMI Output	<ul style="list-style-type: none"> • True 4K/60Hz 4:4:4, HDR • HDMI 2.0 compatible output port • Support HDCP 1.4 and 2.2 • Multi-view mode: The video format keeps RGB 8-bit
10G-SFP+Transport	XFI interface <ul style="list-style-type: none"> • 10GBASE-T 100m with Cat 6a cable • Multi-mode fiber 300/500m with OM3/OM4 fiber • Single-mode fiber up to 30KM
Power over Ethernet (POE)	<ul style="list-style-type: none"> • Support Type : POE+/PD • IPS-AC only
Video Routing	<ul style="list-style-type: none"> • Lightweight 1.4 to 1 artifact-free compression • Time to switch between sources in under 100 milliseconds. • Support Transceiver Mode (Simultaneous transmitter and receiver, IPS-AX only)
Audio Routing	<ul style="list-style-type: none"> • Lossless audio transmission • HDMI downmixed stereo channel • Support Microphone Input (with Bias voltage)
1G Control Interface	<ul style="list-style-type: none"> • Extension of Gigabit Ethernet data network • Built-in Ethernet switch connects 1GbE Ethernet to 10GbE interface • Device Control
USB Routing	<ul style="list-style-type: none"> • USB port: Up to 480 Mbps • USB HID port: Only support Human Interface Devices
RS232 Routing	<ul style="list-style-type: none"> • Baud rate up to 115200 • Unicast and broadcast routing between devices • Serial data routing between multiple devices
IR Routing	<ul style="list-style-type: none"> • IR data routing between multiple devices
Video Scaling	<ul style="list-style-type: none"> • Upscaling (Video Wall) and downscaling (Multi-view) • Multi-source video compositing • Video Wall processing with bezel correction and display synchronization

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)

USB (IPS-TX / IPS-RX / IPS-AX)	
Signal Format	USB 2.0
Connector	Type A
USB HID (IPS-AX)	
Signal Format	USB 1.1
Connector	Type A
ETHERNET (IPS-TX / IPS-RX / IPS-AX)	
Ethernet Speed	10/100/1000 Base-T
Connector	RJ-45
10G ETHERNET	
IPS-TF & IPS-RF & IPS-AF	10G Fiber SFP+ / LC
IPS-TC & IPS-RC	10GBASE-T / RJ45
IPS-AC	10GBASE-T / RJ45 with POE+/PD
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 Iron enclosure with black textured paint finish
Weight	380g (IPS-TX); 390g (IPS-RX); N/A (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	RJ-45
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	N/A

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 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: USB chip is paired.
- ● Yellow Blink: 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: USB chip is paired and data traffic 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 speaker or audio source.

▪ **Audio OUT Port (IPS-RX / IPS-AX):** Connected to 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 10G network interface including either 10GBaseT 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 10G network interface including either 10GBaseT 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 10G network interface including either 10GBaseT 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 a HDMI (2.0 or above) compatible Source
HDMI OUT	Connected to a HDMI (2.0 or above) compatible Monitor
AUDIO IN	Connected to audio source
AUDIO OUT	Connected to speaker
10G SFP+	Connected to 10G Ethernet switch through 10G fiber cable with SFP+ connector
10G RJ45	Connected to 10G Ethernet switch through copper cable. (CAT6a up to 100m)
1G RJ45	<ul style="list-style-type: none"> • Extension of Gigabit Ethernet data network • Device Control
RS-232	Connected to remote PC for controlling software <ul style="list-style-type: none"> • Data routing between devices • Date routing between device and application
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 the IPS-TX and IPS-RX, 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 10G 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, the IPS-TX and IPS-RX provide the feature each data stream can be routed output independently. Video signal can be sent to a specified the IPS-RX upon an independently routed. Audio signal can be routed and switched to extra the IPS-RX. This feature allows you to configure the video and audio more flexible.

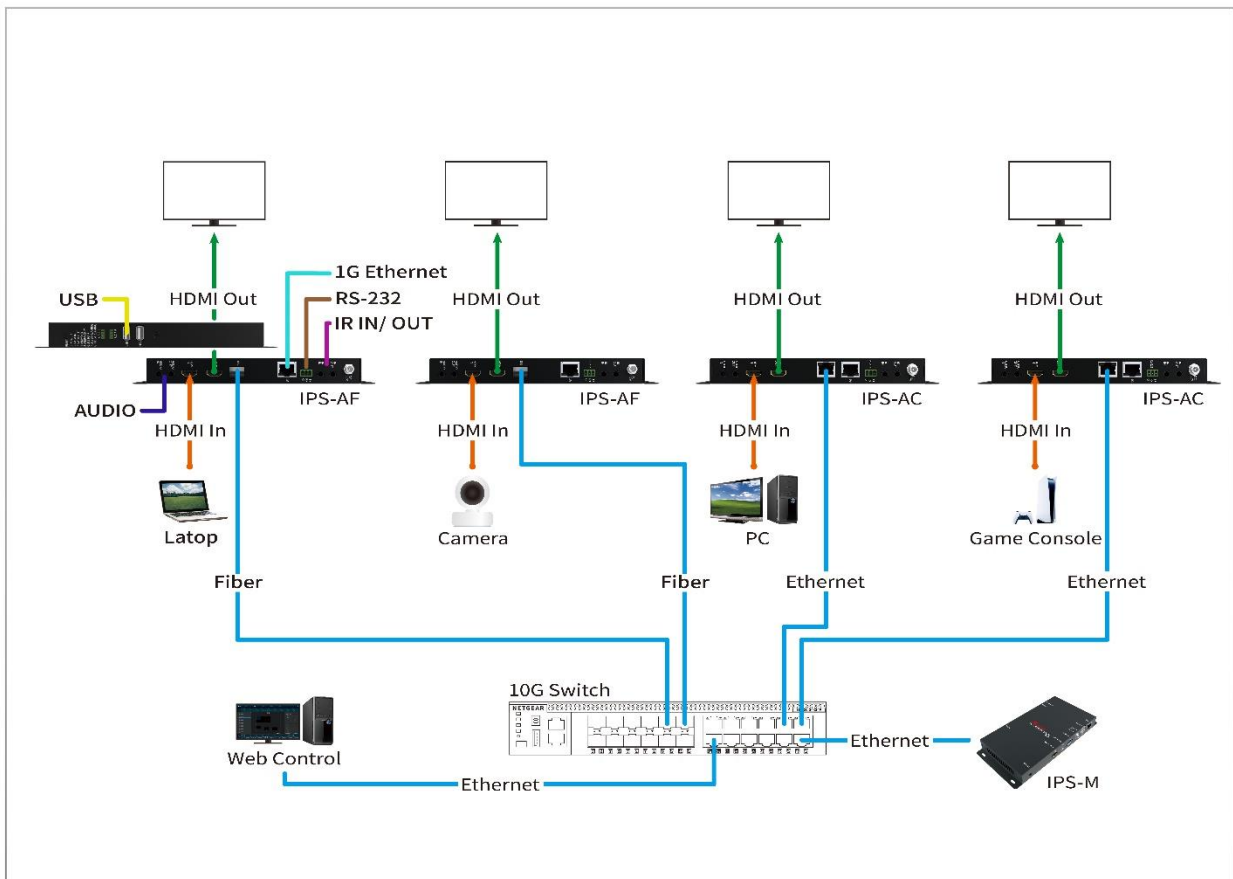


Figure 5-1 IPS system connections

5.2 IPS system for KVM

The IPS system supports KVM Switch application :

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

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

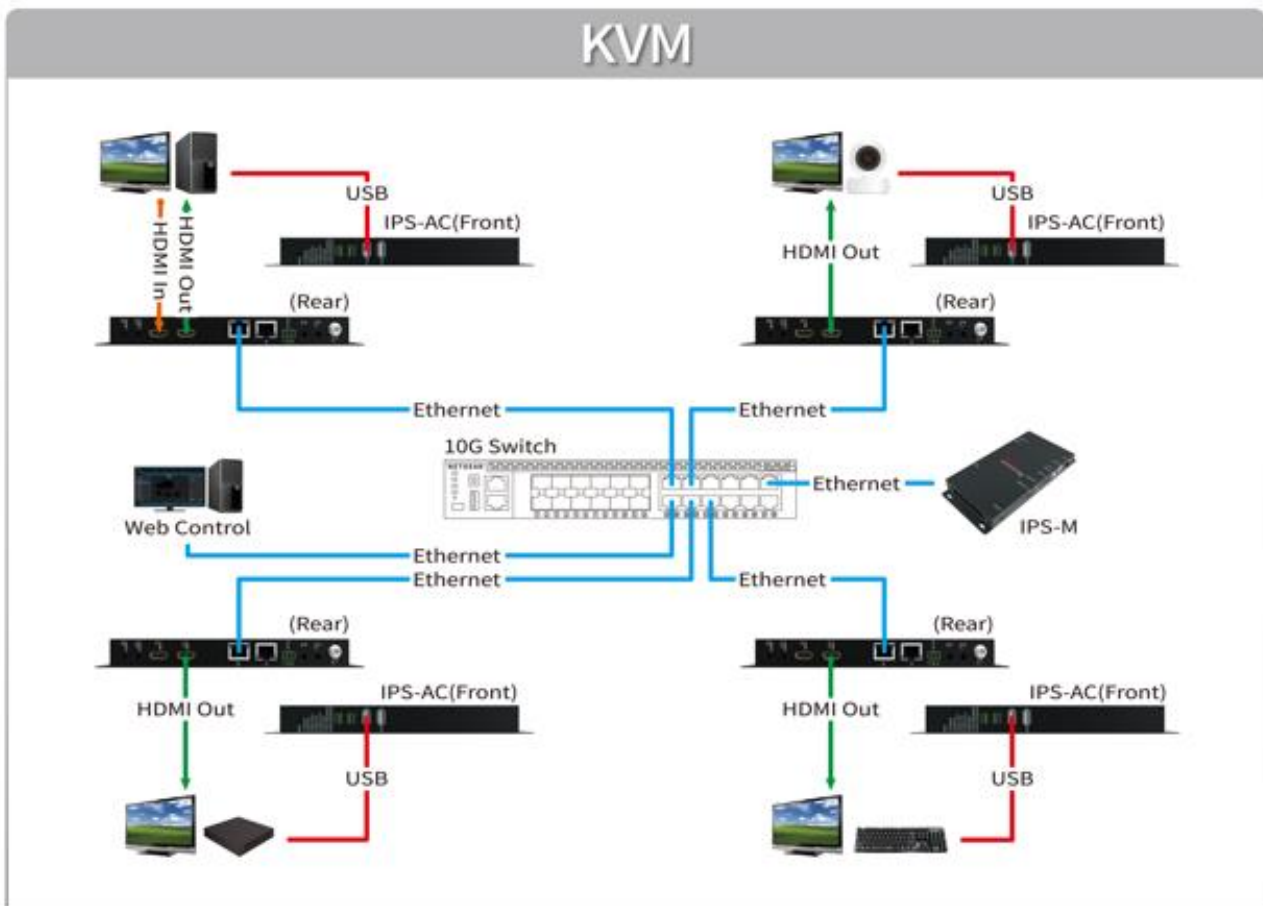


Figure 5-2 KVM application connections

5.3 IPS system for Video Wall

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

- The video source is connected to the HDMI interface of a single IPS-TX.
- Each display is connected to the HDMI interface of each IPS-RX.
- The IPS-TX transmits video signals to each IPS-RX by 10G Ethernet switch.

