



Lightcasso User Manual

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.

Copyright and Trademarks

All rights reserved by AV LINK GROUP LTD. No part of this document may be reproduced in any form or by any means without written permission from the product manufacturer. Changes are periodically made to the information in this document. They will be incorporated in subsequent editions. The product manufacturer may make improvements and /or changes in the product described in this document at any time.

All the registered trademarks referred to this manual are belonging to their respective companies.

Contact Information

AV LINK GROUP LTD.

Headquarters: 28F., No. 97, SEC. 1, XINTAI 5TH RD., XIZHI DIST.,
NEW TAIPEI CITY 221, TAIWAN (R.O.C.)

TEL: 886-2-2697-2288

Fax: 886-2-2697-2299

E-mail: sales@cctch.com.tw

Table of Contents

Chapter 1 Introduction	1
1.1 Features	1
1.1.1 Web-based client application	1
1.1.2 Content management	2
1.1.3 Playback synchronization	2
1.1.4 Playback schedule	3
Chapter 2 Quick Start	4
Chapter 3 Specifications	5
3.1 Product Overview	5
3.1.1 LCS-D1	5
3.1.2 LCS-D2	5
3.1.2 LCS-M	6
3.2 Product Specifications	7
3.2.1 LCS-D1 and LCS-D2 Specifications	7
3.2.2 LCS-M Specifications	8
Chapter 4 Setup Guide	9
4.1 System architecture	9
4.1.1 LCS-D1 and LCS-M	9
4.1.2 LCS-D2	10
4.2 Launch Steps	11
4.2.1 Launch LCS-D1 or LCS-D2	11
4.2.2 Launch LCS-M	11
4.2.3 Launch LCS Web Client	11
Chapter 5 Interfaces	12
5.1 LCS-D1 and LCS-D2 Interfaces	12
5.1.1 LCS-D1 Front Panel	12
5.1.2 LCS-D1 Rear Panel	12
5.1.1 LCS-D2 Front Panel	12
5.1.2 LCS-D2 Rear Panel	12
5.2 LCS-M Interfaces	13
5.2.1 LCS-M Front Panel	13
5.2.2 LCS-M Rear Panel	13
5.2.3 LCS-M Information	13
5.3 LCS Web Client	15
5.3.1 Layout	15
5.3.1.1 Layout top bar	16

5.3.1.2 Logo	16
5.3.1.3 Play layout.....	16
5.3.1.4 Reset layout.....	16
5.3.1.5 Save layout.....	16
5.3.1.6 3D Viewport	17
5.3.1.7 Properties Editor	17
5.3.1.8 Gallery	22
5.3.1.9 Timeline	25
5.3.1.10 Layout selector options.....	26
5.3.2 Show.....	27
5.3.2.1 Show top bar	27
5.3.2.2 Logo	27
5.3.2.3 Reset show.....	27
5.3.2.4 Save show	27
5.3.2.5 Layout list	28
5.3.2.6 Show player.....	28
5.3.2.7 Show card list	29
5.3.2.8 Show card selector options.....	33
5.3.3 Home	34
5.3.3.1 Main.....	34
5.3.3.2 Gallery	39
5.3.3.3 Landscape	41
5.3.3.4 Show	42
5.3.3.5 Device.....	43
5.3.3.6 Schedule.....	46

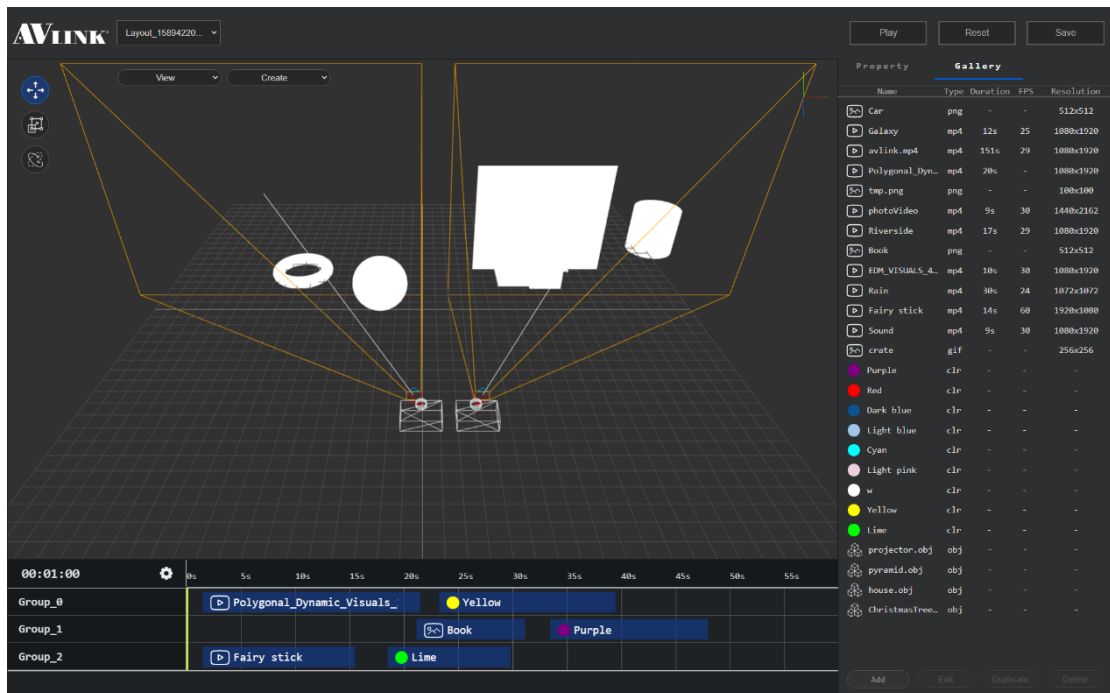
Chapter 1 Introduction

Lightcasso is an easy-to-use projection mapping system. The Lightcasso Web Client provides a full 3D edit environment for you to quickly setup a projection mapping. Then, Lightcasso device LCS-D1 outputs appropriate contents on you target objects from connected projector. Moreover, you can manage multiple LCS-D1 to perform a cooperated projection mapping with Lightcasso controller LCS-M.