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

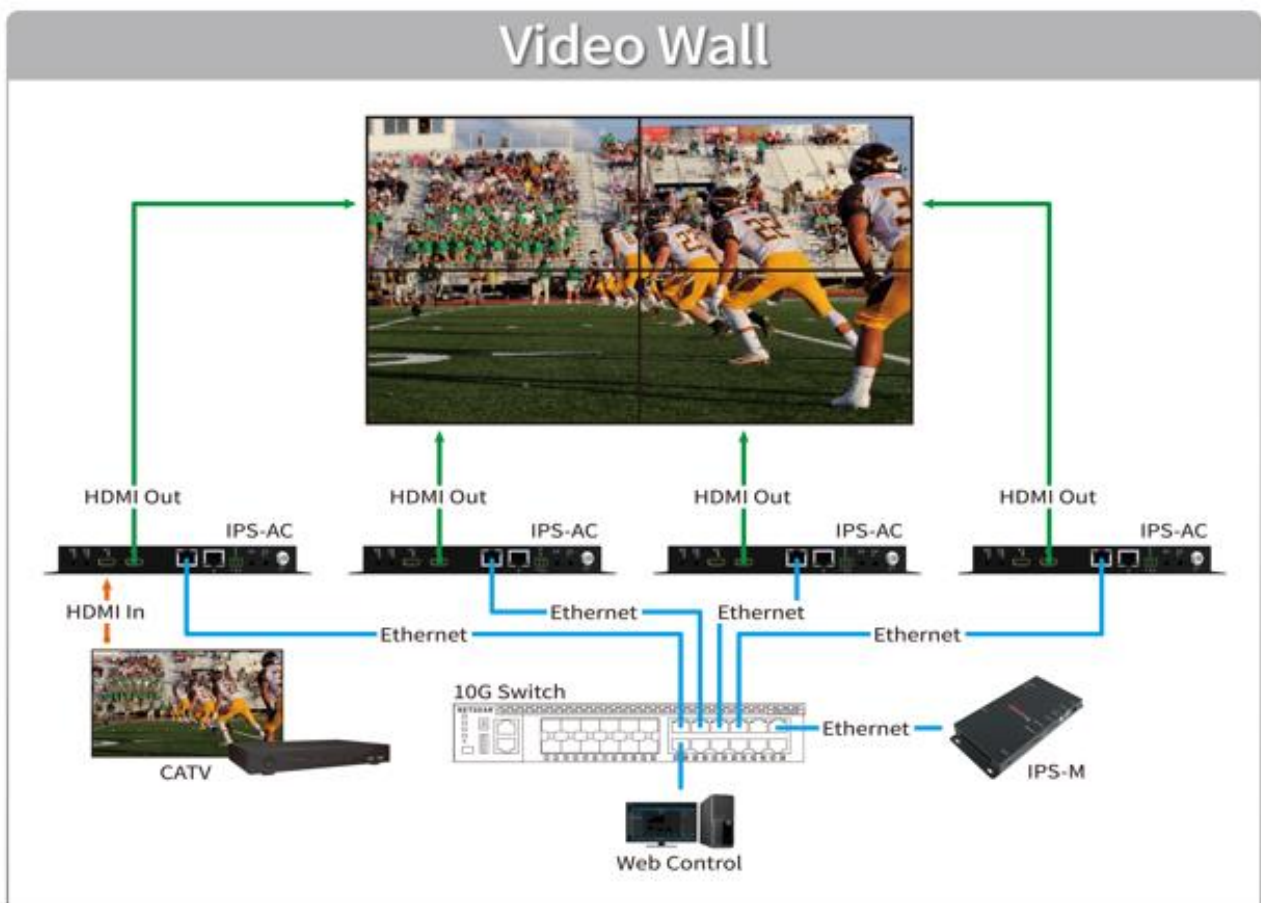


Figure 5-3 Video Wall application connections

5.4 IPS system for Matrix Switch

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

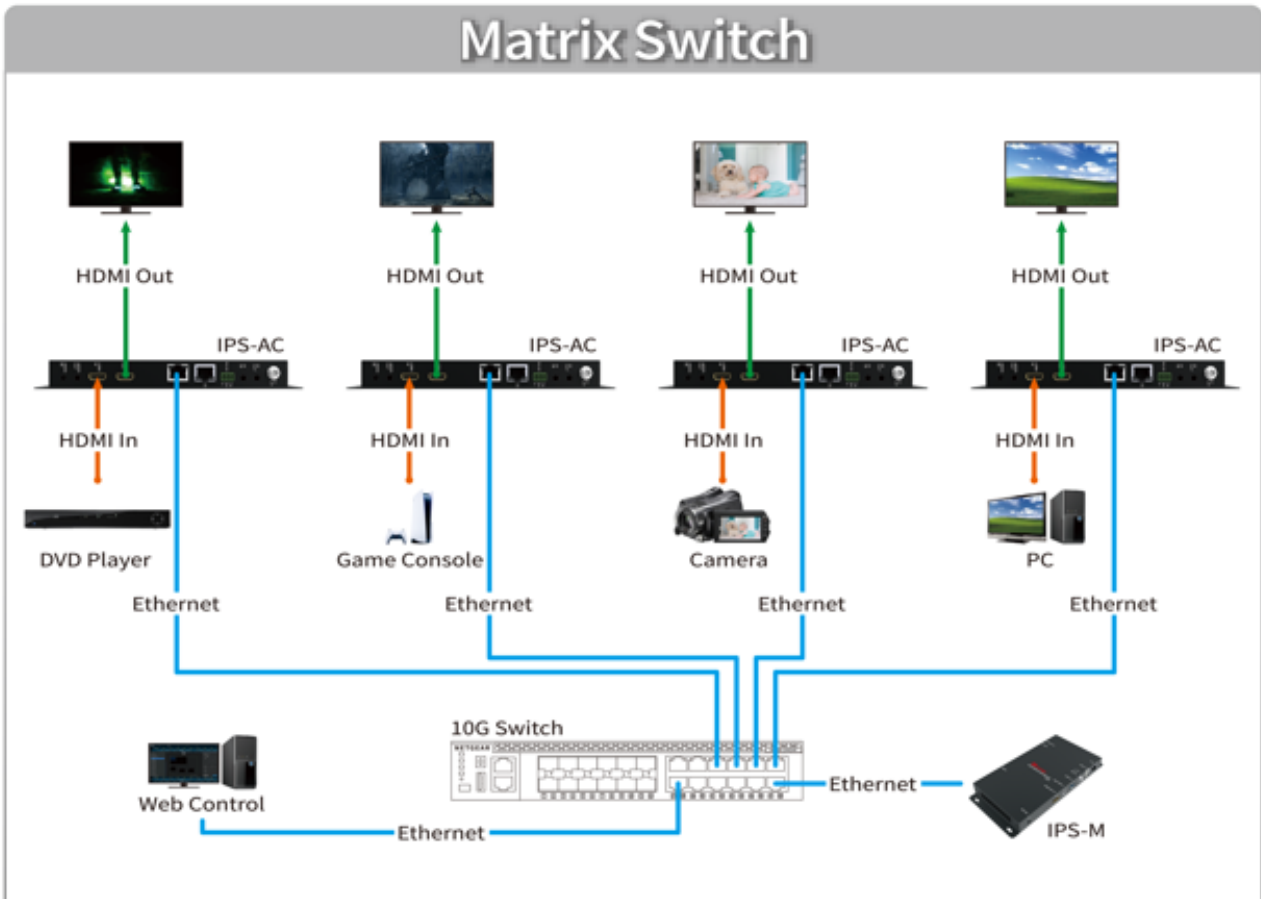


Figure 5-4 Matrix Switch application connections

5.5 IPS system for Multi-view

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

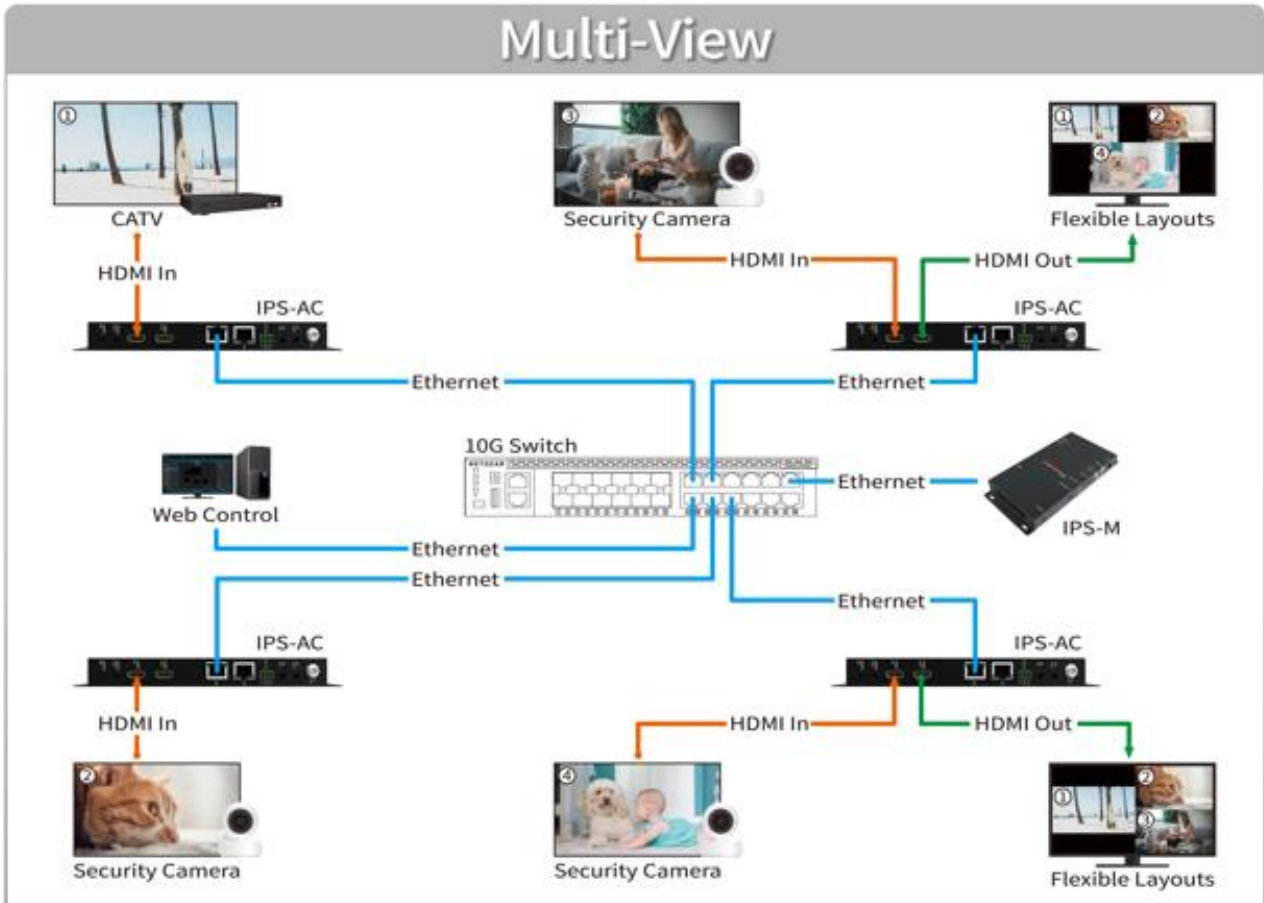


Figure 5-5 Multi-view application connections

5.6 Audio Routing

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

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

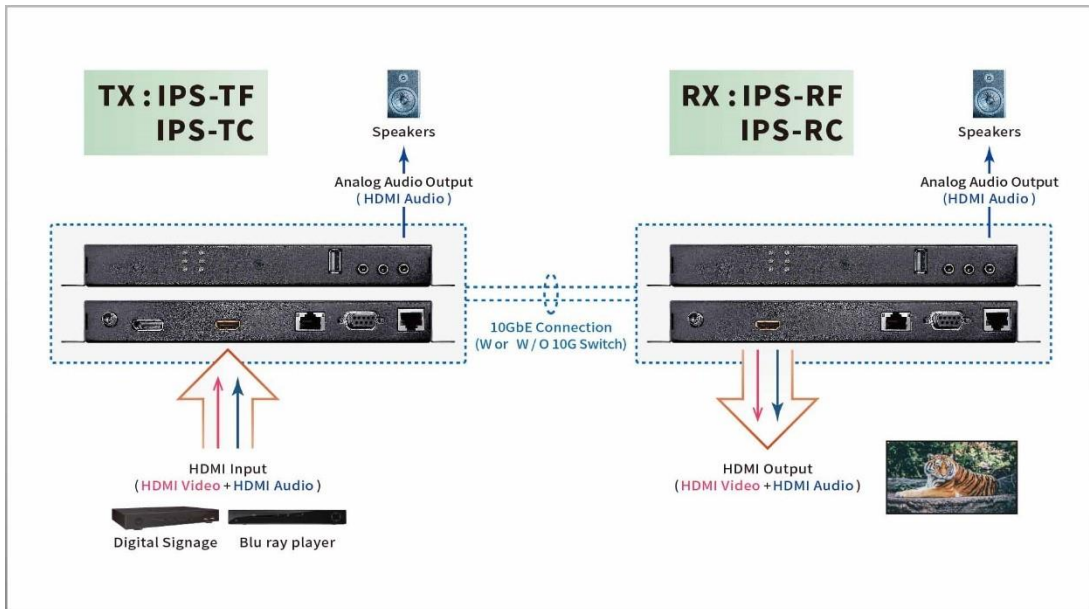


Figure 5-6 IPS-TX Analog Audio output routing

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

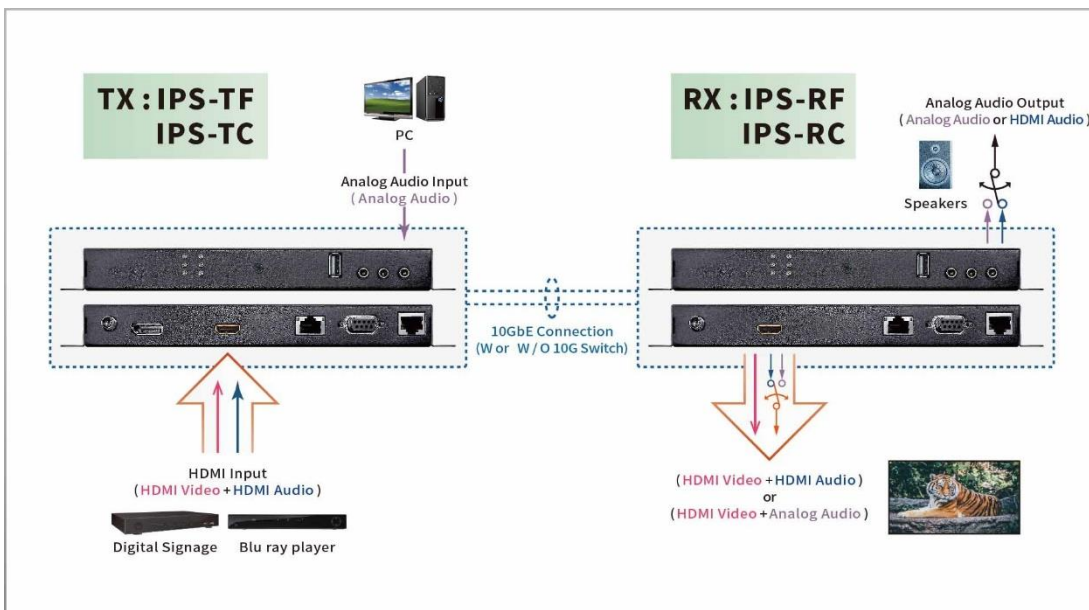


Figure 5-7 IPS-TX Analog Audio input routing

CHAPTER 6 OPERATION

6.1 Switch Configuration

You must ensure your switch matches following requirements:

- Support 10Gb 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 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 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 target component
2. Wait a few seconds and execute powering on operation according to component type

6.4 Powering Sequence

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

1. Power on the IPS-M
2. Ensure the IPS-M is ready by checking the IPS-M Information is shown on 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 build-in website for you to configure the whole system. Supported web browsers are described as below:

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

We recommend you use Chrome for best experience.

7.1 IPS-M

Before beginning website configurations, you need an IPS-M controller to setup and control all the IPS-TX and IPS-RX devices. The IPS-M is a main manager for website configurations. It uses network to communicate with the IPS-TX and IPS-RX devices. The IPS-M helps you setup each IPS-TX and IPS-RX devices for video and audio routing, Video Wall building, and other functions. Moreover, a build-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 power adapter cable to **Power Jack**.
3. Connect 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:

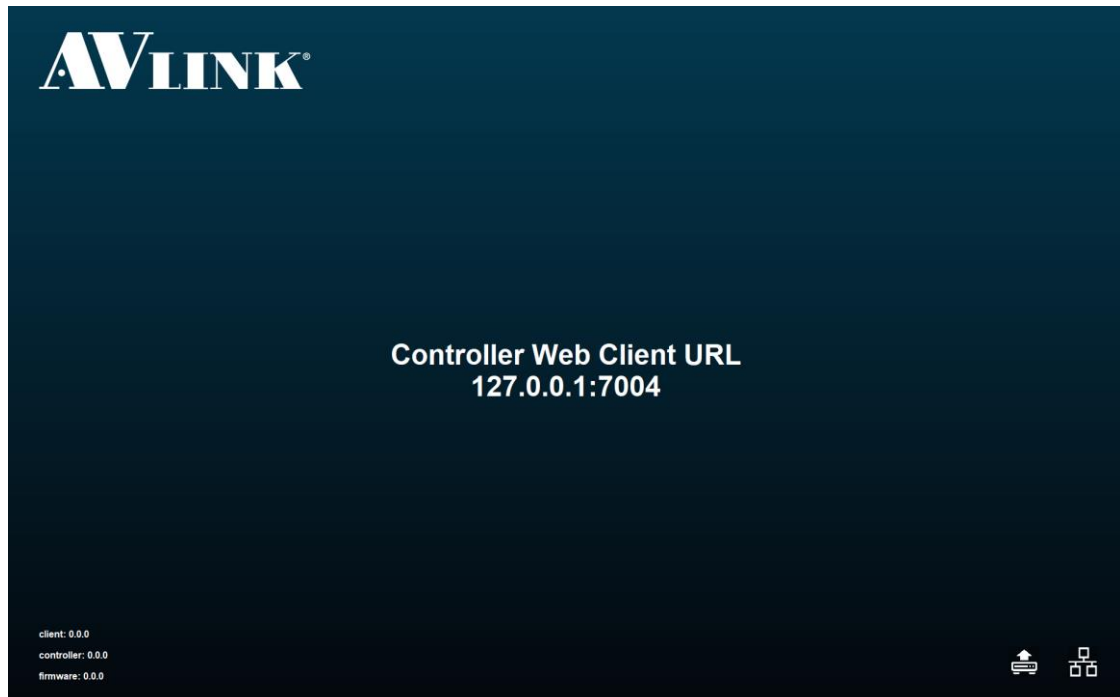




Figure 7-1 IPS-M information

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

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

PC connection steps:

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

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

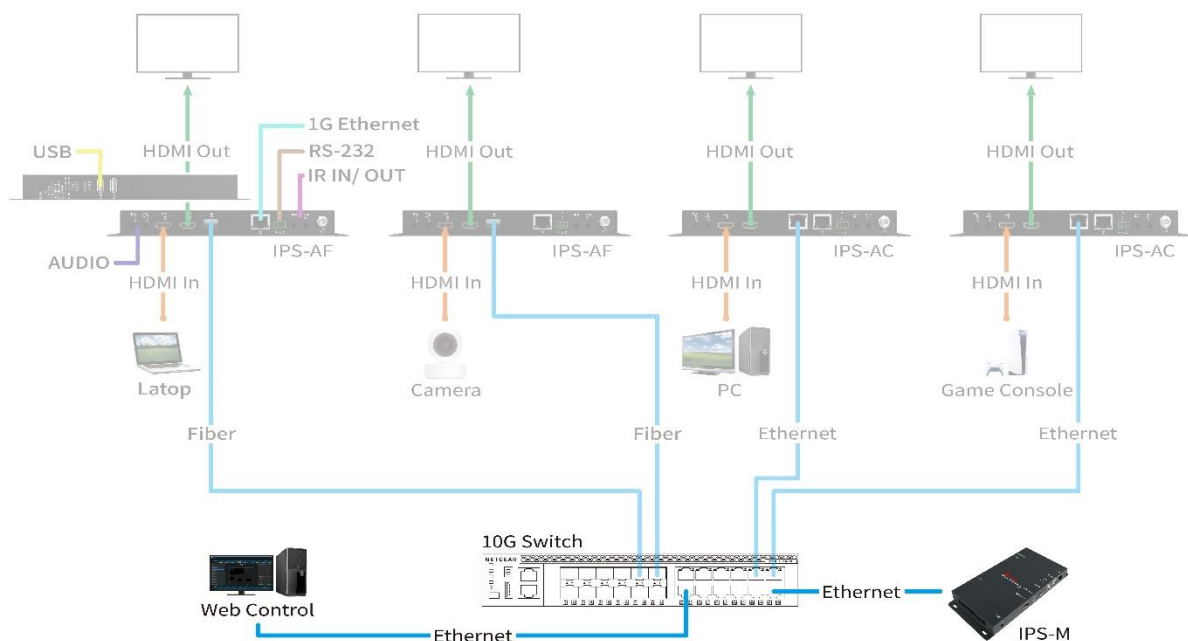




Figure 7-2 IPS-M connections

7.2 General Setting

Type in the IPS-M website URL in 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 set the preferred **temperature** format and **units of length**.

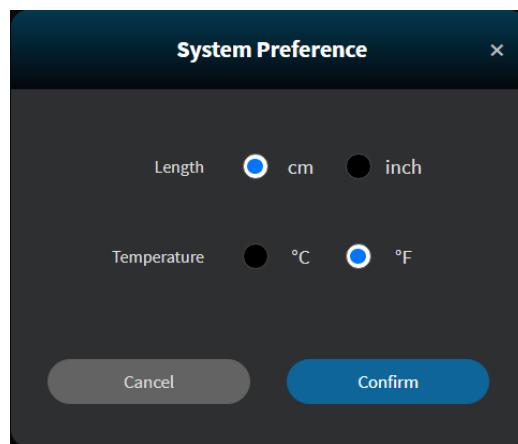


Figure 7-3 System Preference window

7.3 Routing

Routing is the main page described as below:

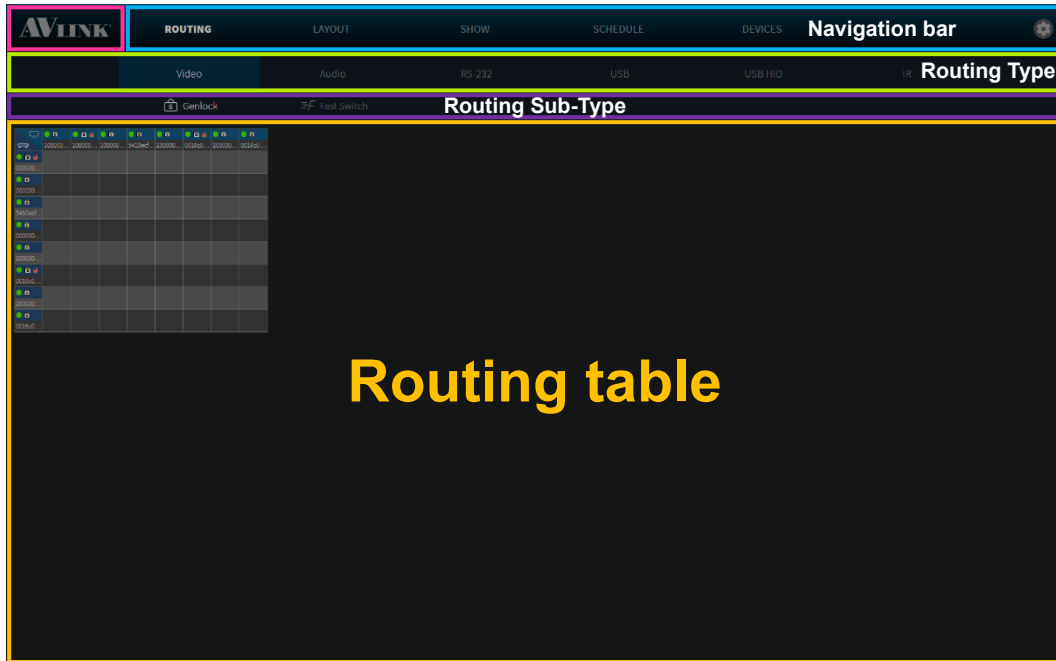


Figure 7-4 ROUTING configuration

In 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.

- Routing table grid component

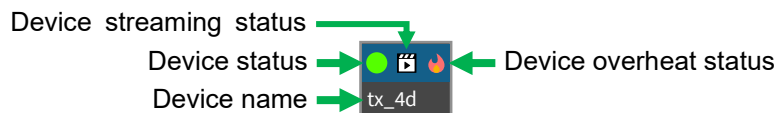


Figure 7-5 ROUTING Table Grid component

- Routing table crosshair highlight

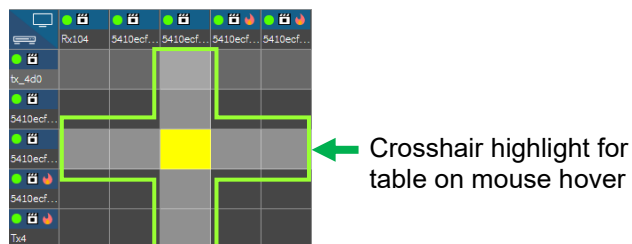


Figure 7-6 ROUTING Table Crosshair Highlight

7.3.1 Video

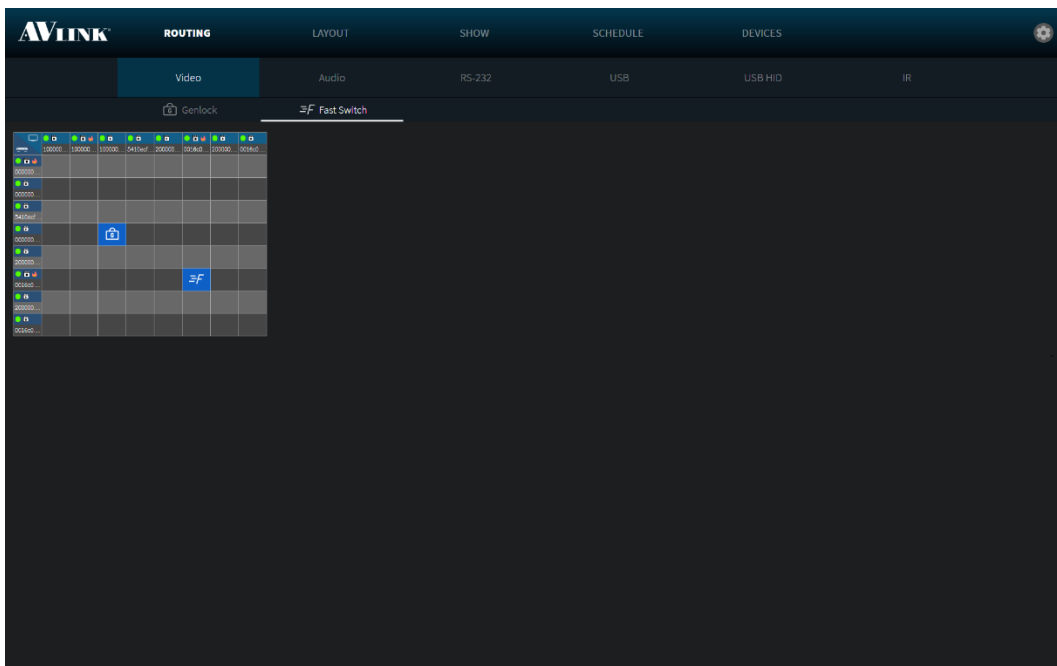


Figure 7-7 Video type in ROUTING configuration



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 synchronously 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

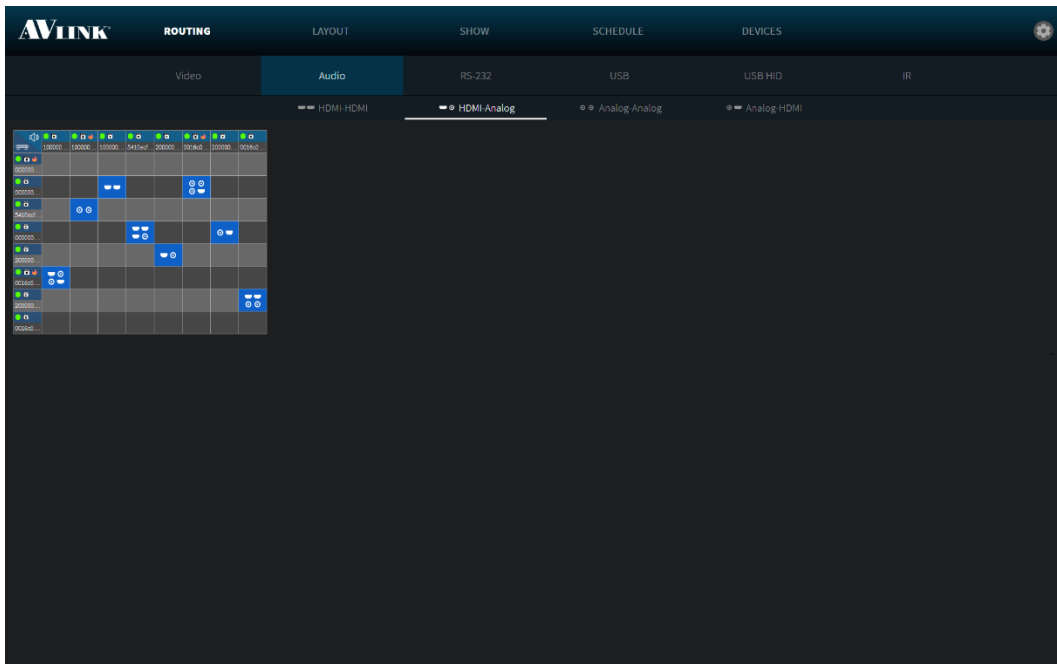


Figure 7-8 Audio type in ROUTING configuration







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 as 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 different Source, which cannot be shown with these Sub-Type, there are 2 possibilities illustrate as below:

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

Note: If device audio analog interface 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

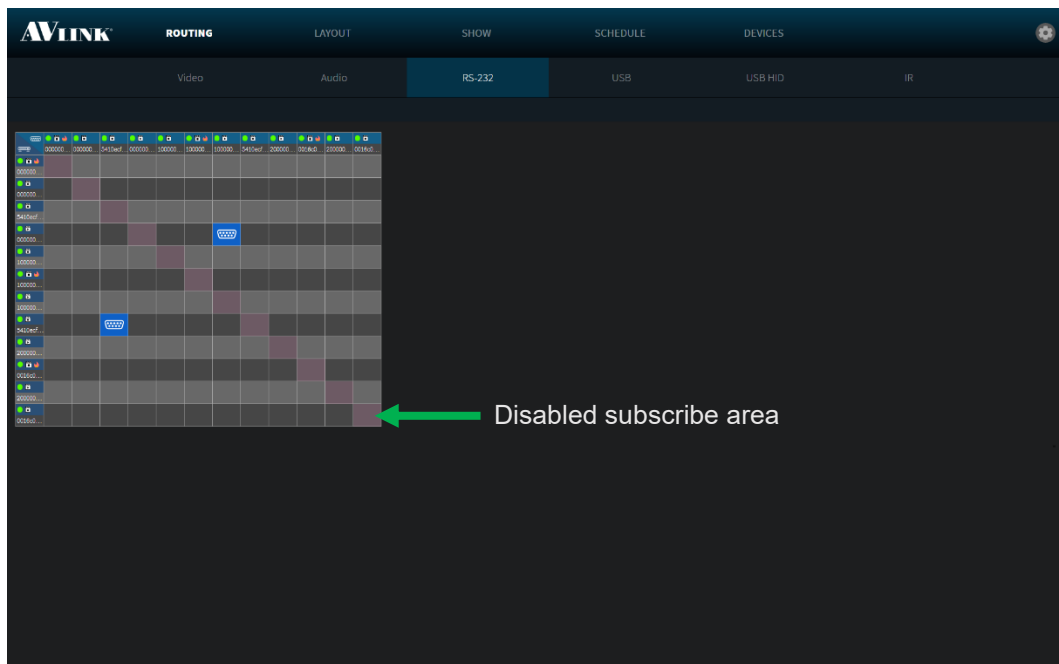




Figure 7-9 RS-232  type in ROUTING configuration

 **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

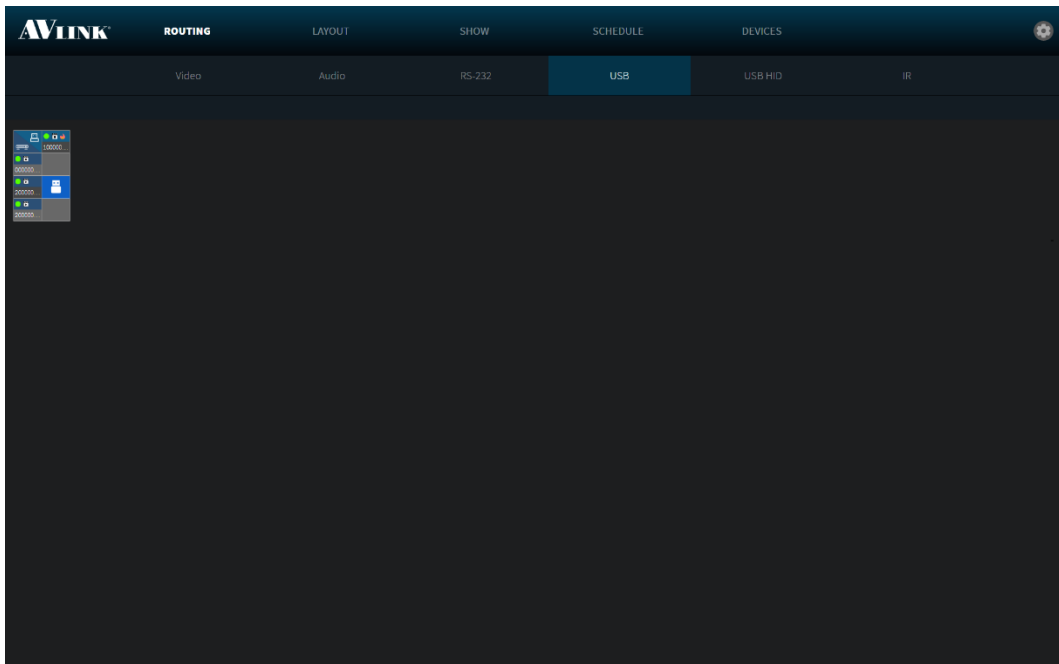


Figure 7-10 USB  type in ROUTING configuration

 **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

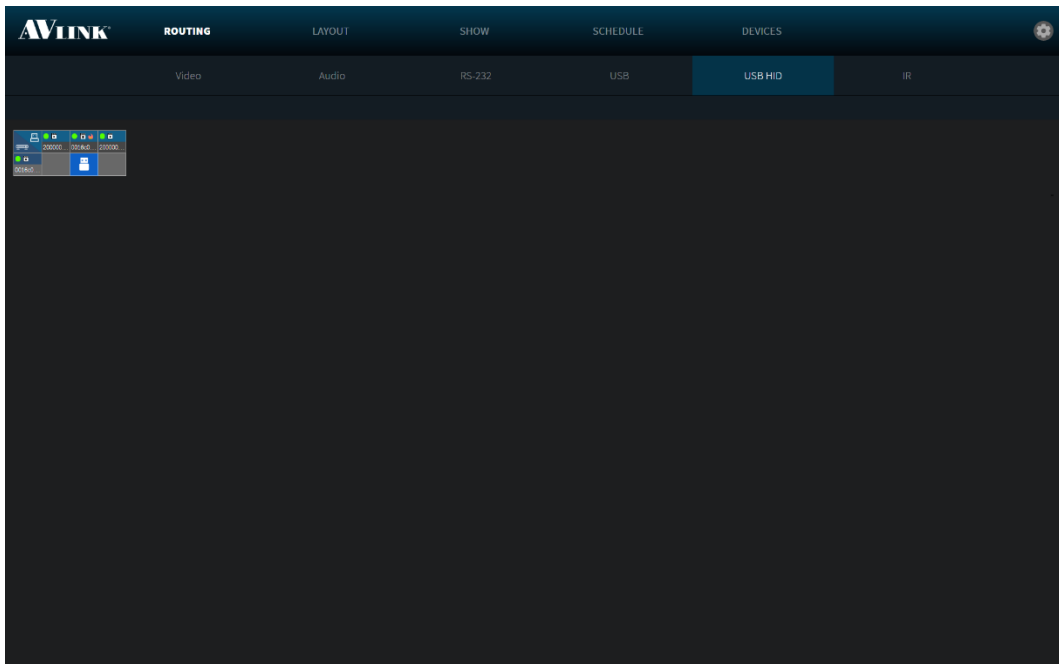


Figure 7-11 USB HID 🖨 type in ROUTING configuration

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

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

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

7.4 Layout

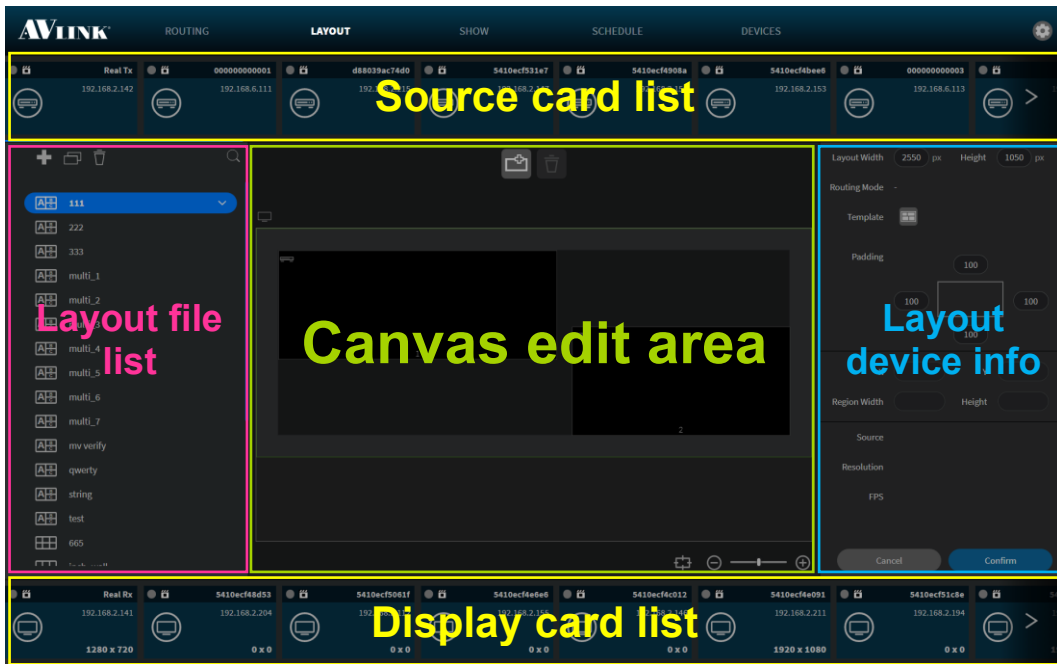


Figure 7-13 LAYOUT configuration

In the **LAYOUT** configuration page, you can configure output 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 an output layout and name it.

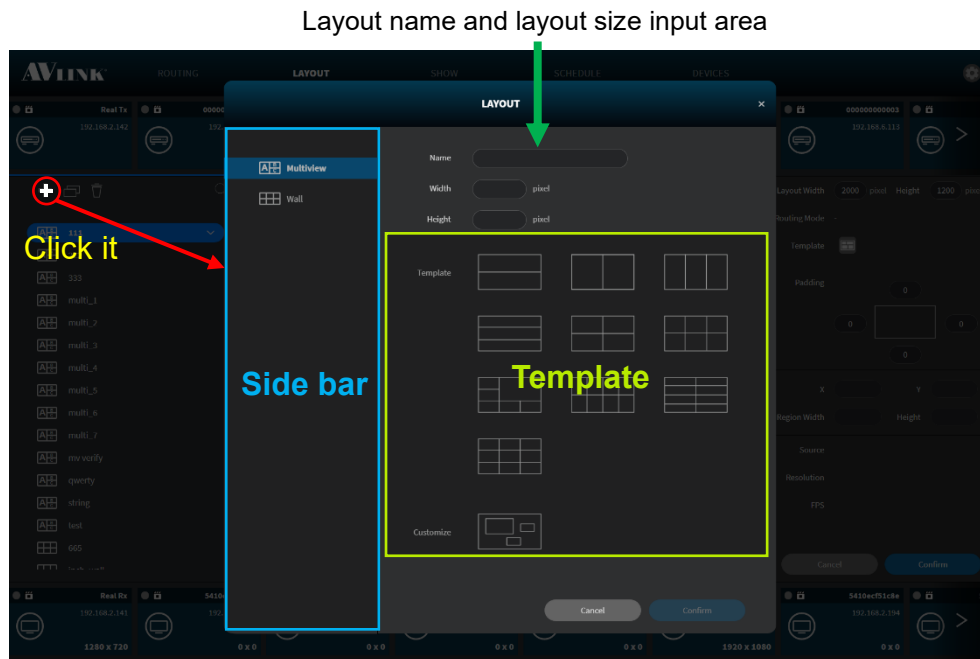






Figure 7-14 Layout Template window

7.4.1.2 Layout File List

Layout File List shows saved layouts includes 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**.

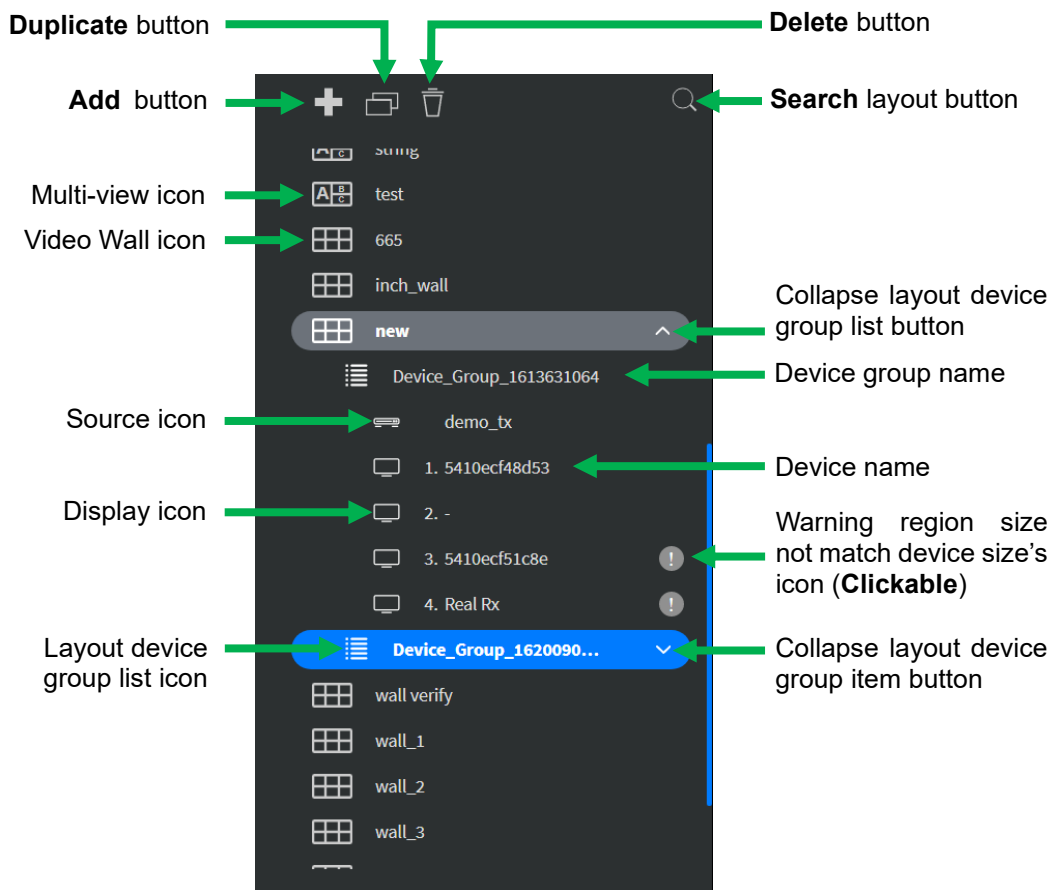


Figure 7-15 Layout File list

7.4.1.3 Canvas Edit Area

After selecting a layout, you can use **Canvas Edit Area** to start editing content. Further, when selected a device group, you can drag device and assign 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.

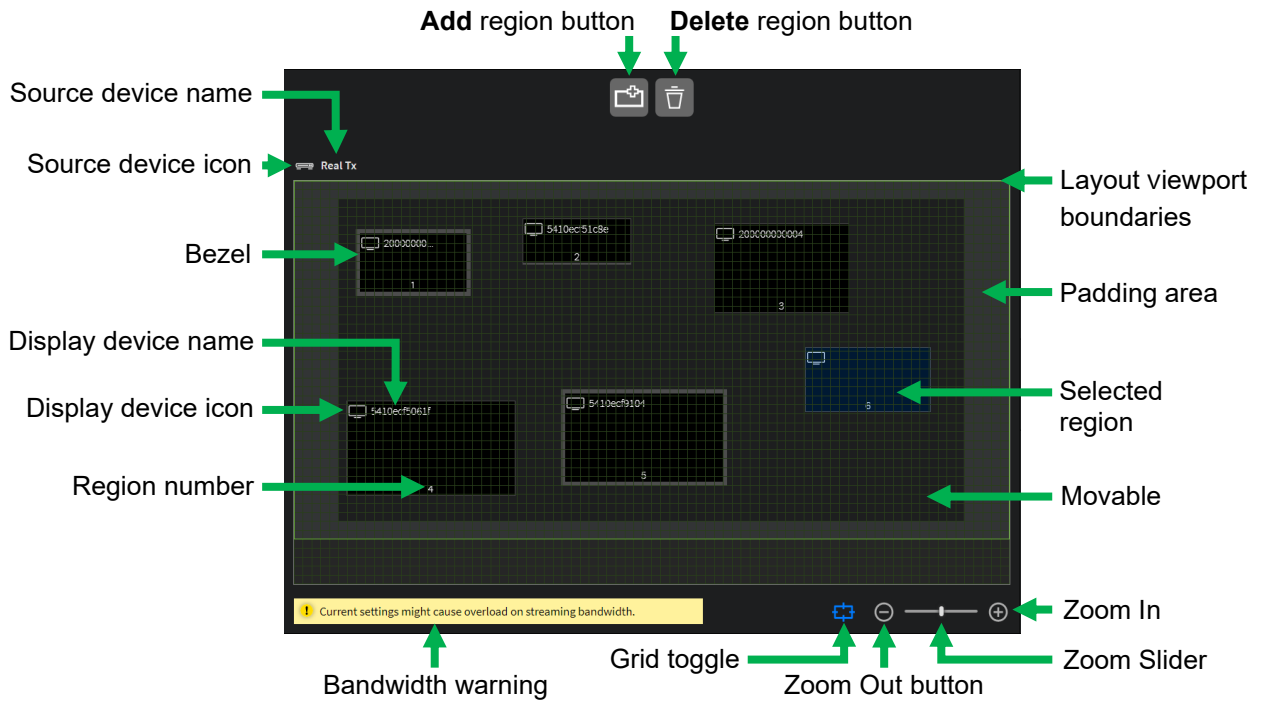




Figure 7-16 Canvas Edit Area

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 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.

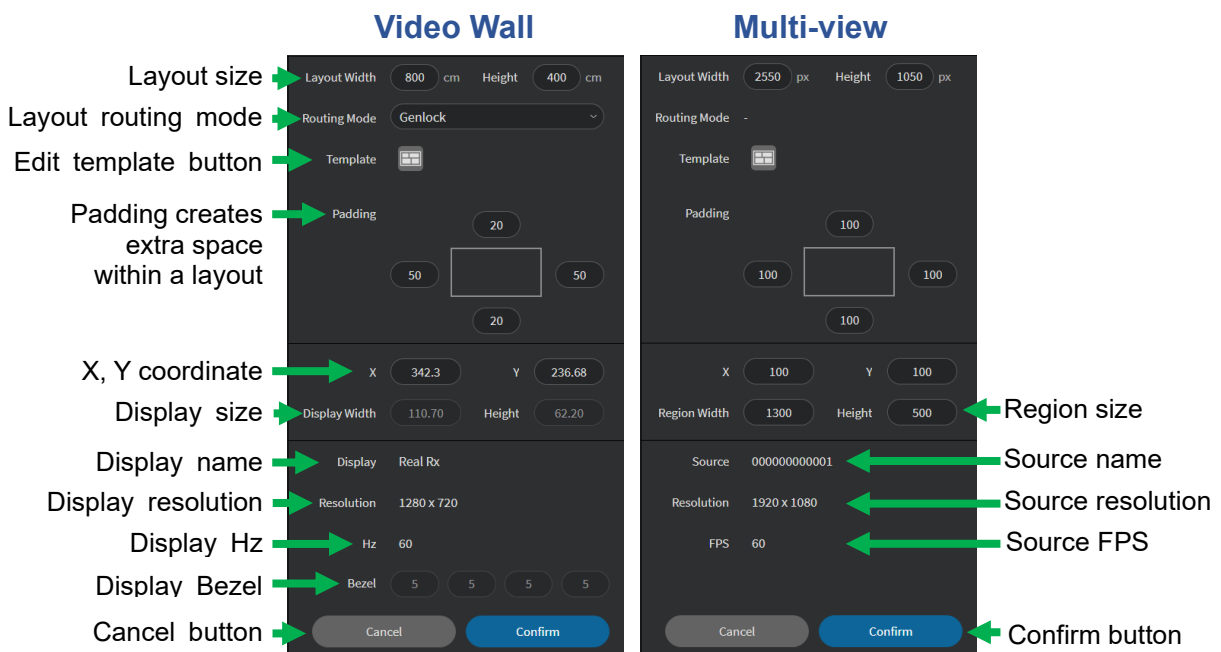


Figure 7-17 Layout Device Info

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

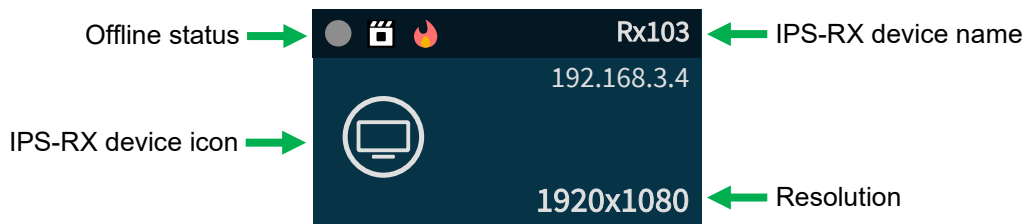


Figure 7-19 IPS-RX device card

IPS-AX device card

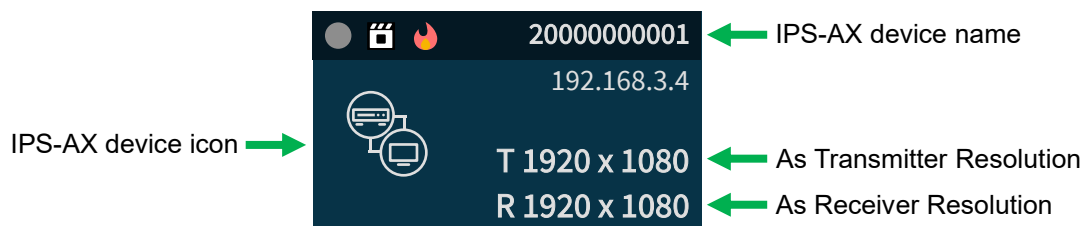


Figure 7-20 IPS-AX device card

- Press **Alt** key

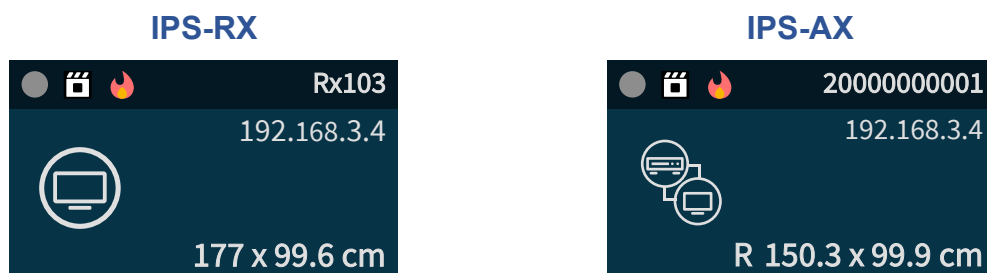


Figure 7-21 Press Alt key device card

7.4.1.6 Device Card status

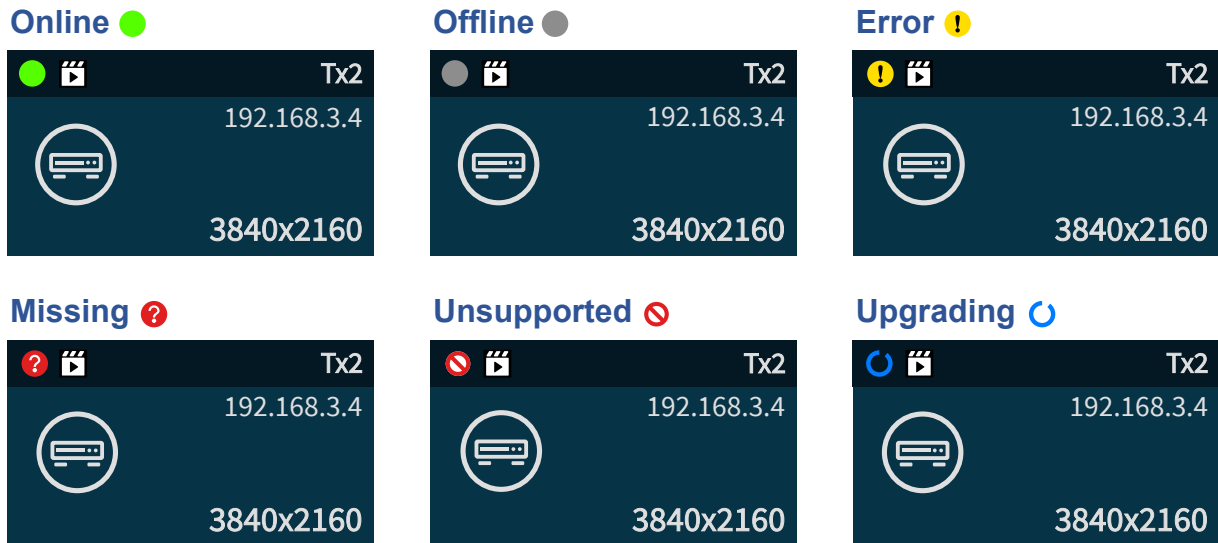




Figure 7-22 Device card status

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 are stop video streaming, card will show **Non-streaming** icon .