1.1 Features

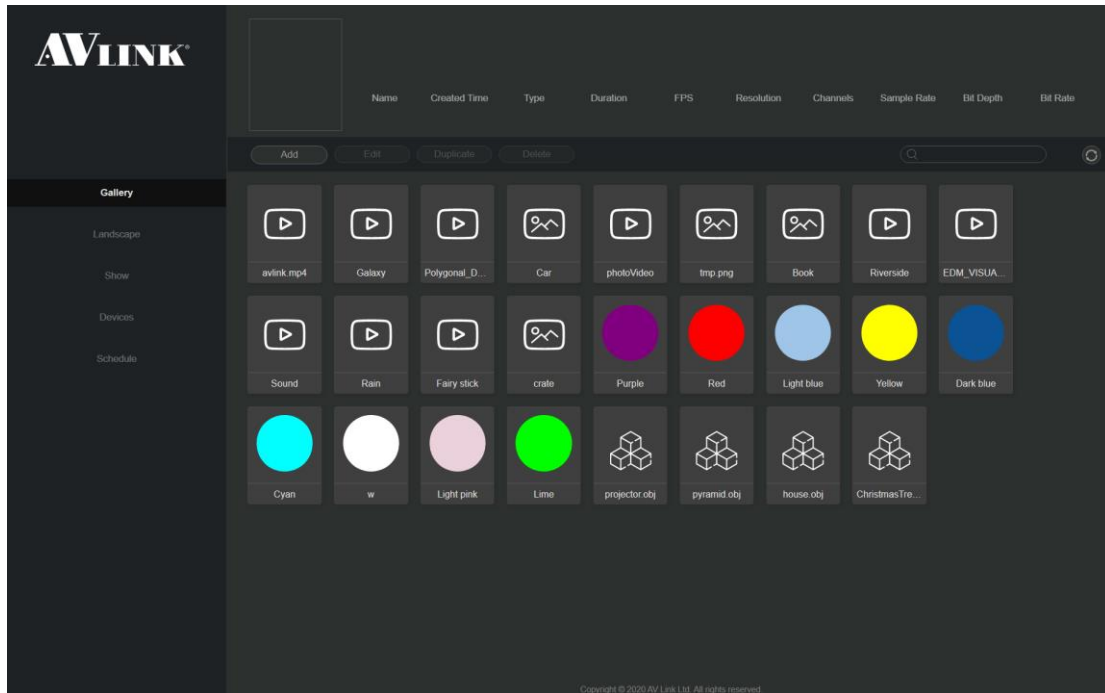
1.1.1 Web-based client application

Lightcasso Web Client is a web-based client with a fully 3D environment editor. The client can be launched in supported web browsers without any installation. In 3D environment editor, you can place, scale, and rotate each projection target 3D models and projectors. Moreover, you can design a playlist of media to project. Lightcasso will automatically change media.



1.1.2 Content management

Lighcasso controller and device can store your 3D objects and multimedia. This feature makes Lighcasso still can playback your projection mapping design without extra control PC after configuration. Moreover, Lighcasso controller automatically deploys required contents to each Lighcasso device when using cooperation mode. This feature reduces the setup time of uploading media on each device one by one.

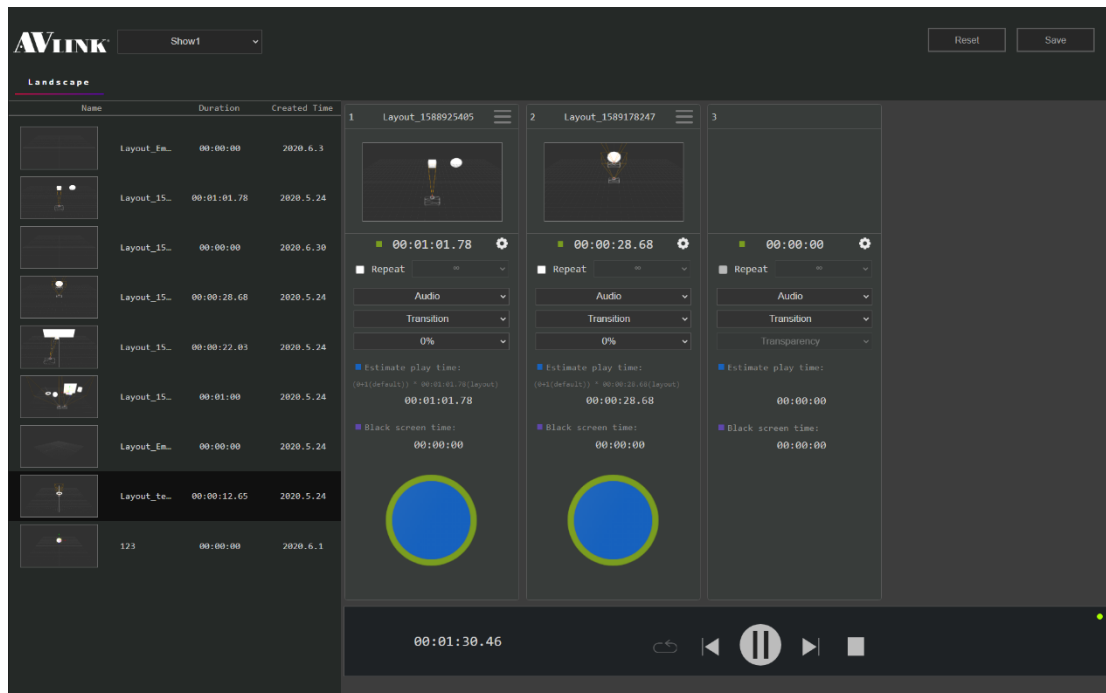


1.1.3 Playback synchronization

You can use multiple Lighcasso devices together at the same time to build a cooperated projection mapping. Lighcasso controller automatically detects Lighcasso devices in the same network. Then, you can setup several projectors and bind each one with an appropriated device in the landscape design of Lighcasso Web Client. When playing the landscape, Lighcasso controller handles the progress of playback in different Lighcasso devices to make each device synchronously play.

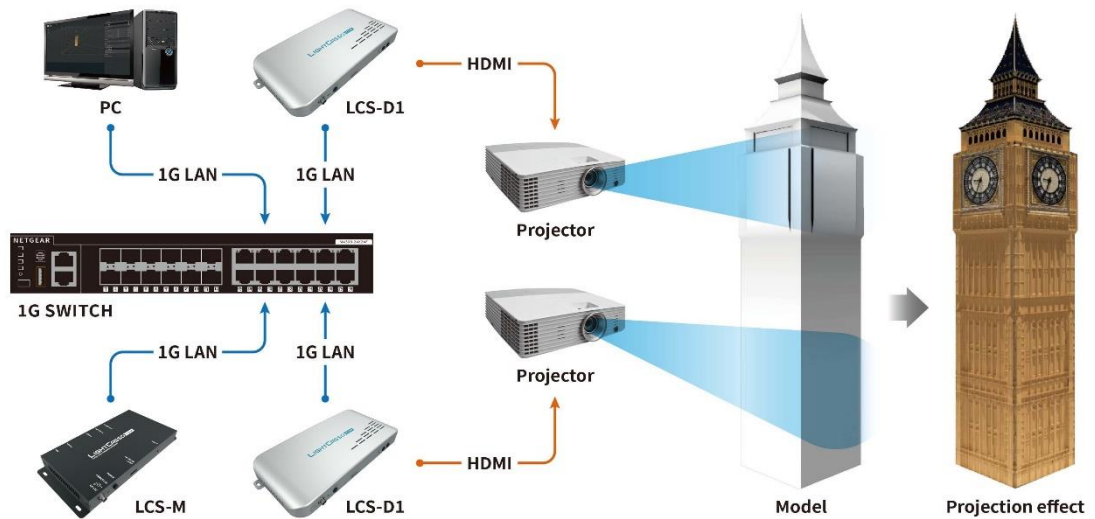
1.1.4 Playback schedule

The Lightcasso provides schedule feature to setup show playback. You can organize a show with several landscapes as a show with playback sequence and time. Then, Lightcasso controller and devices demonstrate the show in the order. Moreover, you place shows in a timetable in day, week, and even a month. After configuration, Lightcasso will play your show on schedule.



Chapter 2 Quick Start

1. Prepare required equipment, includes LCS-D1, LCS-M, projector, and project target
2. Place each equipment at appropriate location
3. Connect each equipment as following figure:



4. Power on each equipment
5. Connect your PC or laptop to Switch
6. Open Lightcasso Web Client with browser
7. Start design and play your projection mapping

Chapter 3 Specifications

3.1 Product Overview

3.1.1 LCS-D1



3.1.2 LCS-D2



3.1.2 LCS-M



3.2 Product Specifications

3.2.1 LCS-D1 and LCS-D2 Specifications

VIDEO OUTPUT	
Video Formats	Up to HDMI 2.0 4K60, 4:4:4
Connector	HDMI type A
EDID	Read Display EDID
SD CARD	
Signal Format	SD 3.0
Connector	MicroSD Card
USB	
Signal Format	USB 2.0
Connector	Type A
USB	
Signal Format	USB 3.0
Connector	Type A
USB	
Signal Format	USB Type-C
Connector	Type C
Phone Jack	
Signal Format	Analogy Audio Output
Connector	3.5mm stereo phone jack
S/PDIF	
Signal Format	Digital Audio Output
Connector	Toslink Optical
ETHERNET	
Ethernet Speed	10/100/1000 Base-T
Connector	RJ-45
POWER CONSUMPTION	
Voltage	+12V DC
Current (Max)	1.25A
CASE	
Dimensions (LxDxH)	258 mm(L) x 123 mm(W) x 28mm(H)
Construction	Plastic
Weight	N/A

3.2.2 LCS-M Specifications

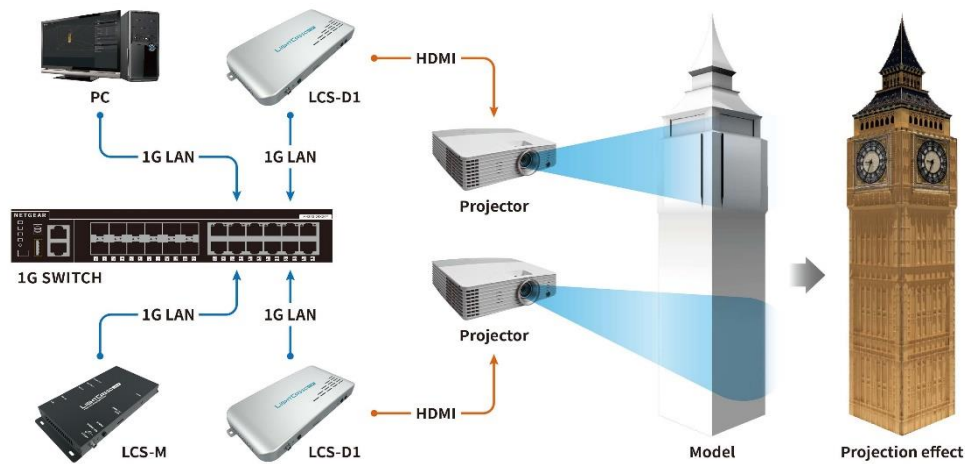
VIDEO OUTPUT	
Video Formats	Up to HDMI 2.0 4K60, 4:4:4
Connector	HDMI type A
EDID	Read Display EDID
SD CARD	
Signal Format	SD 3.0
Connector	MicroSD Card
USB	
Signal Format	USB 2.0
Connector	Type A
USB	
Signal Format	USB 3.0
Connector	Type C
ETHERNET	
Ethernet Speed	10/100/1000 Base-T
Connector	RJ-45
POWER CONSUMPTION	
Voltage	+12V DC
Current (Max)	1.25A
CASE	
Dimensions (LxDxH)	210 mm(L) x 114 mm(W) x 25 mm(H)
Construction	SGCC enclosure with black textured paint finish
Weight	N/A