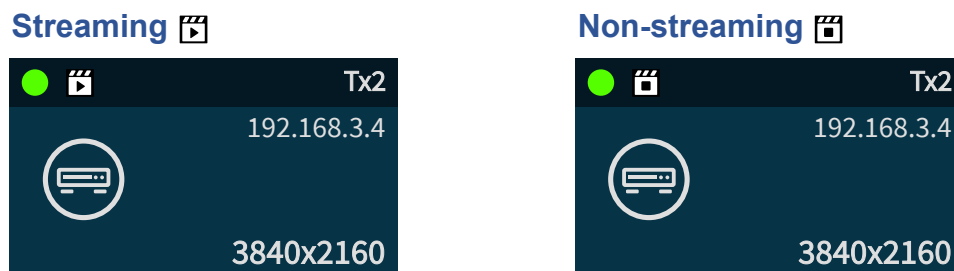



Figure 7-23 Device card streaming status

7.4.1.8 Device card overheat status

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

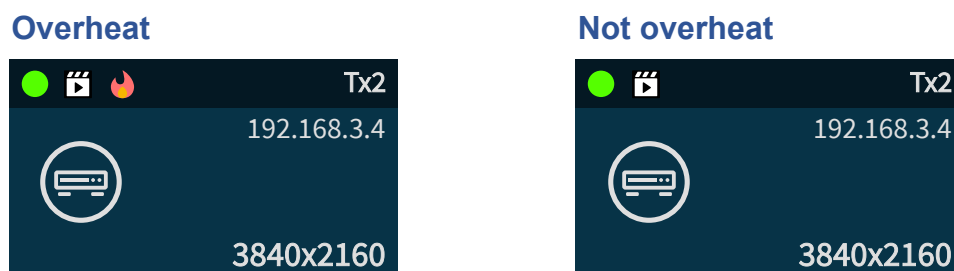


Figure 7-24 Device card overheat status

7.4.2 Multi-view

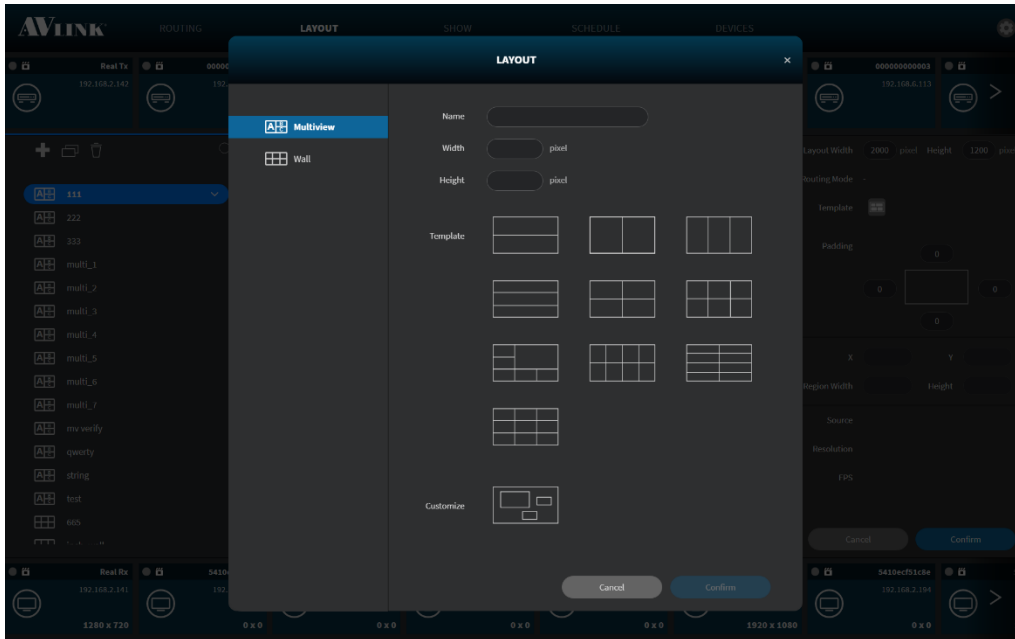



Figure 7-25 Multi-view  Layout Template window

- **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 own layout.

7.4.3 Video Wall

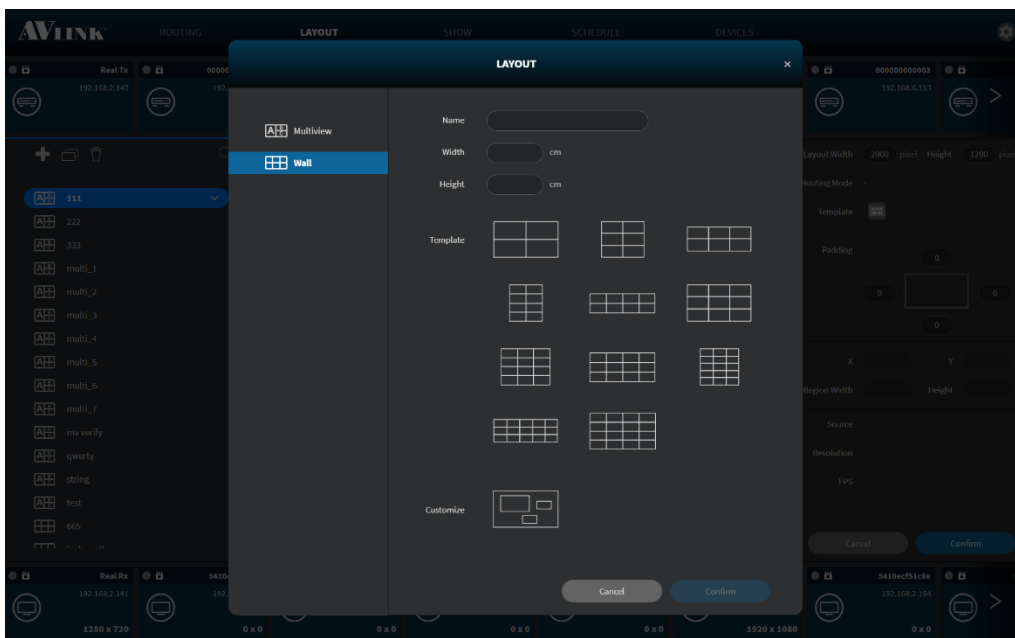






Figure 7-26 Video Wall  Layout Template window

- **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 then mouse hover on the region / canvas will show **blue border**.
- Selected region's **background** will change to **blue**.

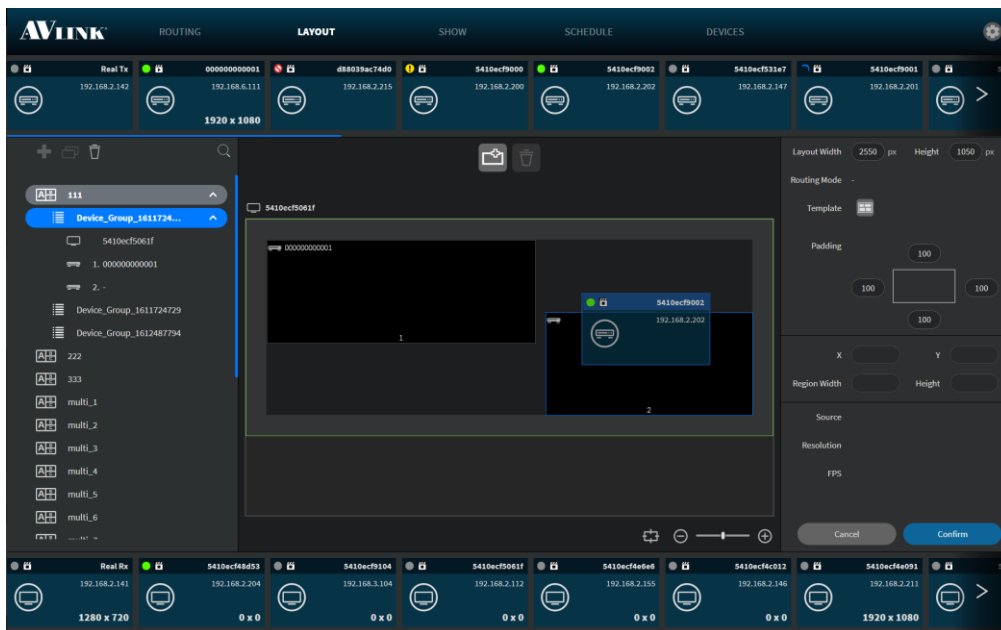


Figure 7-27 Source assignment in Multi-view layout

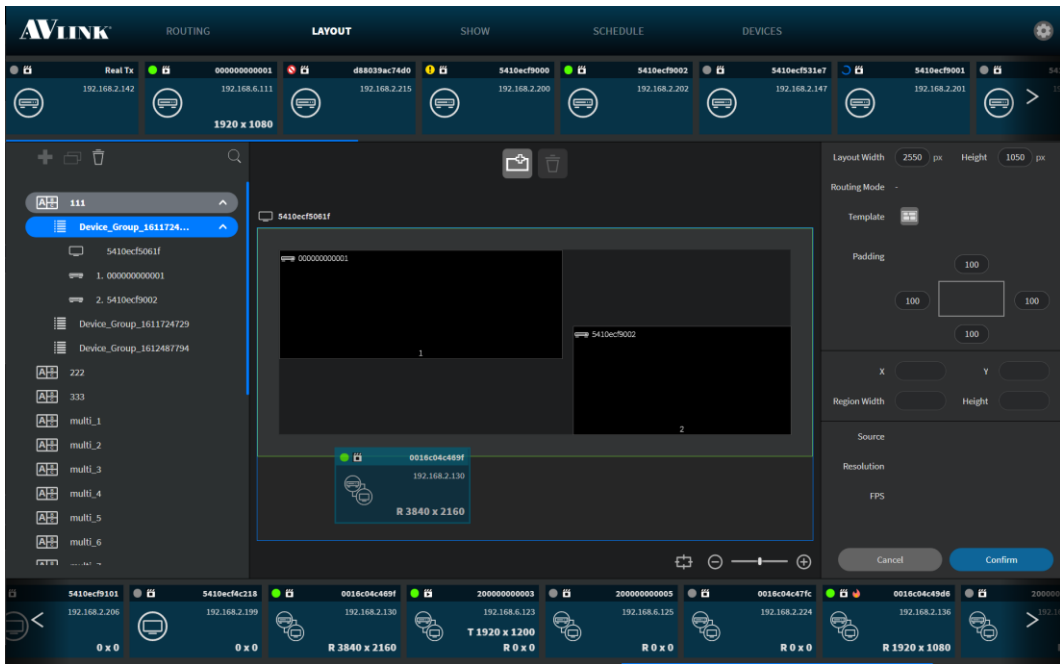


Figure 7-28 Display assignment in Multi-view layout

- In Video Wall layout, after drop 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	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Desired region	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Background	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Layout	Multi-view	Video Wall
Canvas	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Desired region	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Background	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- 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**

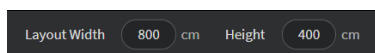



Figure 7-29 Layout size setting

- Select routing mode on **Video Wall** layout.



Figure 7-30 Routing mode setting

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

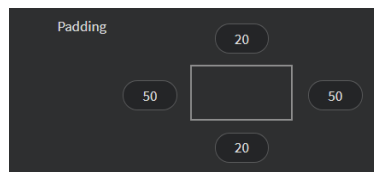


Figure 7-31 Layout padding setting

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

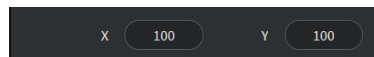


Figure 7-32 Region coordination setting

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

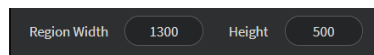



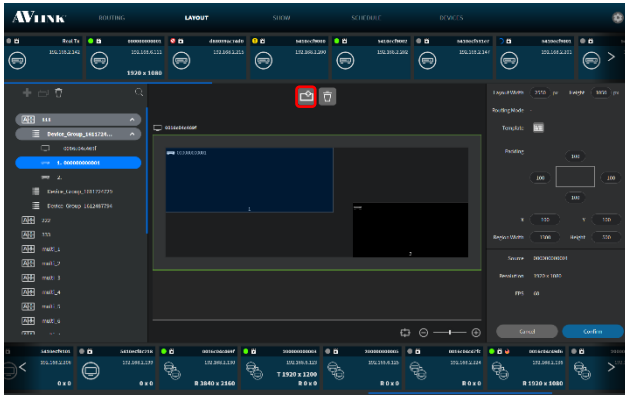


Figure 7-33 Region Width and Height setting

- Click Grid toggle  under Canvas Edit Area, 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

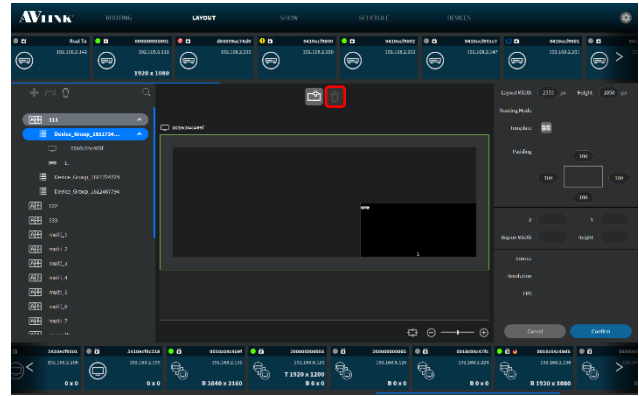


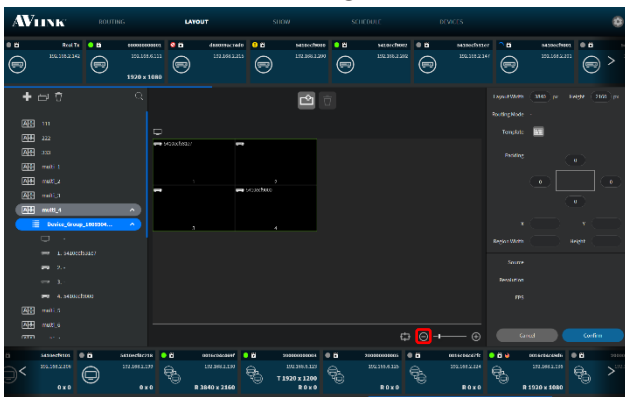


Figure 7-34 Effect of Add and Delete region

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

Zoom Out



Zoom In

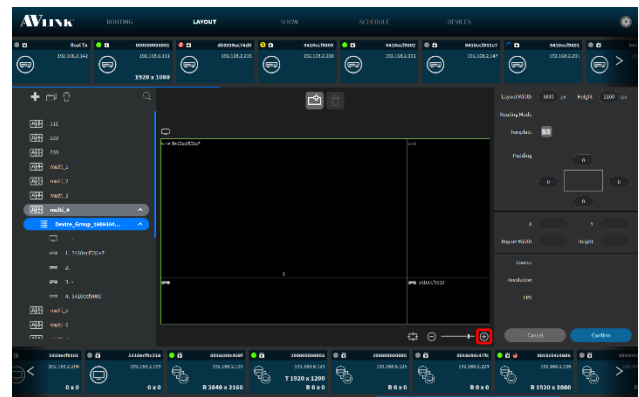


Figure 7-35 Effect of Zoom Out and Zoom In

- 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

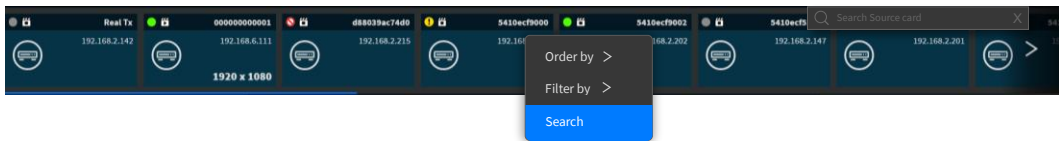
7.4.8 Layout Context Menu



Figure 7-37 Context menu of Layout

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

Source card list search bar



Display card list search bar

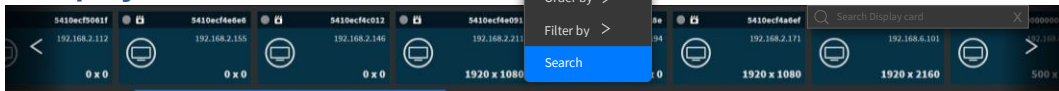
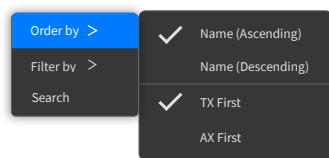


Figure 7-38 Search bar of Source / Display card list

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

Source card list



Display card list

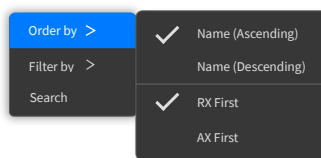


Figure 7-39 Card list's context menu of Order by

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

Source / Display card list's Filter by

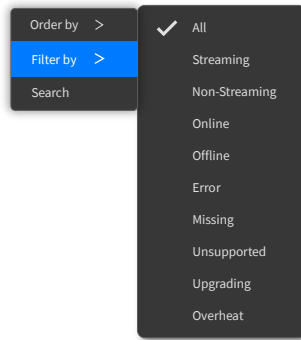
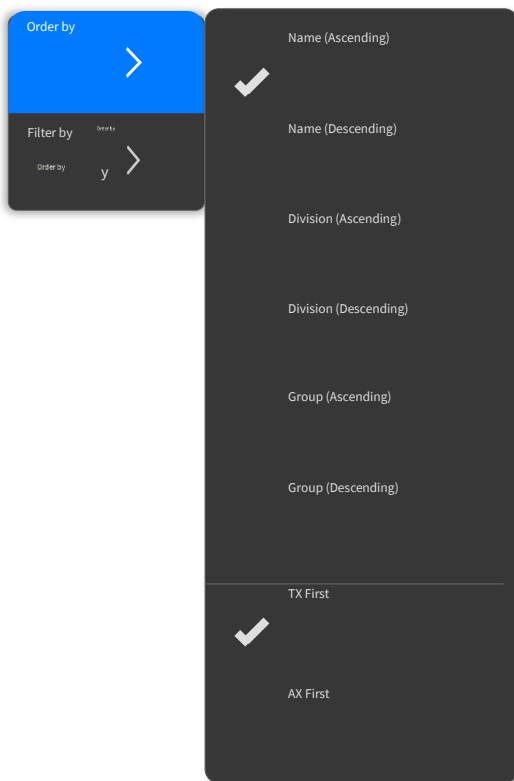


Figure 7-40 Card list's context menu of Filter by

- Layout File List's context menu

Order by



Filter by

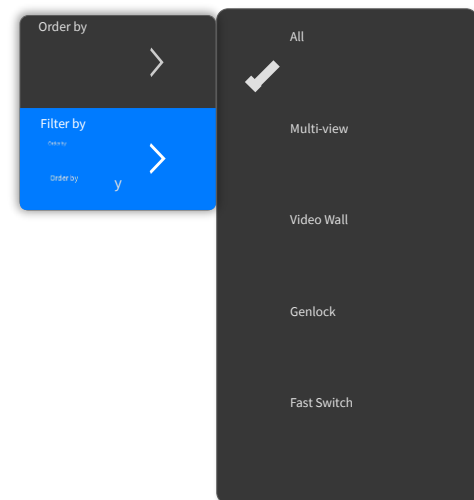




Figure 7-41 Layout File List's context menu

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  to delete the layout.

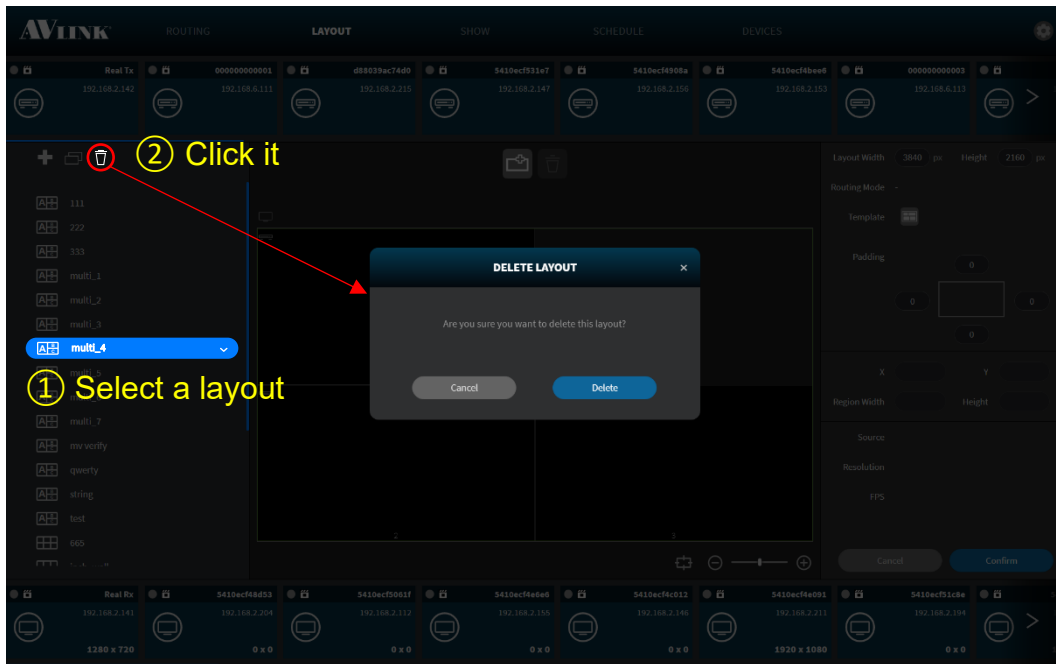




Figure 7-42 Popup of Delete Layout Confirmation message

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 popup. Click  to delete the layout device group.