Chapter 4 Setup Guide

4.1 System architecture

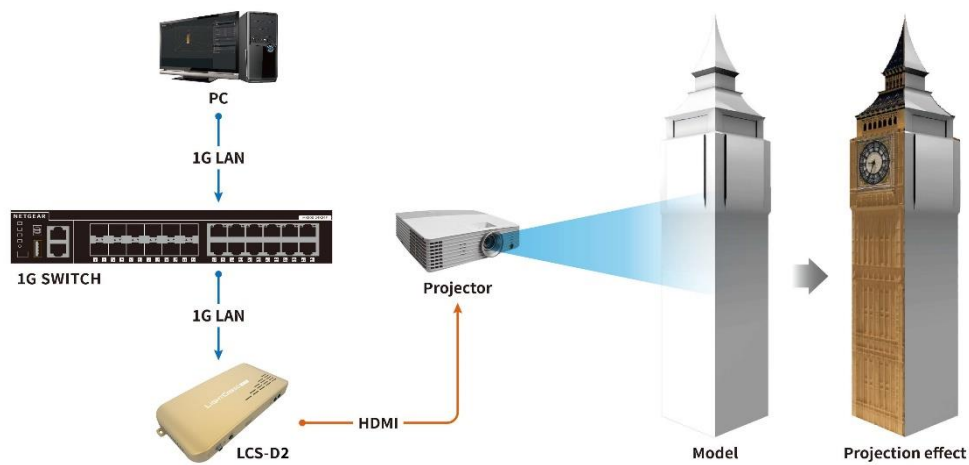
4.1.1 LCS-D1 and LCS-M

- Requirements:
 1. Several Lightcasso device LCS-D1
 2. Same numbers of projector as Lightcasso device
 3. One Lightcasso controller LCS-M
 4. One 1G Switch
 5. PC or laptop for controlling
- Connection diagram:



4.1.2 LCS-D2

- Requirements:
 1. Lighcasso device LCS-D2
 2. One projector
 3. One 1G Switch
 4. PC or laptop for controlling
- Connection diagram:



4.2 Launch Steps

4.2.1 Launch LCS-D1 or LCS-D2

1. Connect projector to the HDMI port
2. Connect Cat 5e cable to the Ethernet port
3. Connect power adapter cable to the Power Jack
4. Press power key for 3 seconds to boot device

4.2.2 Launch LCS-M

1. Connect Cat 5e cable to the Ethernet port
2. Connect power adapter cable to the Power Jack
3. Connect display device to the HDMI port for the LCS-M Information
4. Press power key for 3 seconds to boot device

4.2.3 Launch LCS Web Client

1. Open appropriated browser
2. Find the IP address on LCS-M Information screen or video output screen of LCS-D2.
3. Enter following URL in browser:
`http://{ip_address}:7004`

Chapter 5 Interfaces

5.1 LCS-D1 and LCS-D2 Interfaces

5.1.1 LCS-D1 Front Panel



5.1.2 LCS-D1 Rear Panel



5.1.1 LCS-D2 Front Panel



5.1.2 LCS-D2 Rear Panel



INTERFACE	DESCRIPTION
12V DC	Connected to +12V voltage adapter
POWER	Press 3 seconds to boot device. After boot, the LED is green bright.
MICRO SD CARD	Engineer only
RESET	Press 3 seconds to reboot device
VOL +/-	Increase or decrease audio volume
AUDIO OUT	Connected to speaker
HDMI OUT	Connected to a HDMI (2.0 or above) compatible

	Projector
TYPE-C	Engineer only
USB 3.0	Engineer only
S/PDIF	Connected to speaker
USB 2.0	Engineer only
LAN	Connected to switch

5.2 LCS-M Interfaces

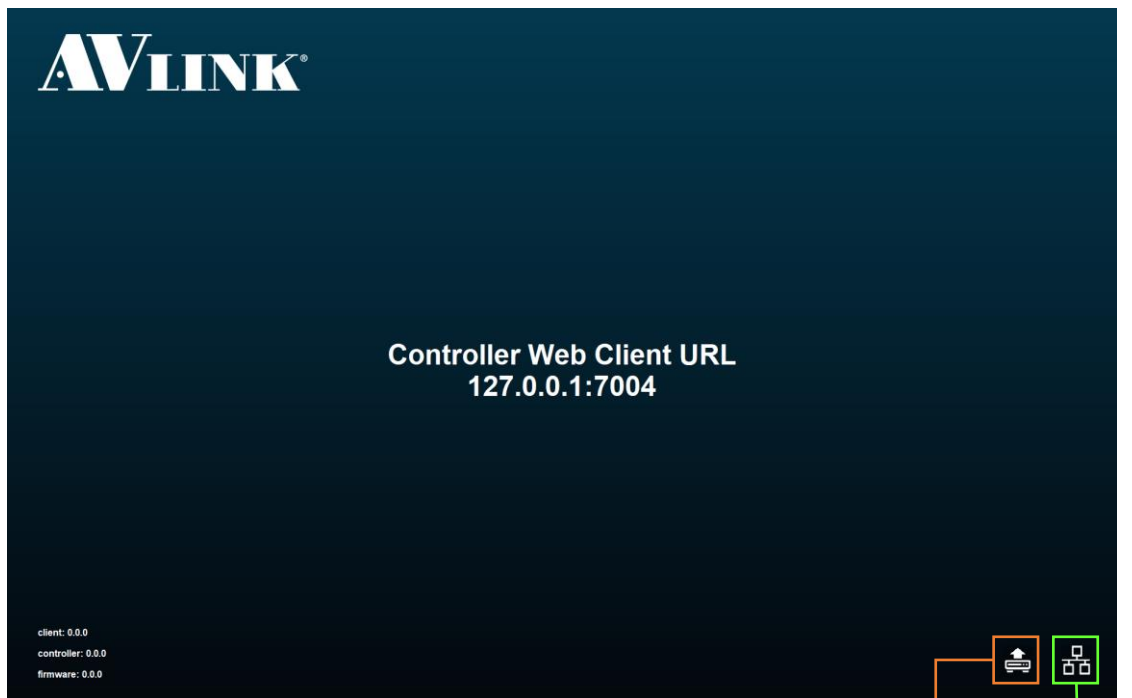
5.2.1 LCS-M Front Panel



5.2.2 LCS-M Rear Panel



5.2.3 LCS-M Information



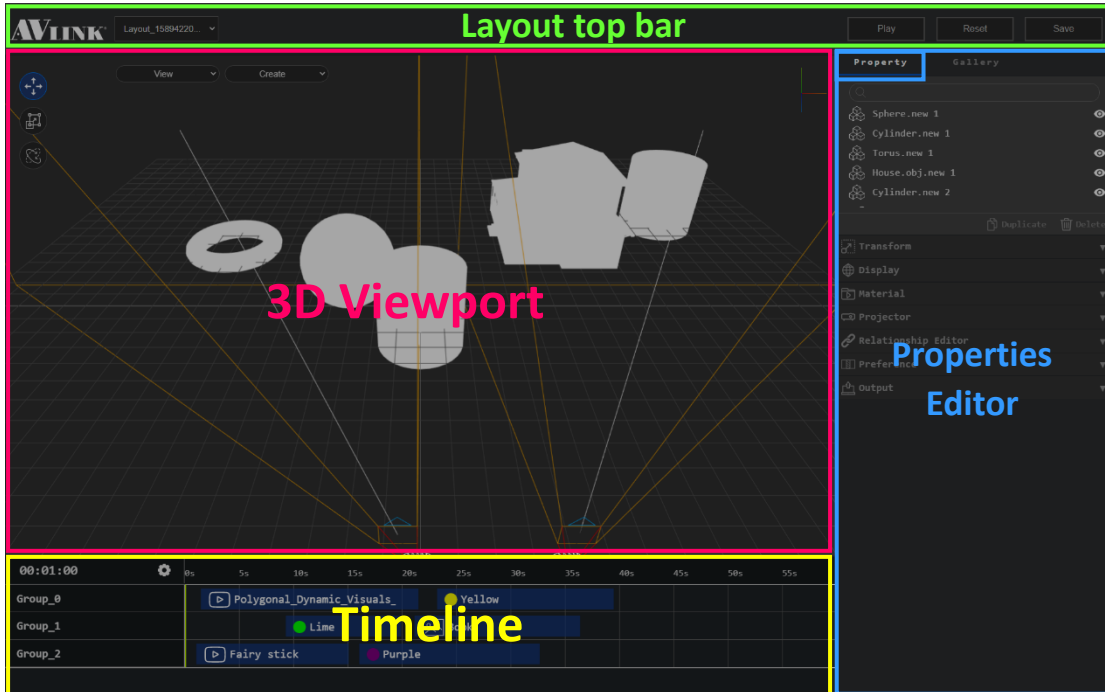
Upgrade Network

INTERFACE	DESCRIPTION
DC 12V	Connected to +12V voltage adapter
POWER	Press 3 seconds to boot device After boot, the LED is green bright
MICRO SD CARD	Engineer only
RESET	Press 3 seconds to reboot device
HDMI OUT	Connected to a HDMI (2.0 or above) compatible Monitor
TYPE-C	Engineer only
USB 3.0	Connected to Keyboard or Mouse
USB 2.0	Connected to Keyboard or Mouse
LAN	Connected to switch