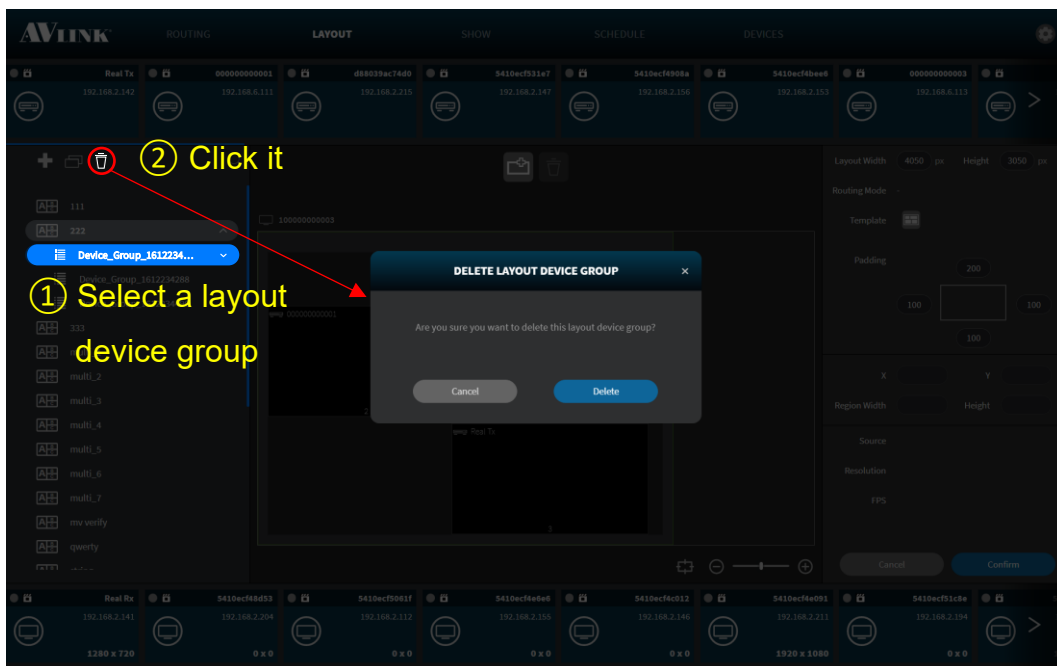




Figure 7-43 Popup of Delete Layout Device Group Confirmation message

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 popup. Click  to remove the device.

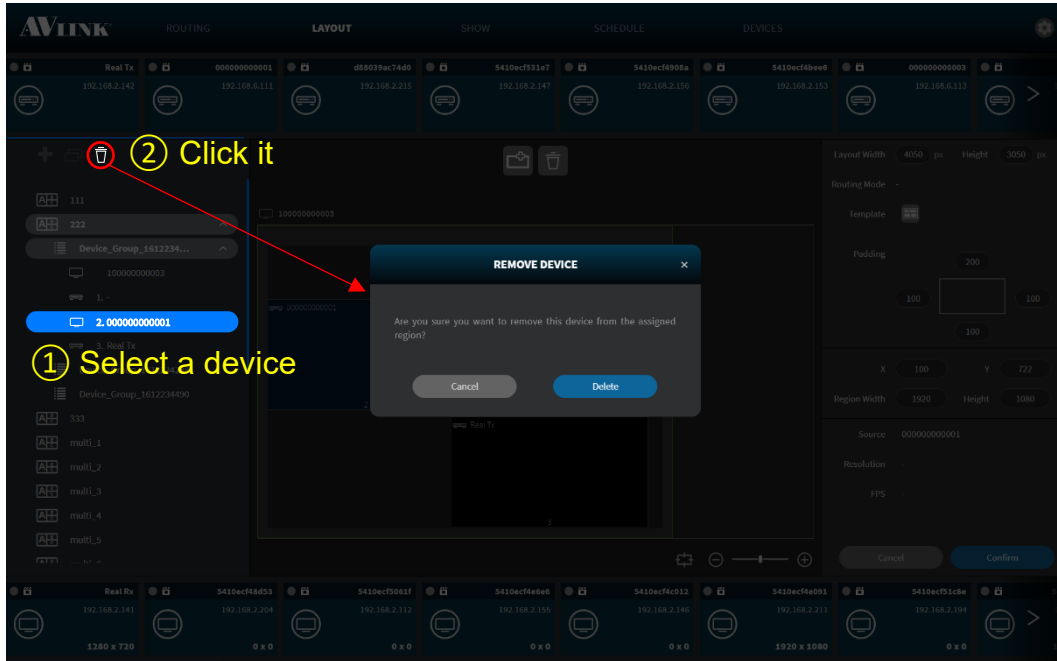


Figure 7-44 Popup of Remove Assigned Device Confirmation message

7.4.12 Preview Source Video

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



Figure 7-45 Preview source video

7.5 Show

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

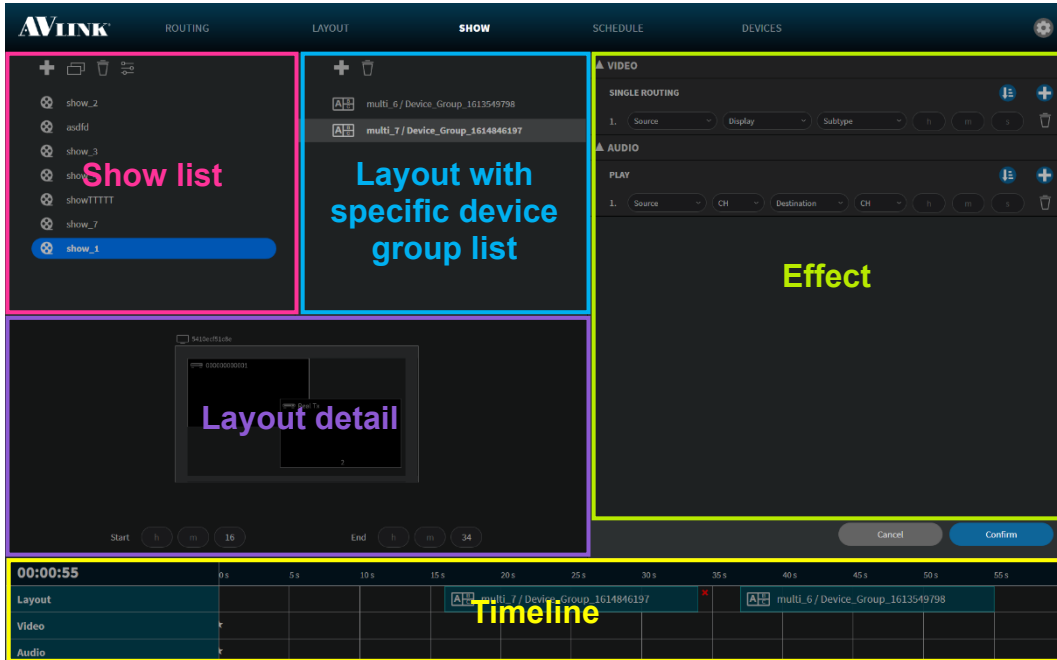


Figure 7-46 SHOW configuration

7.5.1 Show Component

7.5.1.1 Show List

Show List lists the shows that have been set.

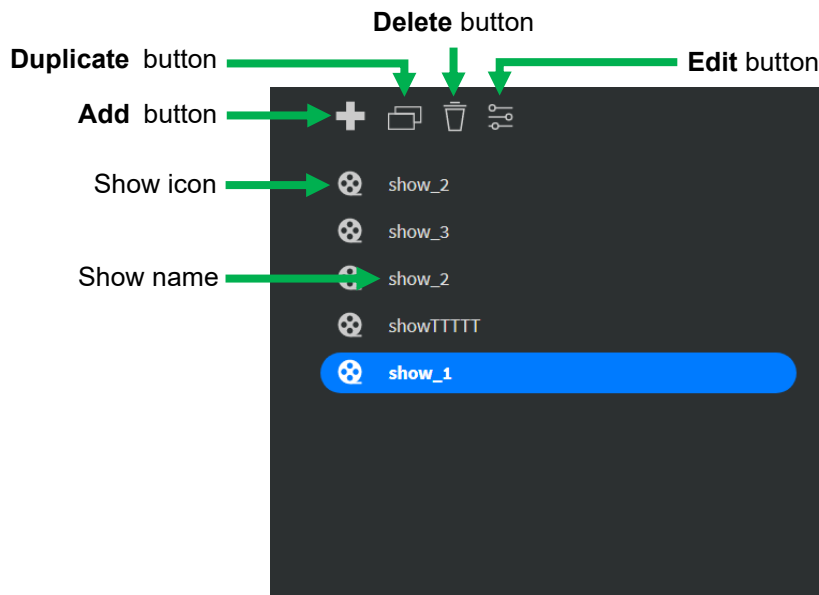



Figure 7-47 Show list

7.5.1.2 Show Layout with specific device group List

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

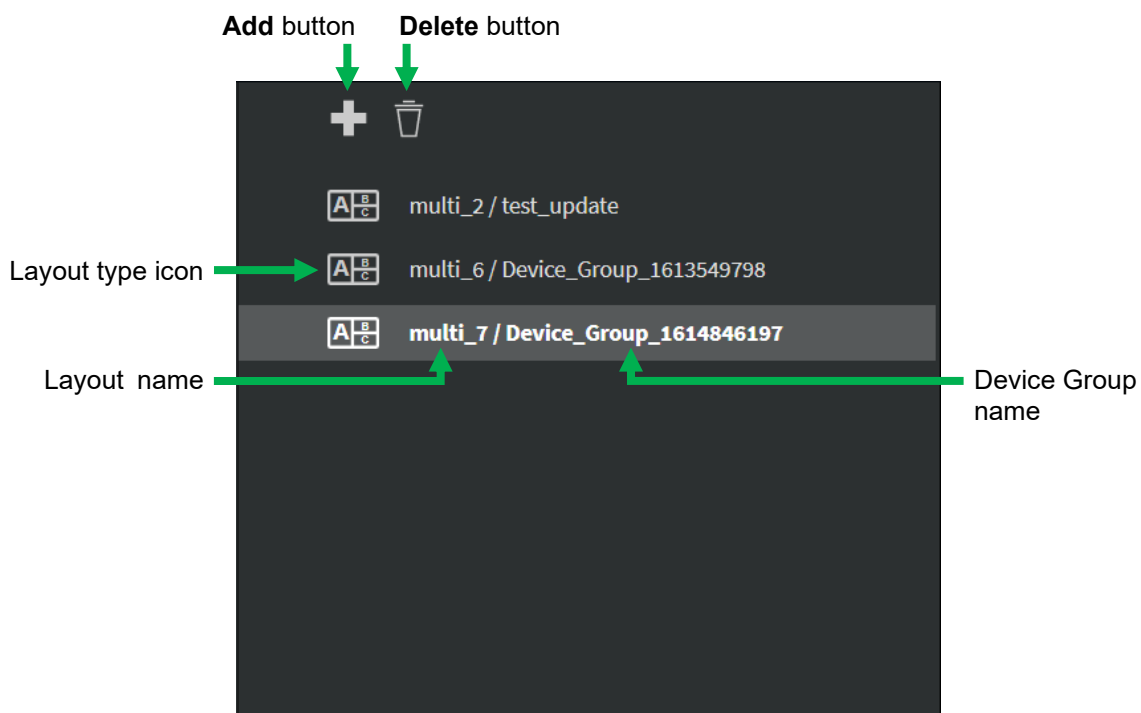


Figure 7-48 Layout with specific Device Group List of show

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 popup.

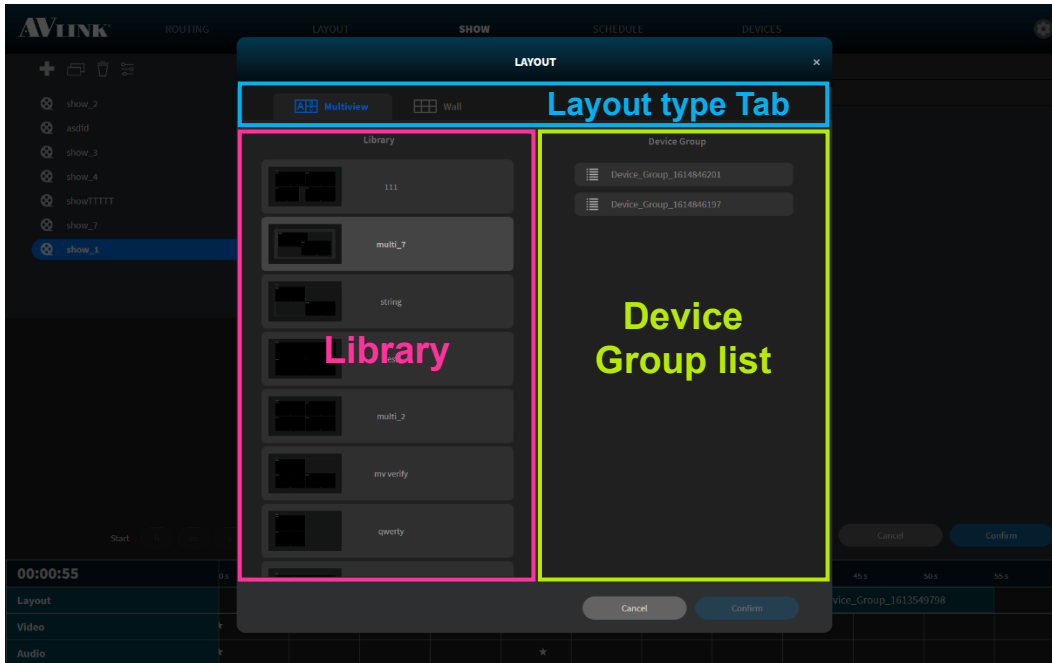


Figure 7-49 Popup of Layout Library (Multi-view)

7.5.1.4 Show Layout with Device Group Detail





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



Figure 7-50 Layout Detail area

7.5.1.5 Effect

- **Video Single Routing Effect**

The effects allowing you to subscribe between **Source** (IPS-TX / IPS-AX) and **Display** (IPS-RX / IPS-AX) at 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.

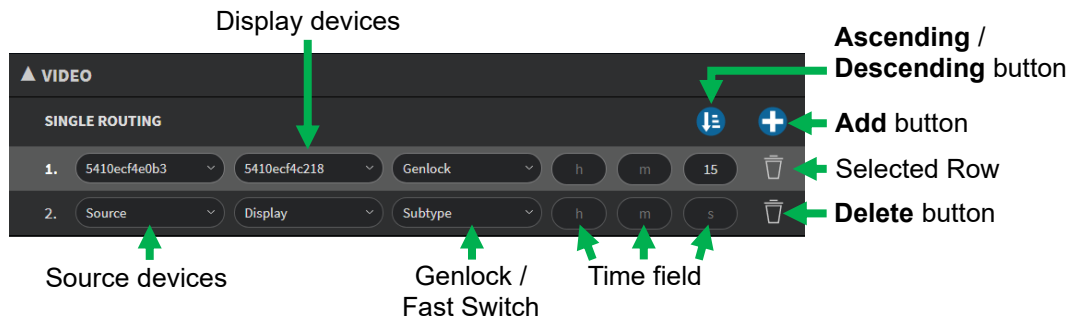


Figure 7-51 Video Single Routing Effect list of show

- **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.

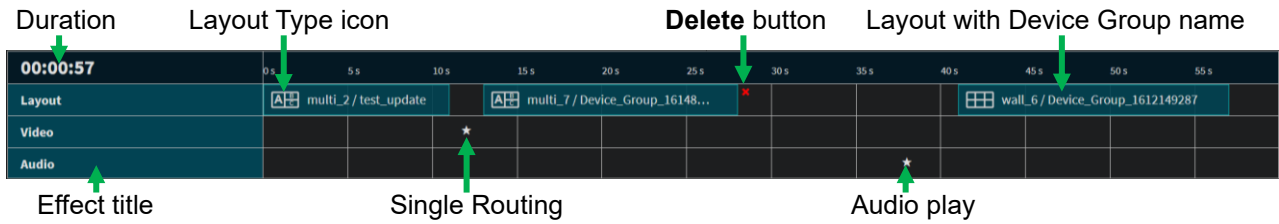


Figure 7-53 Timeline of show

7.5.2 Create Show

Click **Add** button **+** on the top of Show 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.

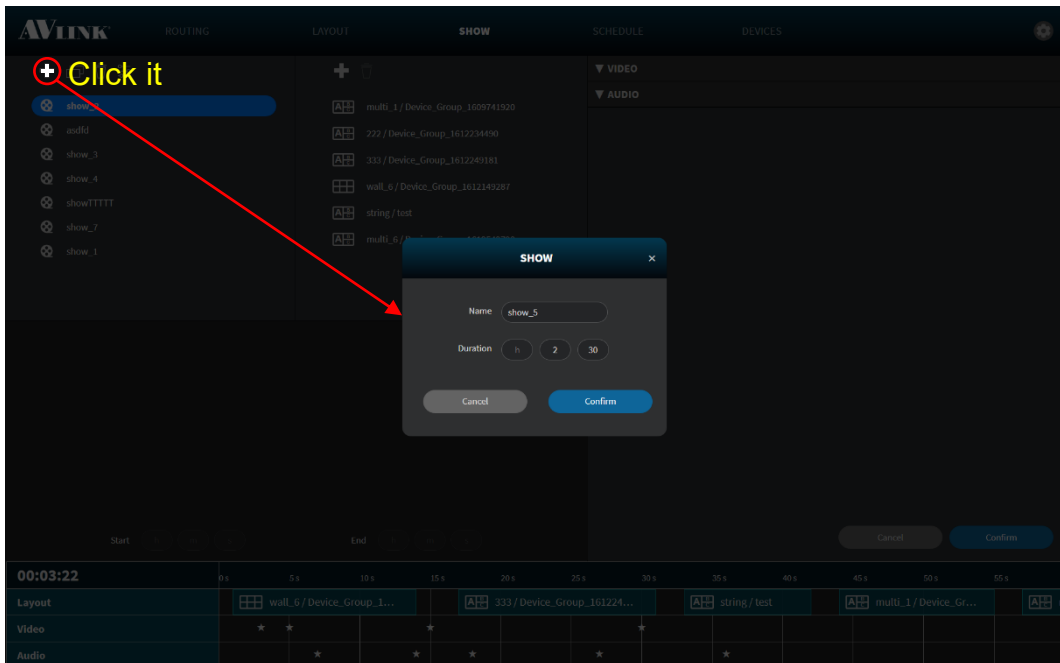


Figure 7-54 Create Show

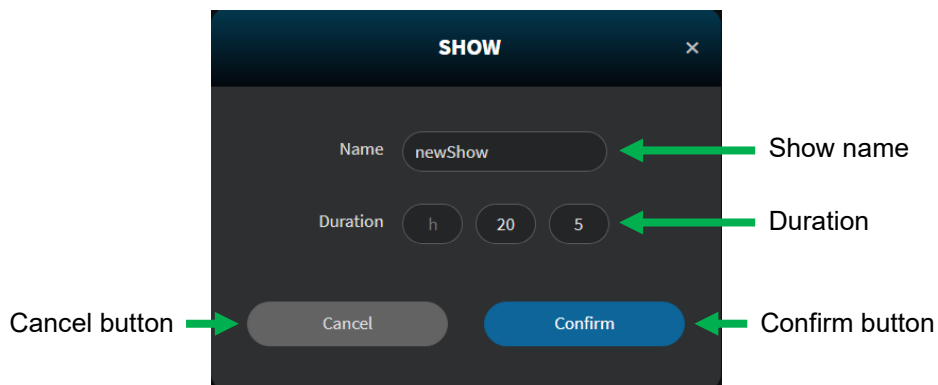





Figure 7-55 Pop up of Create Show form

7.5.2.1 Add Layout with specific Device Group to Show

1. Click **Add** button  on the top of the Layout with specific device group List, it will popup **LAYOUT** Library window.
2. Select one of the saved layouts and select a specific device group to play from the library.
3. Click  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** duration.

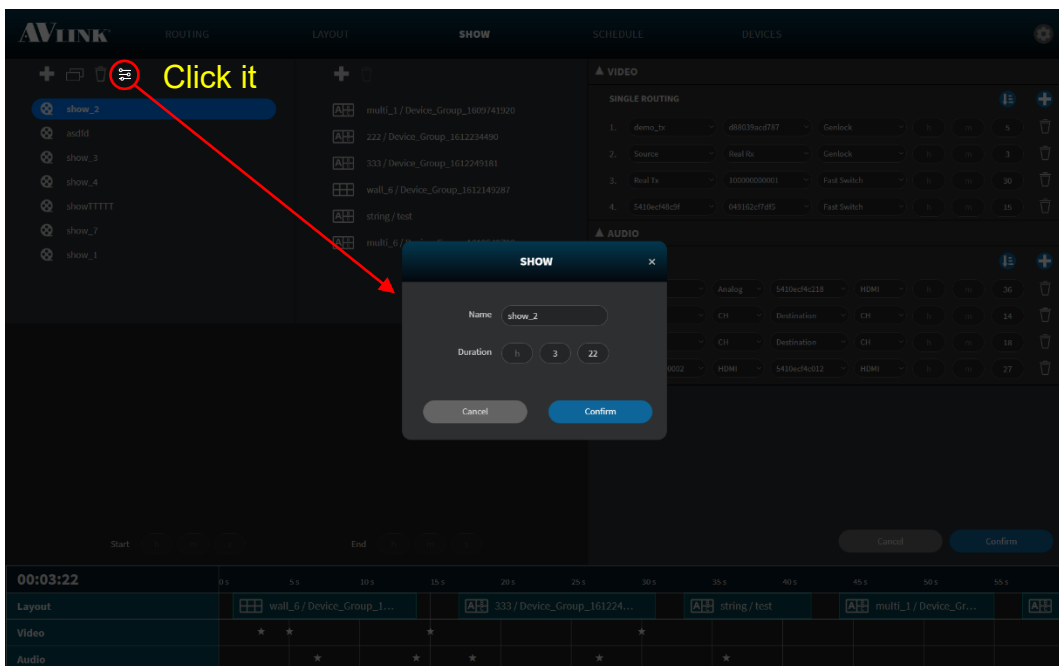


Figure 7-56 Show edit window

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

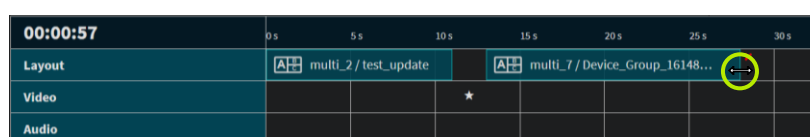


Figure 7-57 Timeline item (Layout) resizing

- The timeline items are **draggable**, you can select item in the timeline (click on it),

afterwards drag left or right to **change** layout, video or audio time.