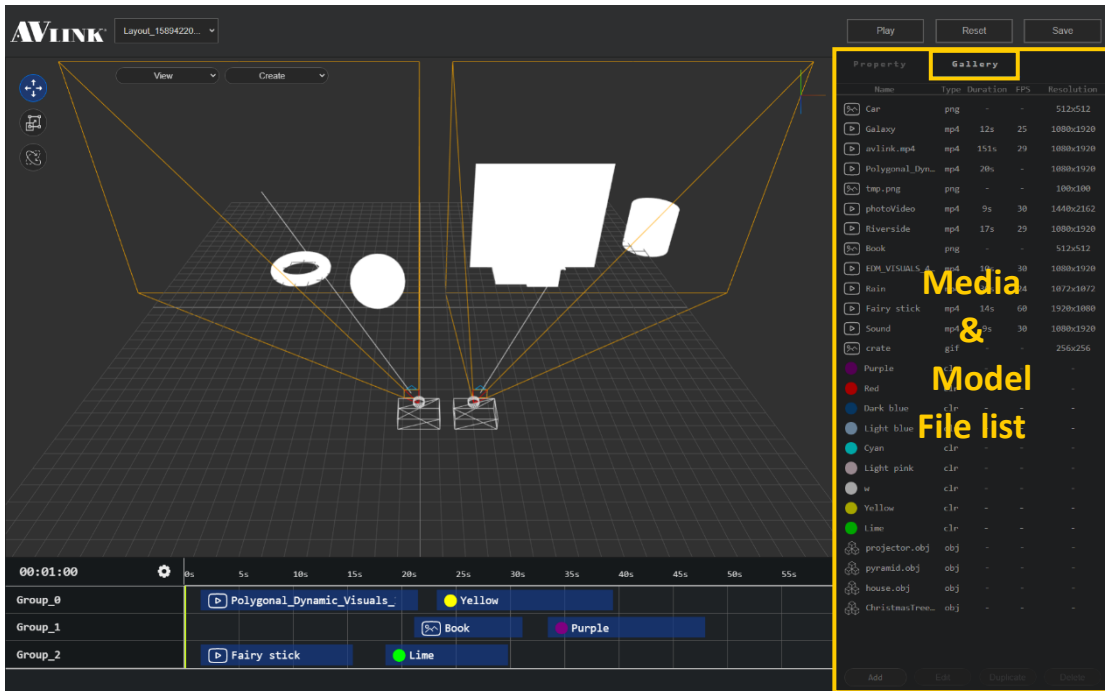
5.3 LCS Web Client

5.3.1 Layout

Main



Gallery

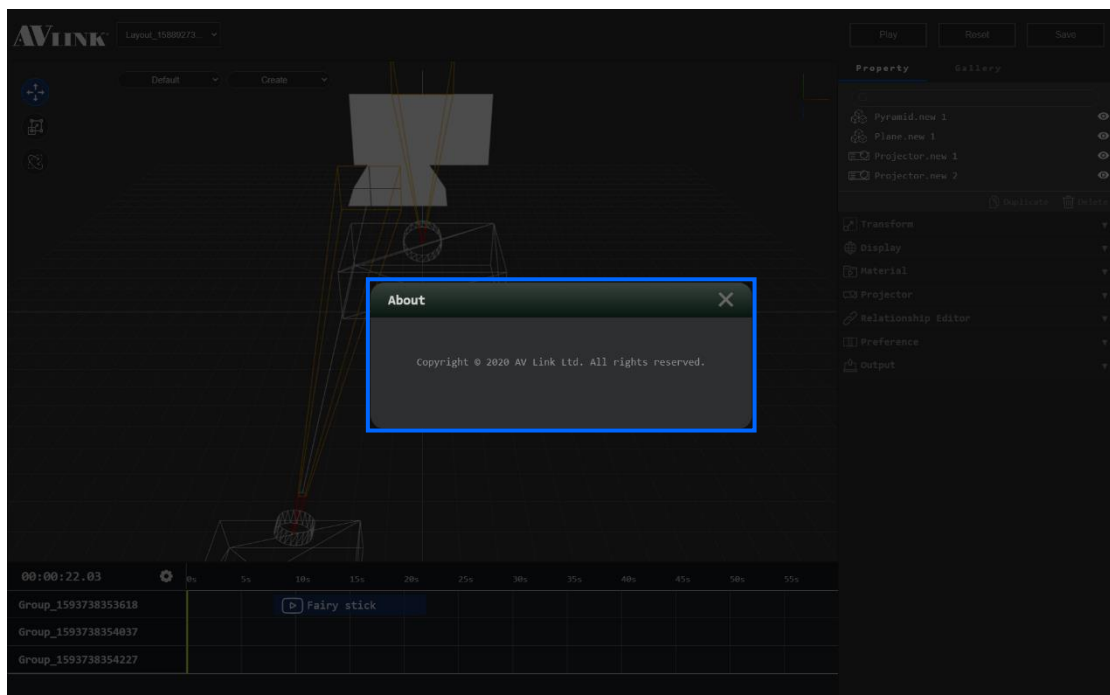


5.3.1.1 Layout top bar



5.3.1.2 Logo

- Click **AVLINK** will popup **Copyright** info



5.3.1.3 Play layout

- Click **Play** to preview current layout

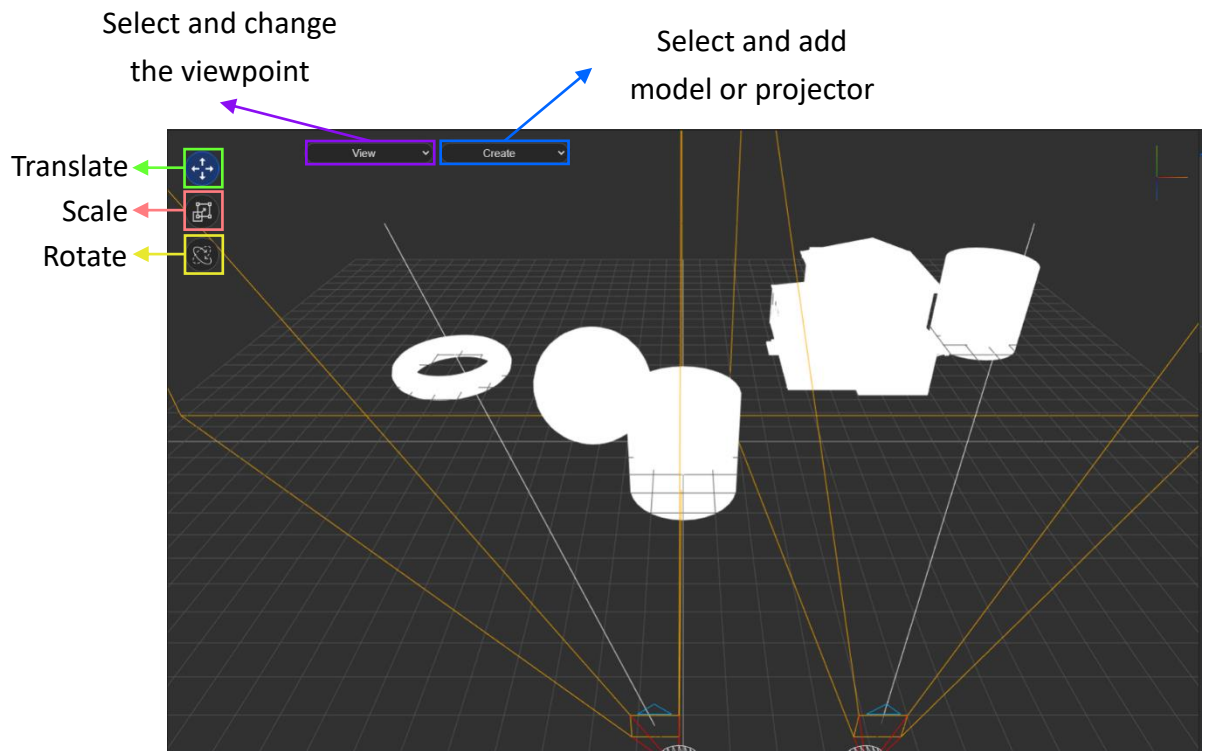
5.3.1.4 Reset layout

- Click **Reset** to start over edit layout