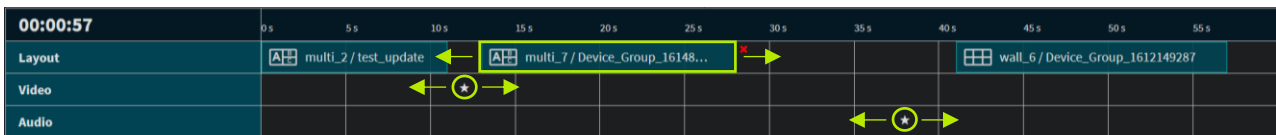


Figure 7-58 Timeline item dragging

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

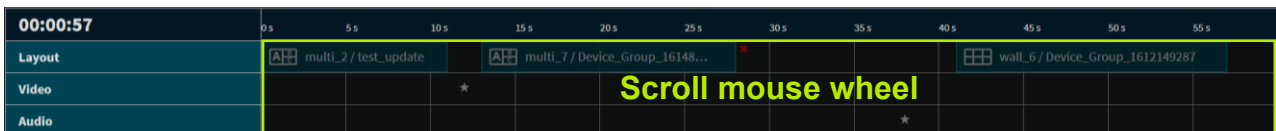


Figure 7-59 Timeline axis display adjustment

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

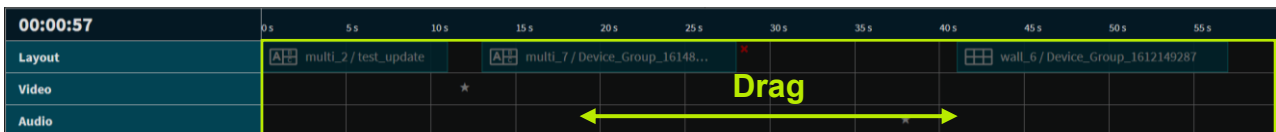




Figure 7-60 Timeline movement

- 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 popup. Click  to delete the show.

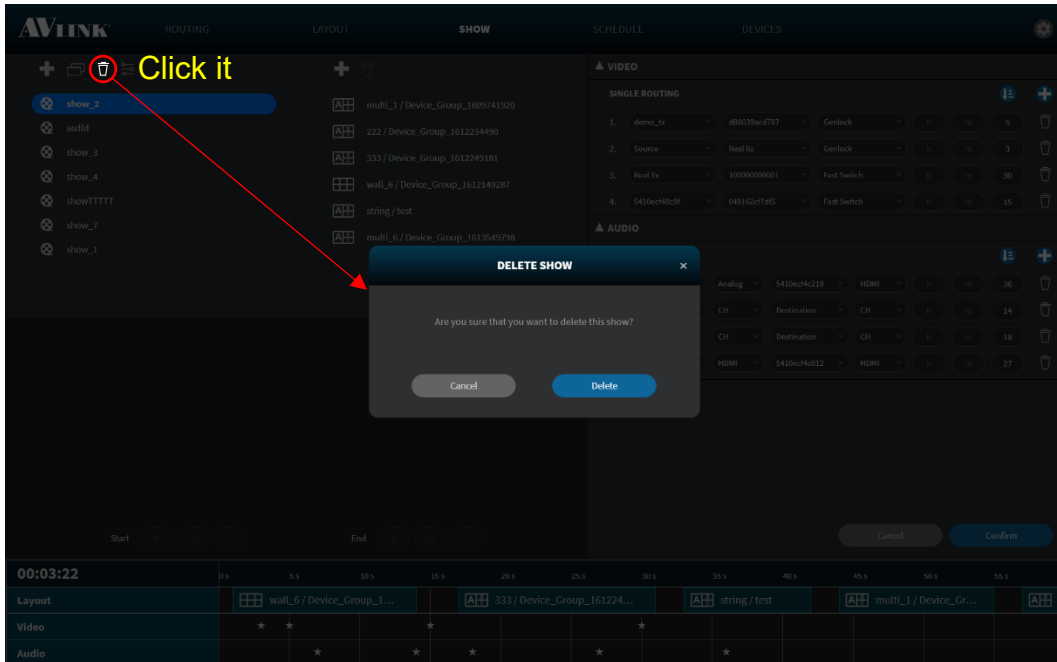


Figure 7-61 Popup of Delete Show Confirmation Message

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.

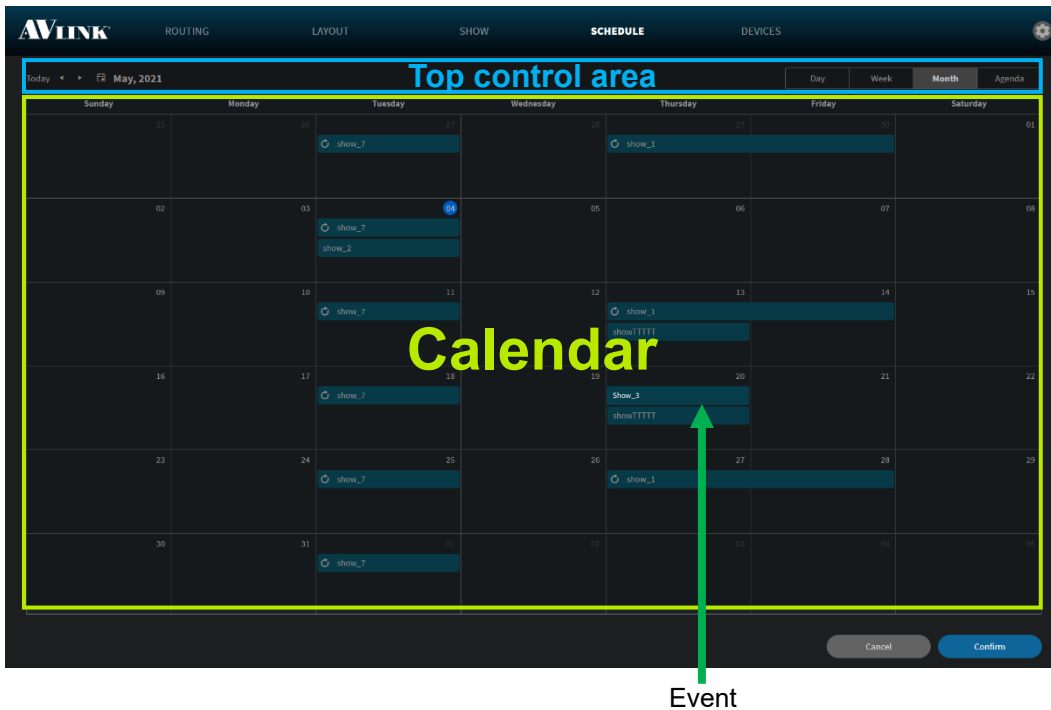


Figure 7-62 SCHEDULE configuration

- **Top control area**



Figure 7-63 SCHEDULE Top Control Area

- **Calendar date**

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

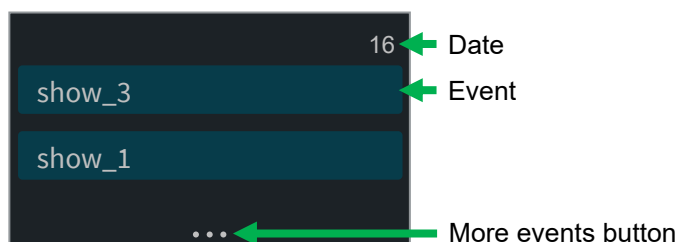


Figure 7-64 Calendar Date

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

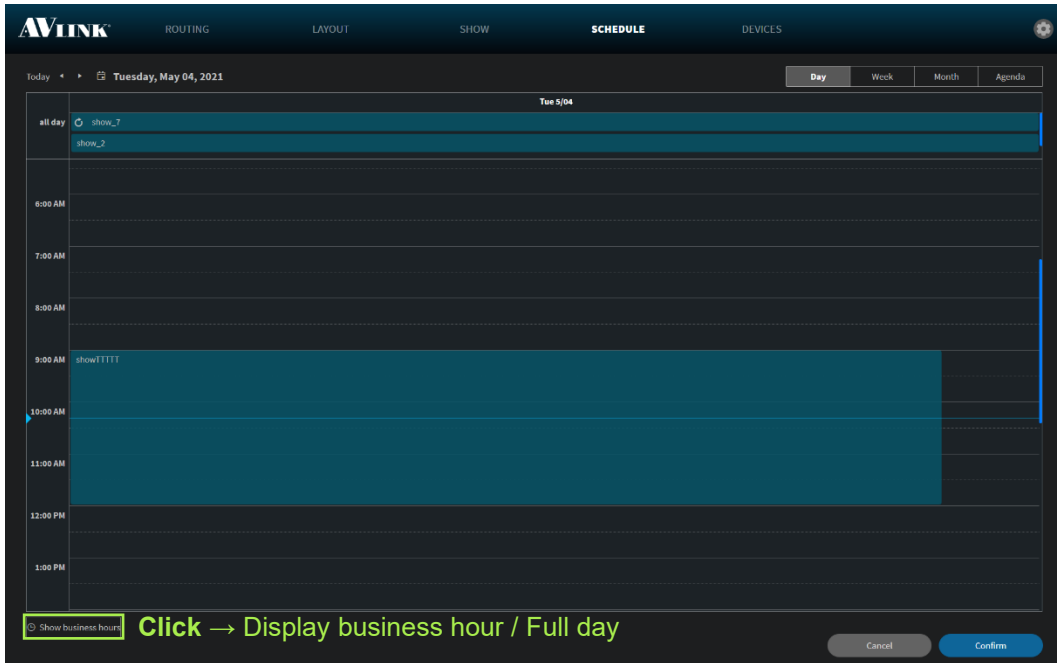


Figure 7-65 Day View in SCHEDULE configuration

7.6.1.2 Week View

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

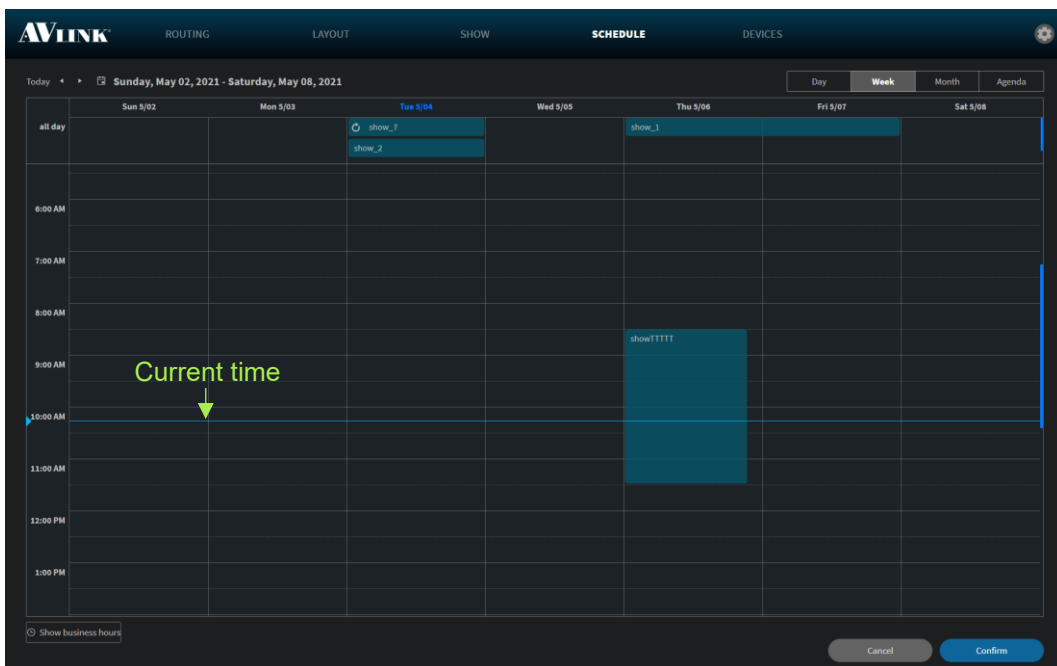


Figure 7-66 Week View in SCHEDULE configuration

7.6.1.3 Month View (Default view)

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

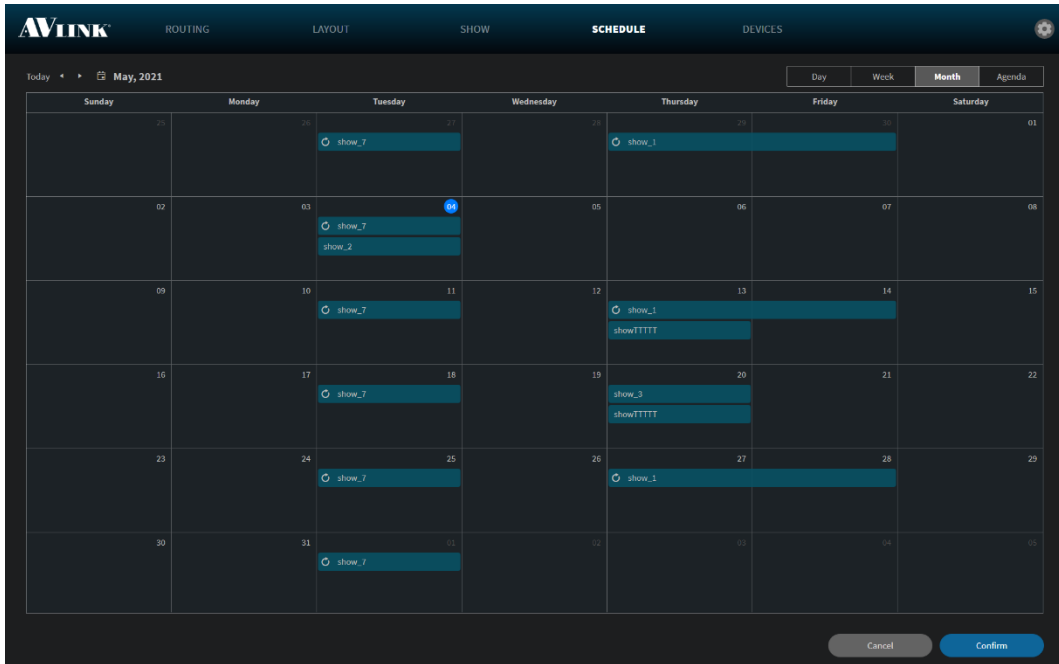


Figure 7-67 Month View in SCHEDULE configuration

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 week.

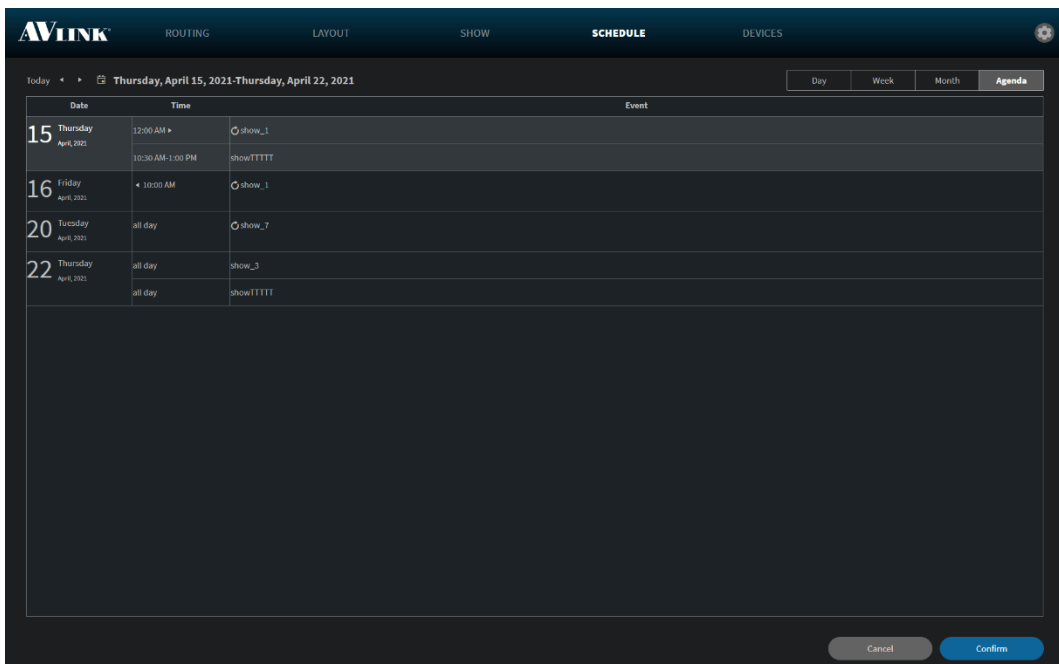



Figure 7-68 Agenda View in SCHEDULE configuration

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 Show list selector.
- Fill in the event's most important details.
- Click  to create an event at the date / time you set.

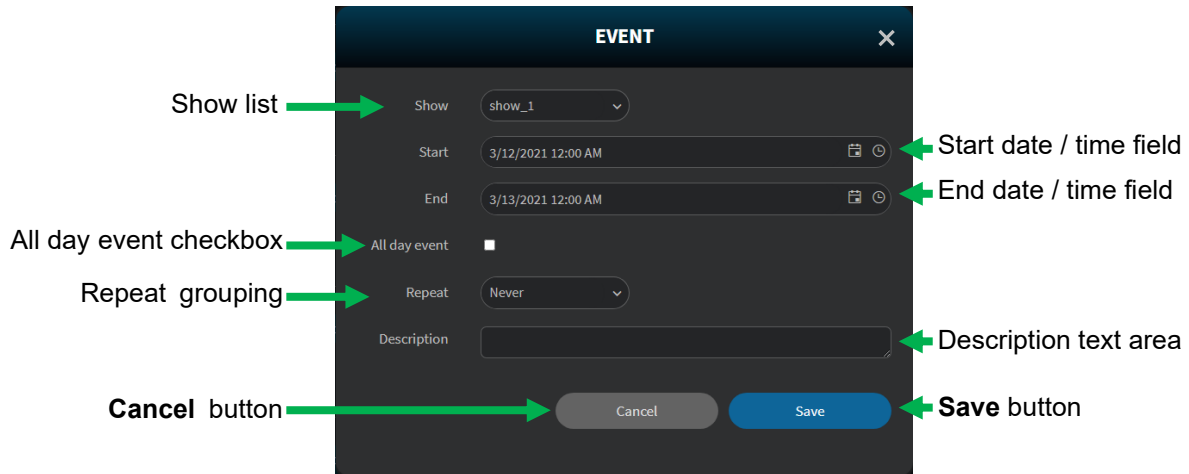


Figure 7-69 New Event window

- Start / End Time Field.

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

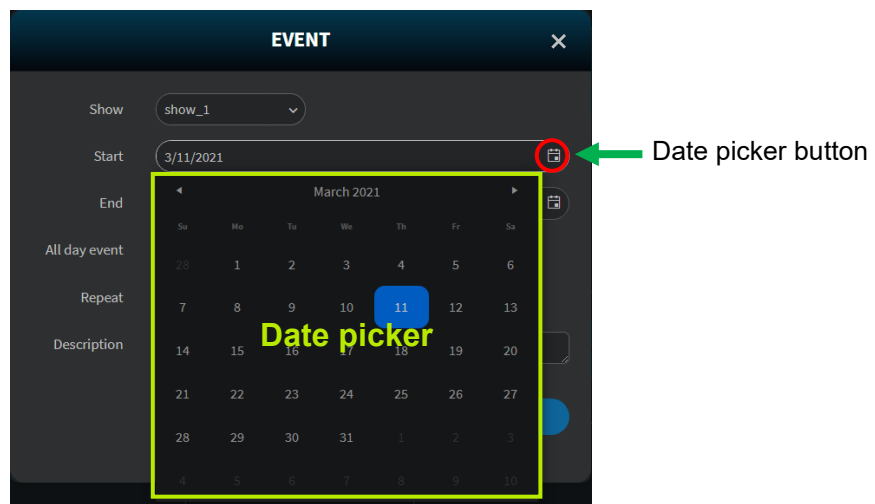


Figure 7-70 Date picker in New Event window

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

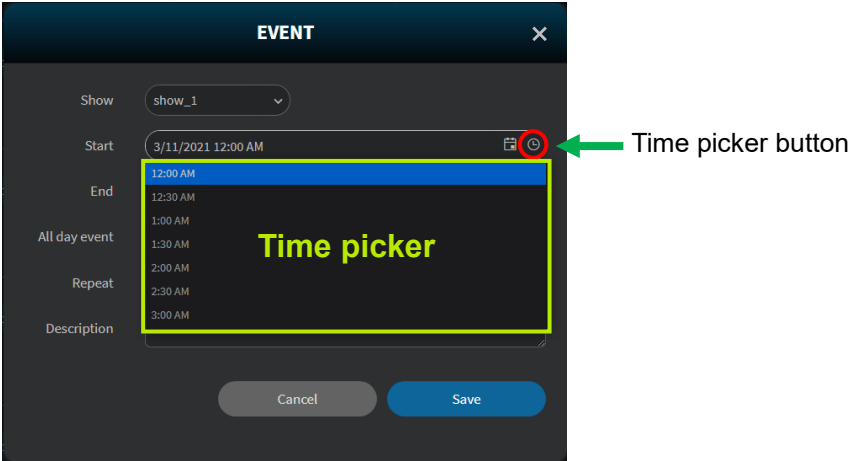


Figure 7-71 Time picker in New Event window

- Daily Repeat Option.

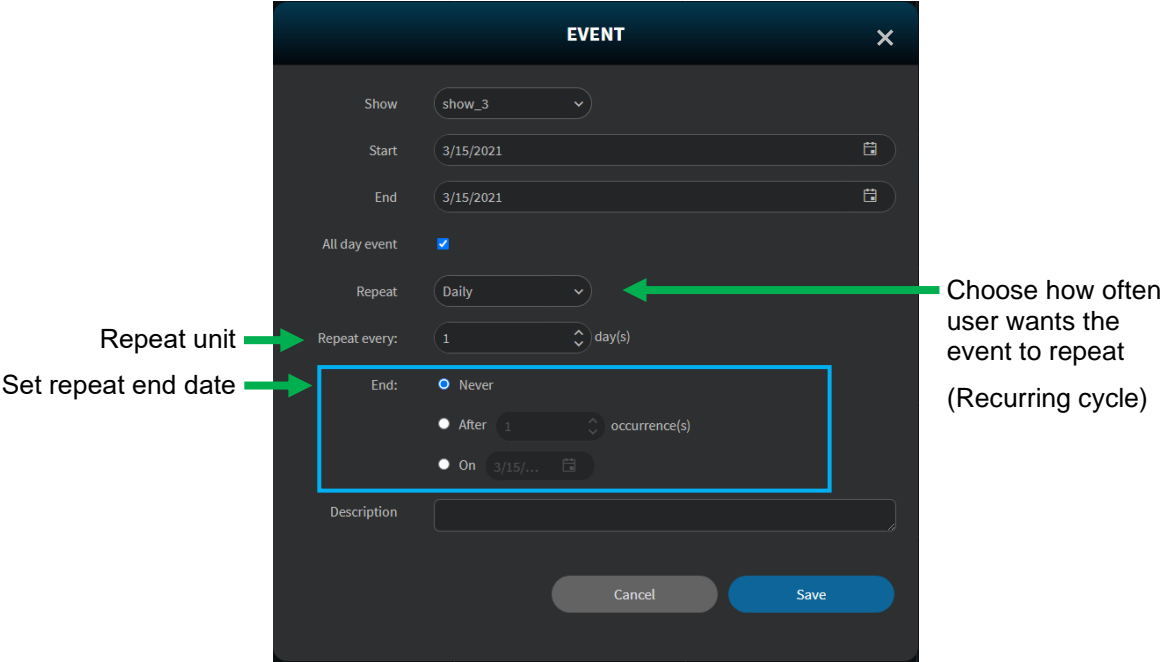


Figure 7-72 Daily repeat option in New Event window

- Weekly Repeat Option.

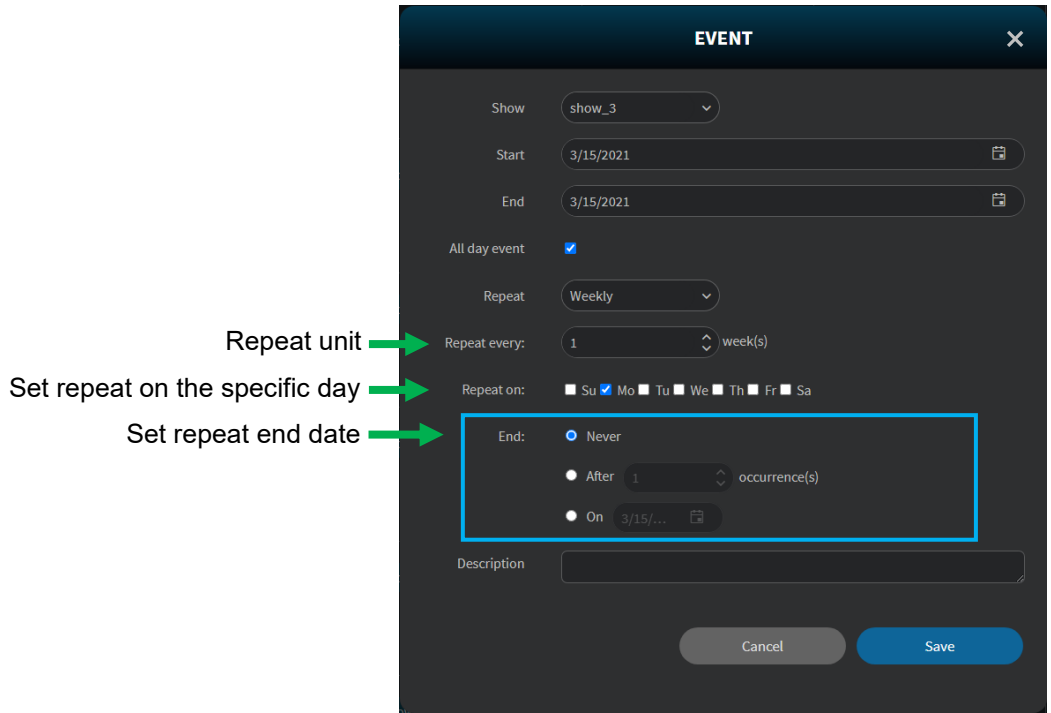


Figure 7-73 Weekly repeat option in New Event window

- Monthly Repeat Option.

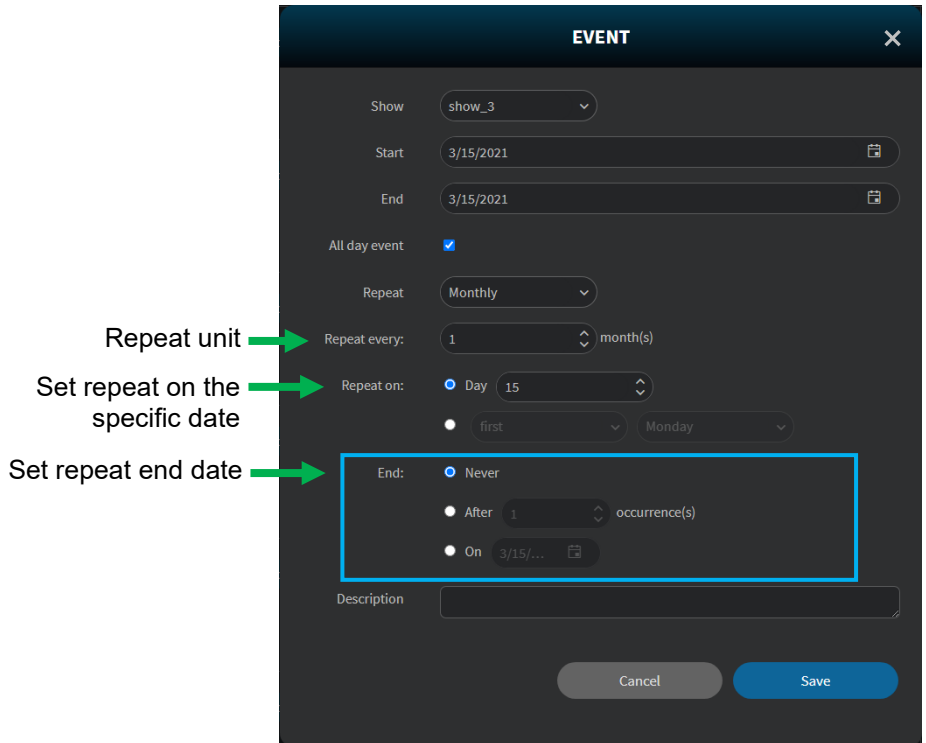


Figure 7-74 Monthly repeat option in New Event window

- Yearly Repeat Option

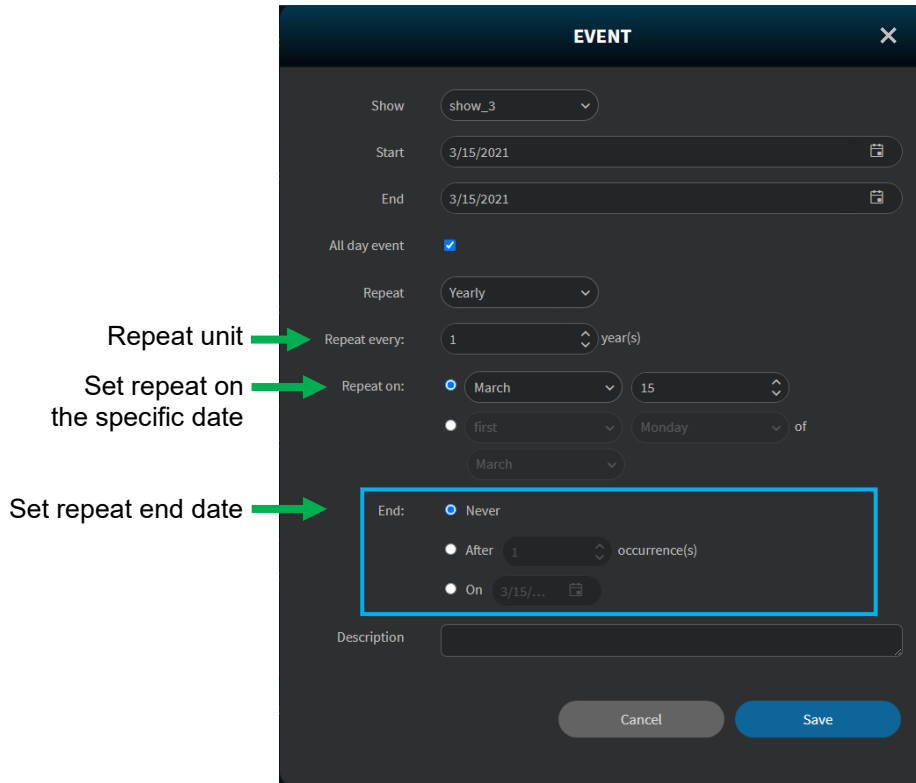


Figure 7-75 Yearly repeat option in New Event window

- Event Outlook

Once event



Figure 7-76 Once event component

Recurring event

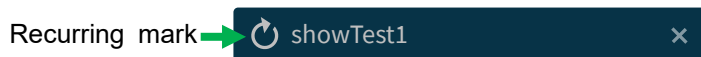
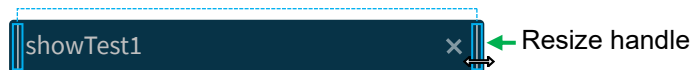


Figure 7-77 Recurring event component

Re-arrange event

- To re-arrange 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 Re-arrange 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.

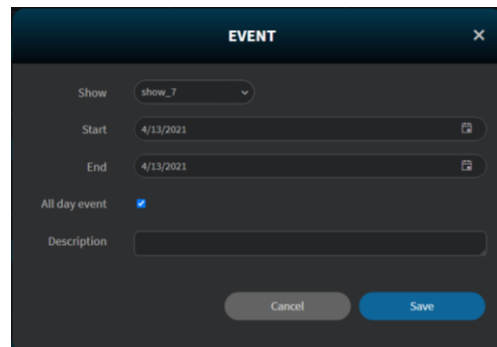
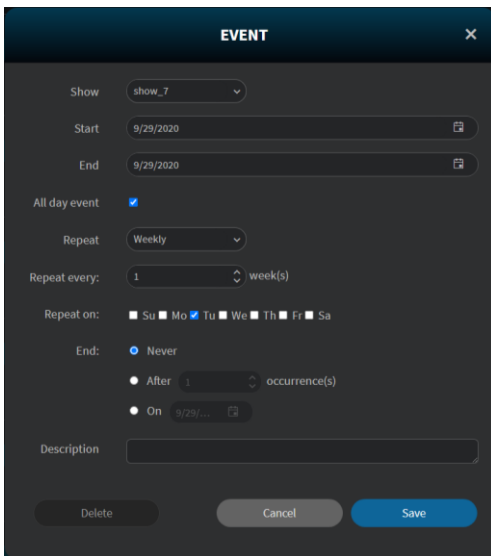
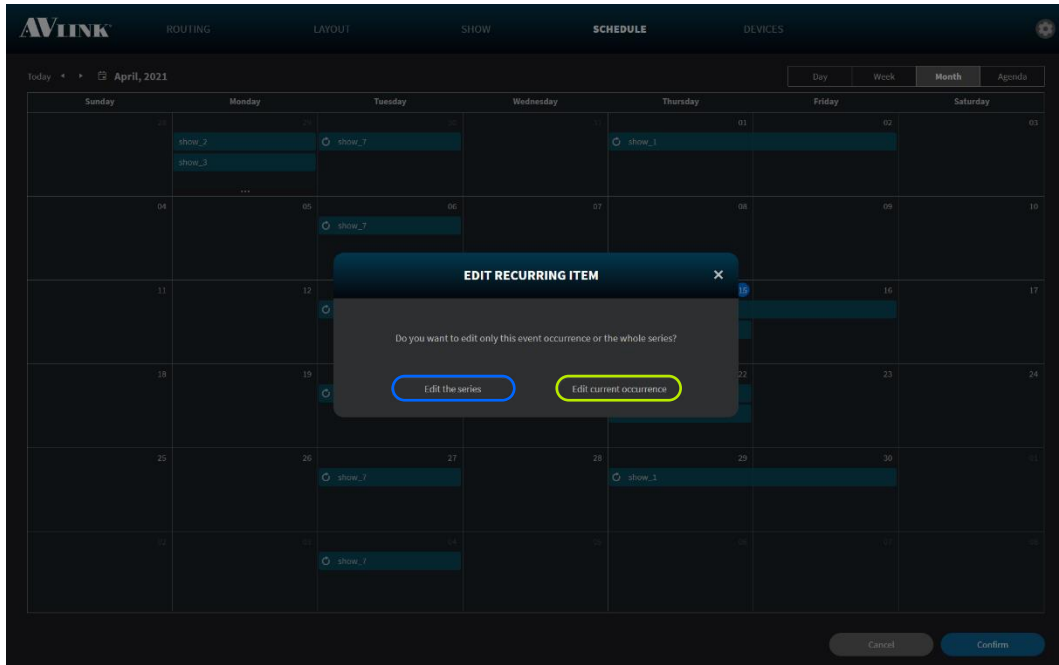


Figure 7-79 Edit Recurring Event windows

7.6.1.7 Edit Event

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

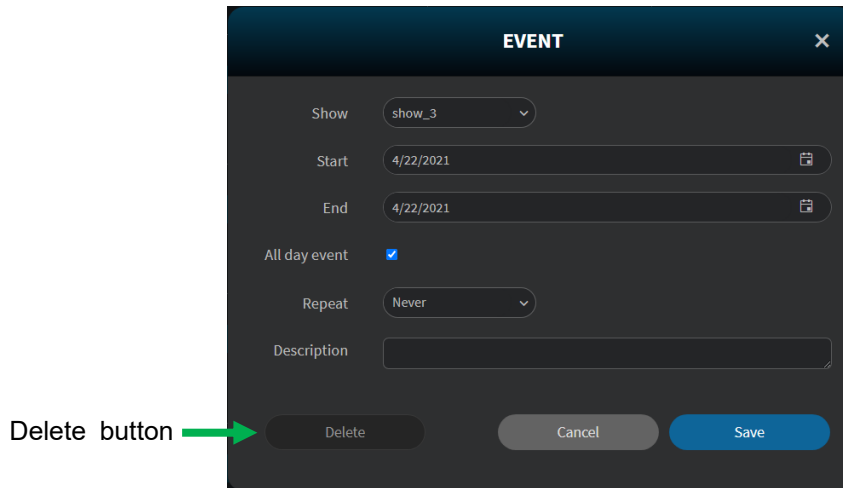


Figure 7-80 Edit Event window

7.6.1.8 Delete Event

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

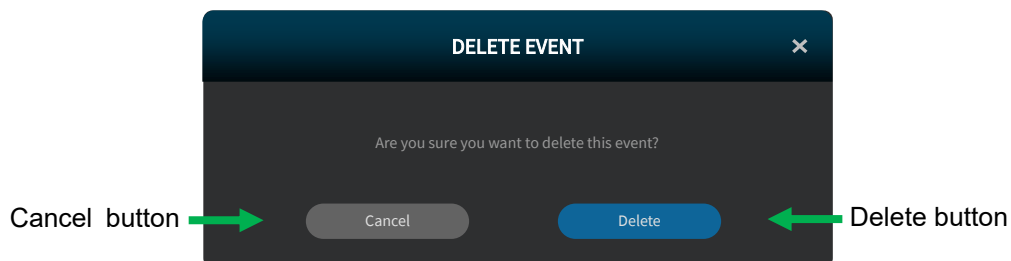



Figure 7-81 Delete event window

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** 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 Device

On the **DEVICE** 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 devices information every 30 seconds automatically.

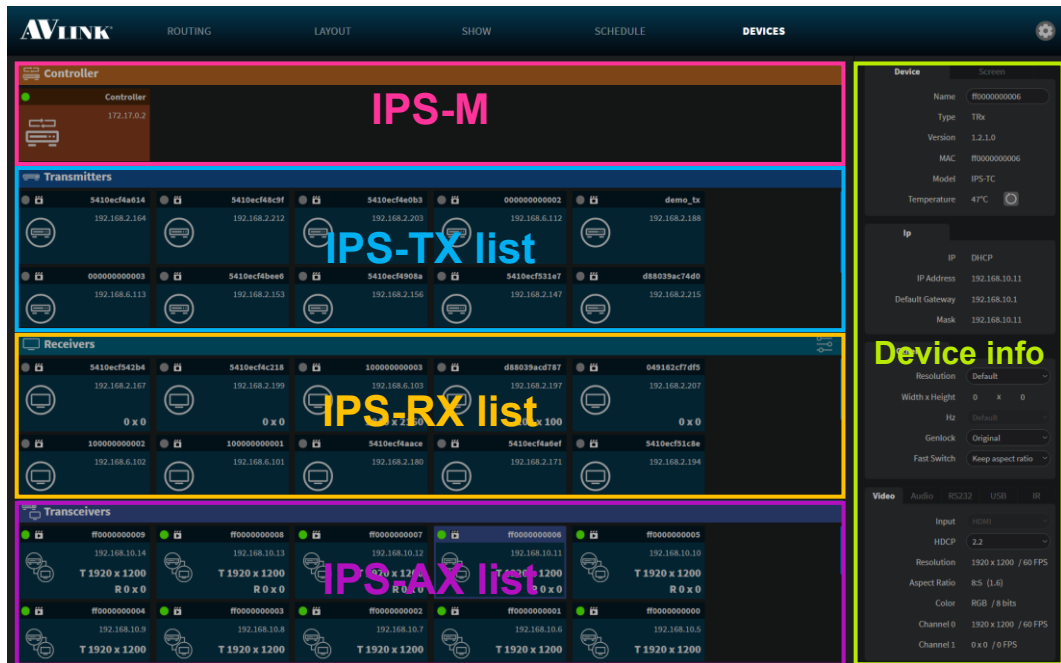



Figure 7-82 DEVICE configuration

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 basic information. Further, you can click **Refresh device temperature** button  to get the current online specific the IPS-TX, IPS-RX or IPS-AX device temperature.

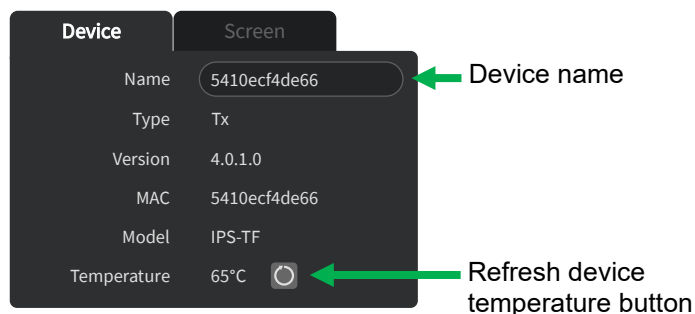


Figure 7-83 Device basic information

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

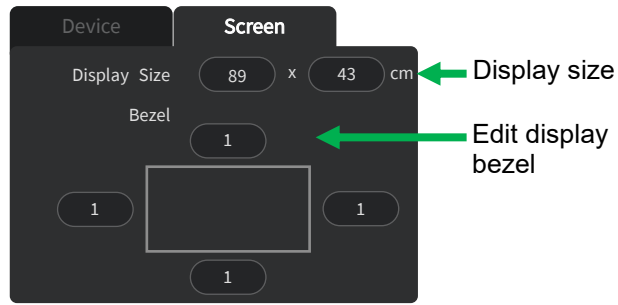


Figure 7-84 Screen setting window

7.7.1.2 IP

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

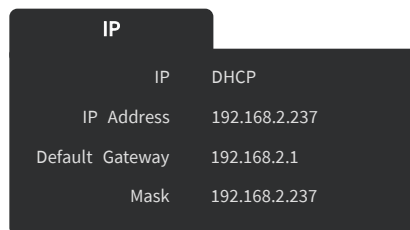


Figure 7-85 Device network information

7.7.1.3 Other

- 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.