5.3.1.5 Save layout

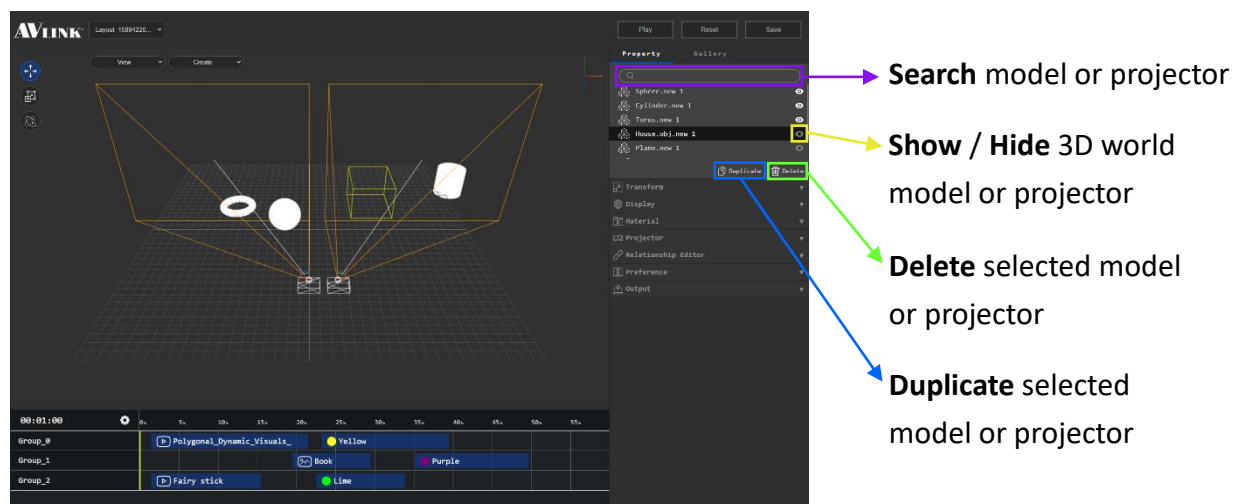
- Click **Save** to save the layout that user edited

5.3.1.6 3D Viewport



5.3.1.7 Properties Editor

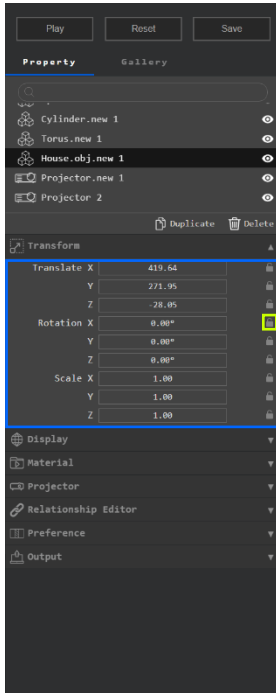
Outliner



Transform

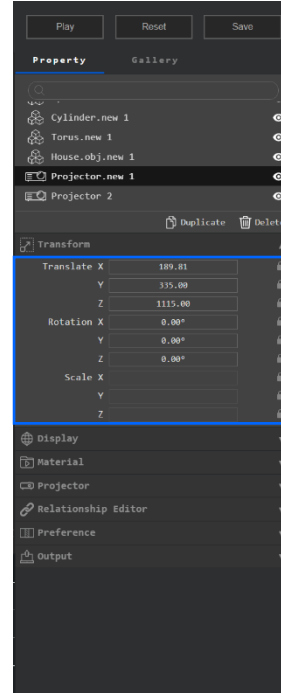
- Model: Adjust **Translate, Rotation, Scale** parameter
- Projector: Adjust **Translate, Rotation** parameter