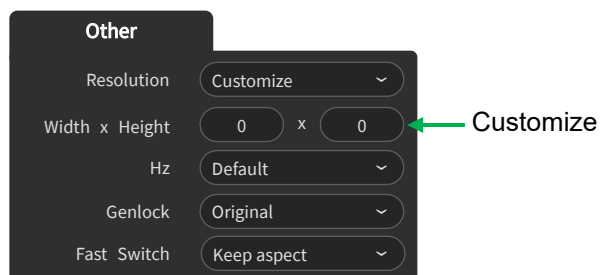


Figure 7-86 Device others information of the IPS-RX / IPS-AX

Resolution selector

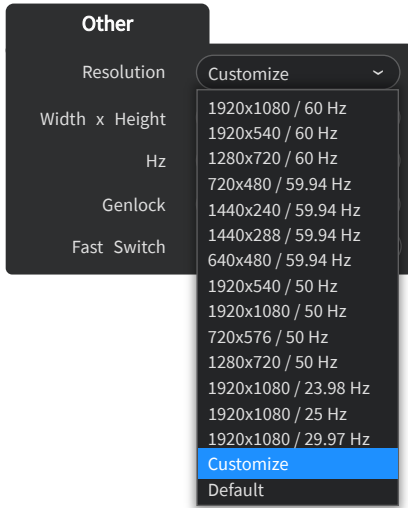


Figure 7-87 Resolution selector of the IPS-RX / IPS-AX

Hz selector

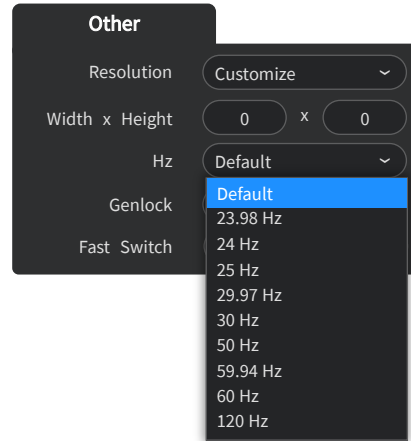


Figure 7-88 Hz selector of the IPS-RX / IPS-AX

Genlock selector

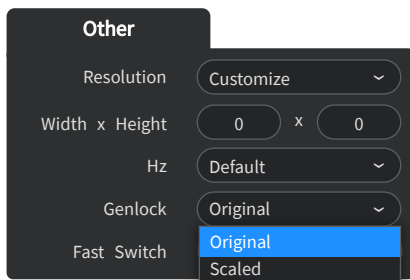


Figure 7-89 Genlock selector of the IPS-RX / IPS-AX

Fast Switch selector

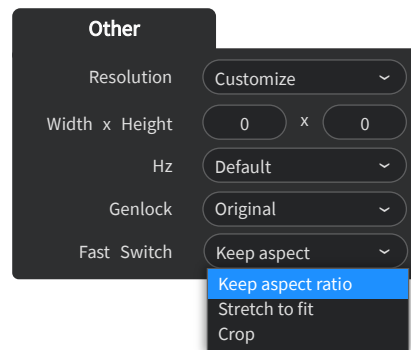


Figure 7-90 Fast Switch selector of the IPS-RX / IPS-AX

7.7.1.4 Streaming Information

Click the top **Tabs** to get the information of 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 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 suitable HDCP item.

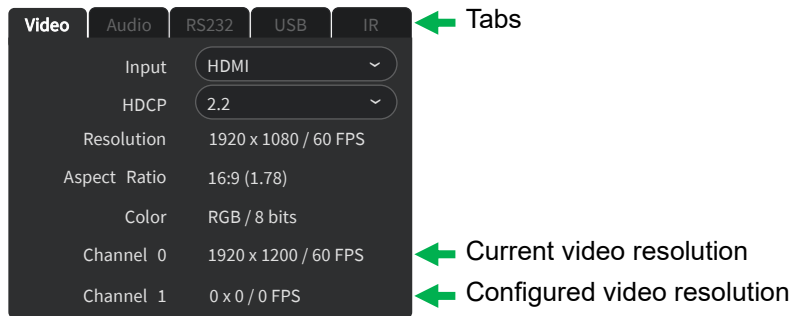


Figure 7-91 Device Streaming Video info

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

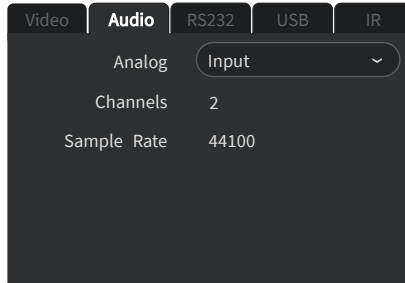


Figure 7-92 Device Streaming Audio info

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

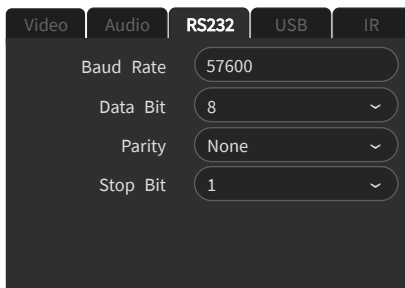


Figure 7-93 Device Streaming RS232 info

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



Figure 7-94 Device Streaming USB info

7.7.1.5 Device's context menu

Device card right-click custom 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 current information.
 - ◇ **Erase** – Erase custom settings and restore to default.
 - **Reset** – Reset configuration of specific device to factory default value.
 - ✕ **Delete** – Delete device from your configuration. (The device is still connected, not configured.)

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

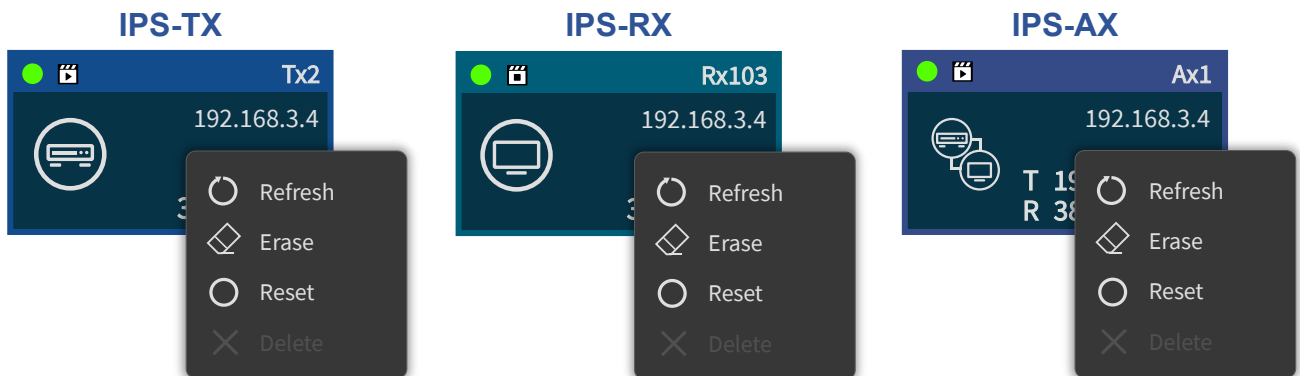


Figure 7-95 Online device's custom context menu

Offline ●

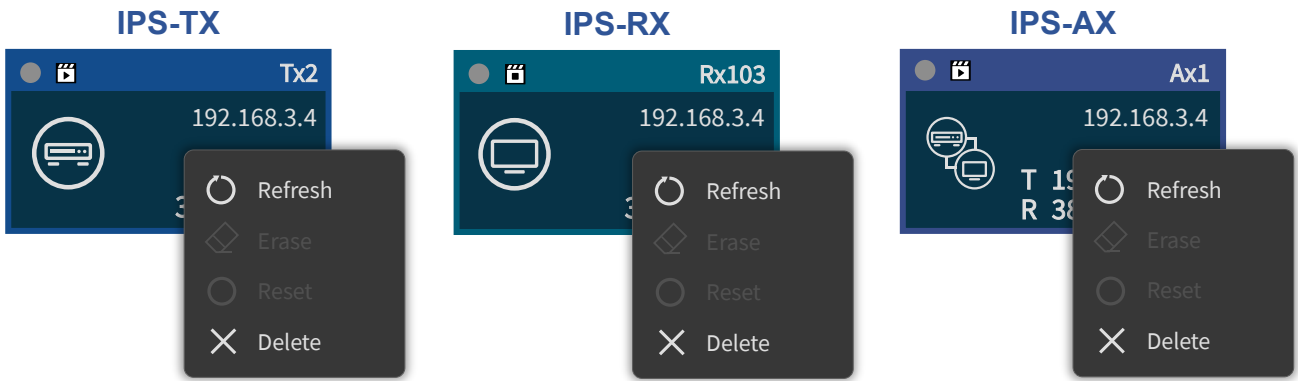


Figure 7-96 Offline device's custom context menu

Error !



Figure 7-97 Error device's custom context menu

Missing ?

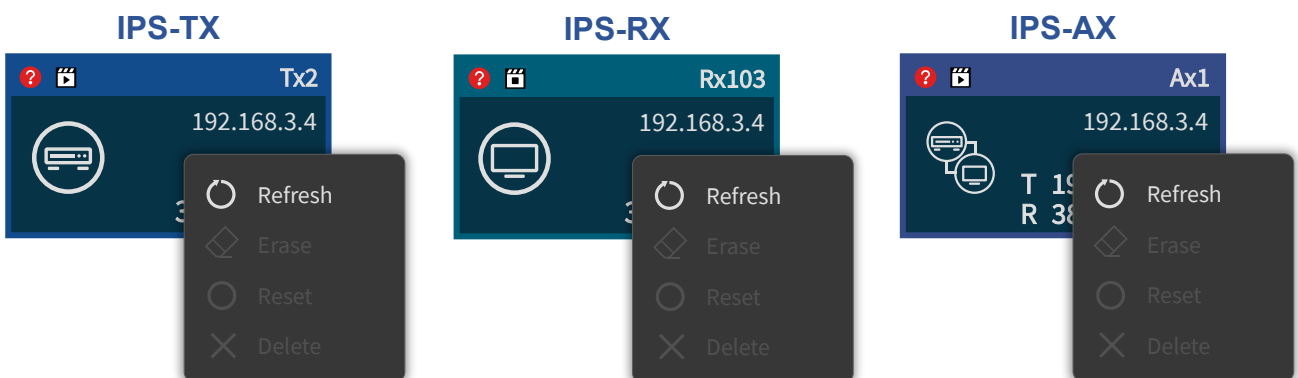


Figure 7-98 Missing device's custom context menu

Upgrading

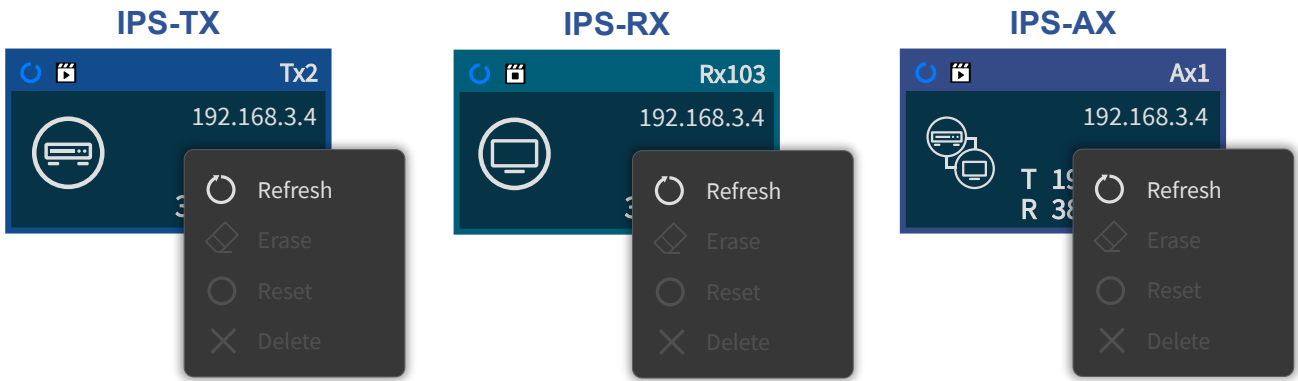


Figure 7-99 Upgrading device's custom context menu

Unsupported

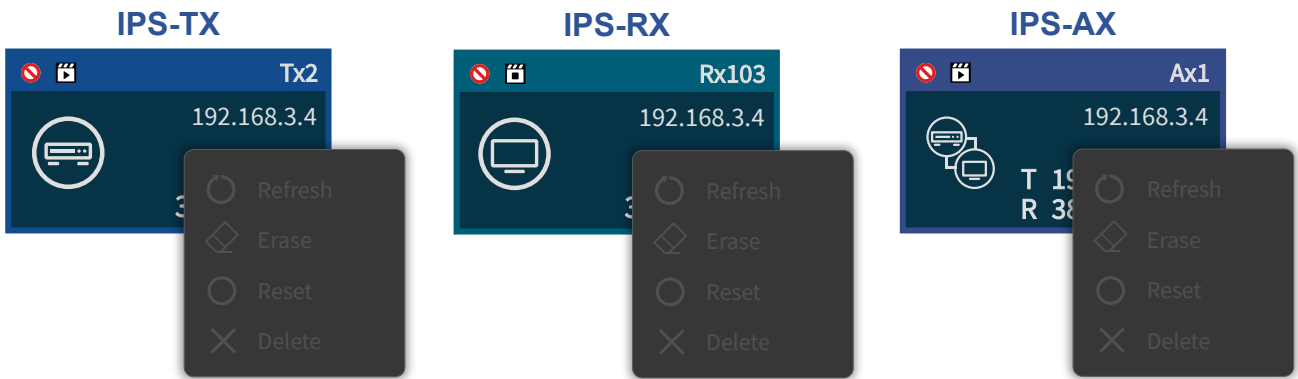


Figure 7-100 Unsupported device's custom context menu

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

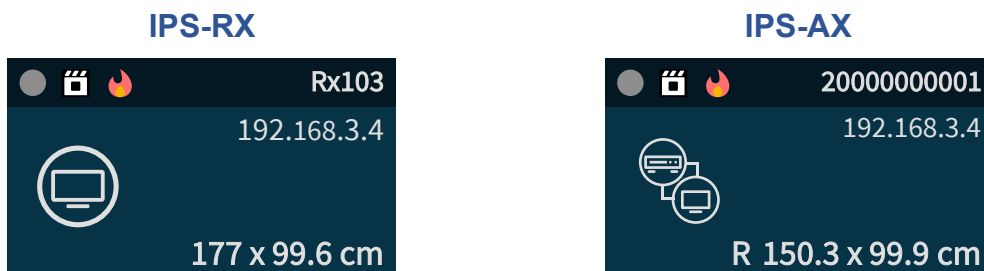


Figure 7-101 Press Alt key

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.

Notice: When the device IP is configured in Manual mode, USB IP will be automatically configured by the IPS-M.

If the specified IP address is to be used in the installation environment, the setting of the IP cannot be a continuous number.

For example:

(192.168.1.5, 192.168.1.7, 192.168.1.9)

When specifying the IP, "192.168.1.5" or more represents N, then the IP required by USB will be the tail number for the next IP group, that is, N+1.

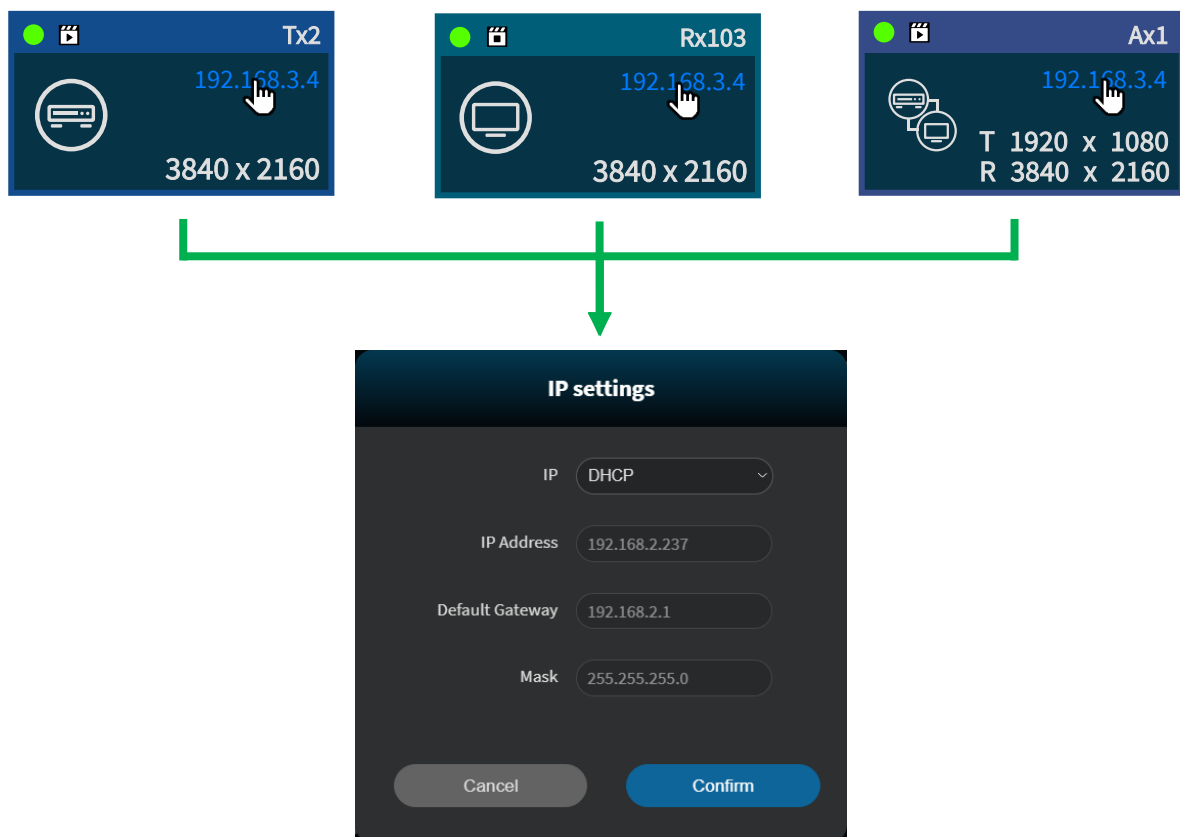


Figure 7-102 Edit Device IP window

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.

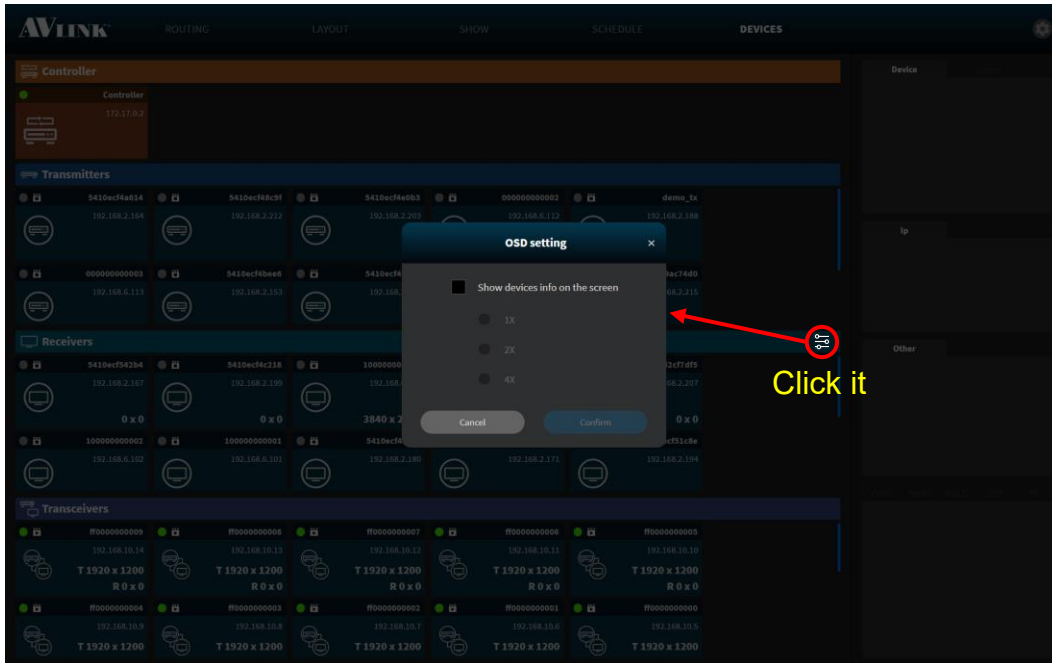


Figure 7-103 Set Device OSD window

- 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 OSD on the screen

- Turn **OSD off**



Figure 7-105 The screen without OSD

7.7.2 IPS-M Controller Component

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

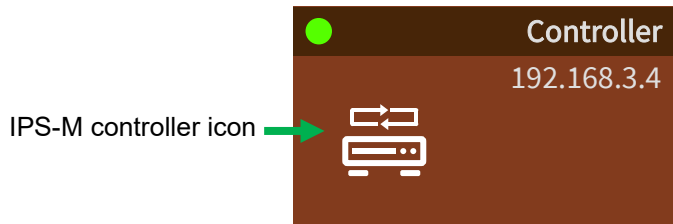


Figure 7-106 IPS-M controller card

7.7.2.1 IPS-M Controller

Edit the IPS-M controller's name here.

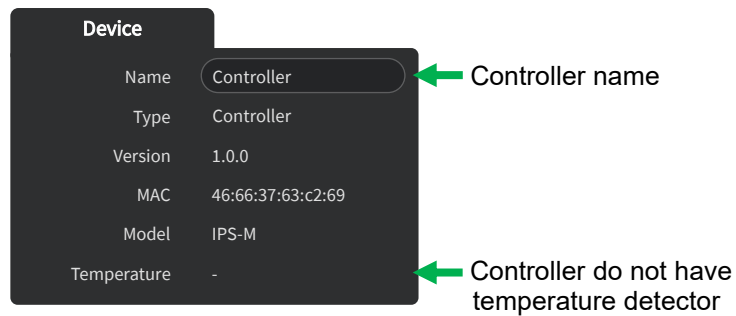


Figure 7-107 IPS-M Controller basic information

7.7.2.2 IP

View the IPS-M controller network information.

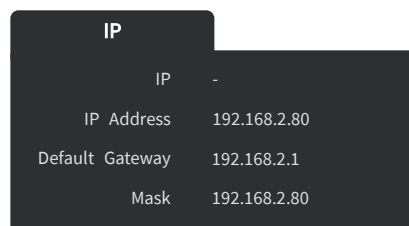


Figure 7-108 IPS-M Controller network information

7.7.2.3 IPS-M Controller's context menu

- Right-click:

Refresh – Reload the controller current information.

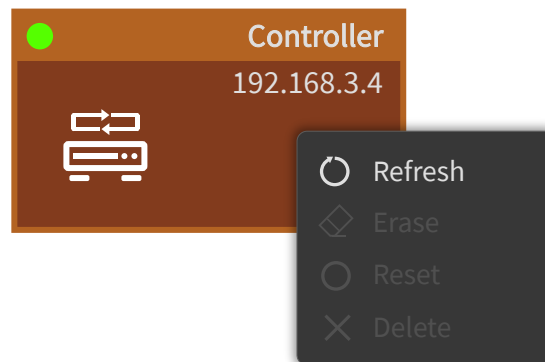


Figure 7-109 IPS-M Controller context menu