Model transform



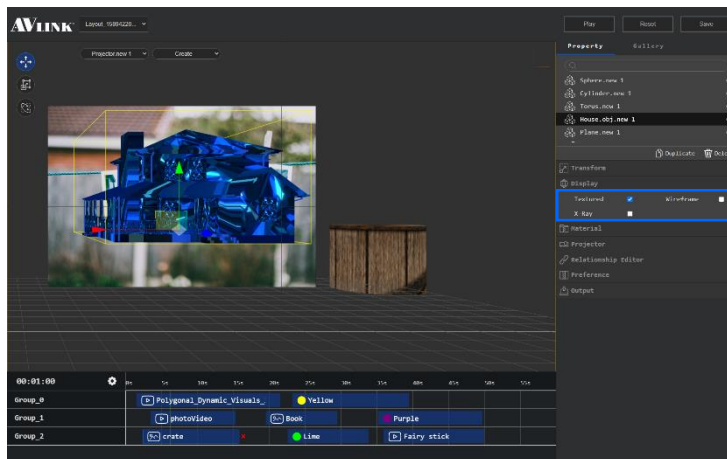
Block / Unblock
setting parameter
& 3D viewport
control

Projector transform

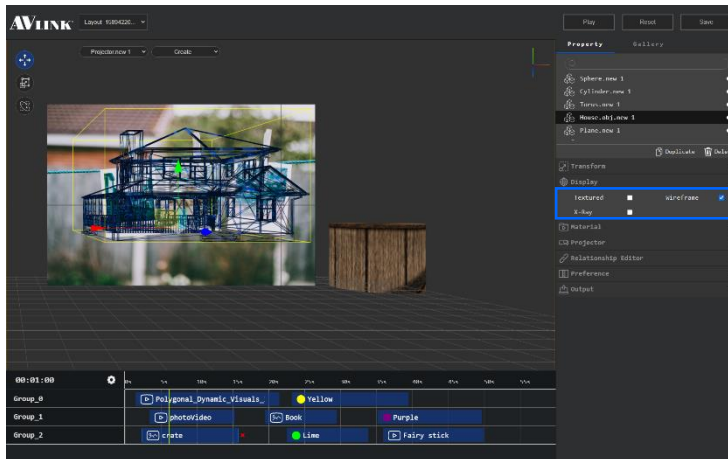


Display

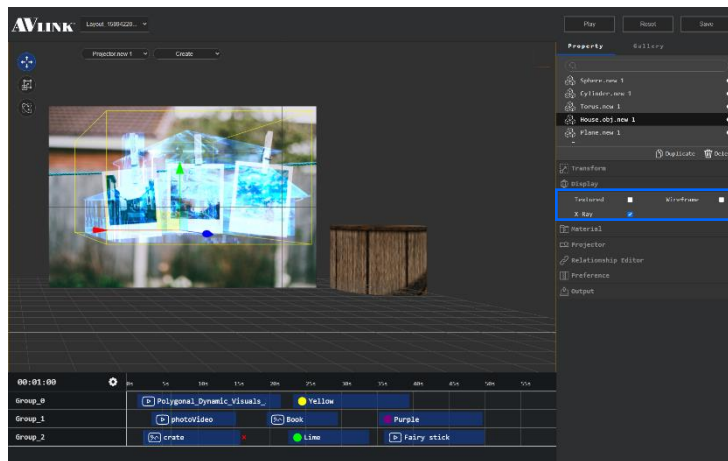
Textured



Wireframe

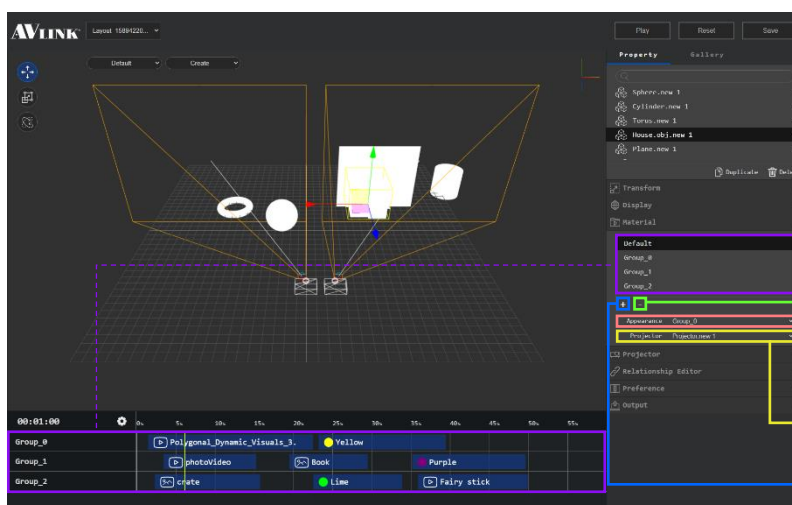


X-Ray



Material

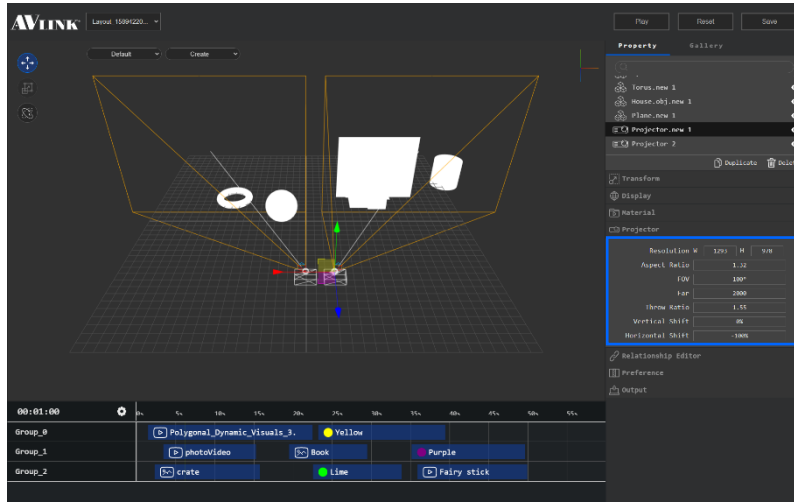
- Set model's textures



- Timeline row list
- Delete timeline row
- Select material group for the model to display
- Select projector
- Add timeline row

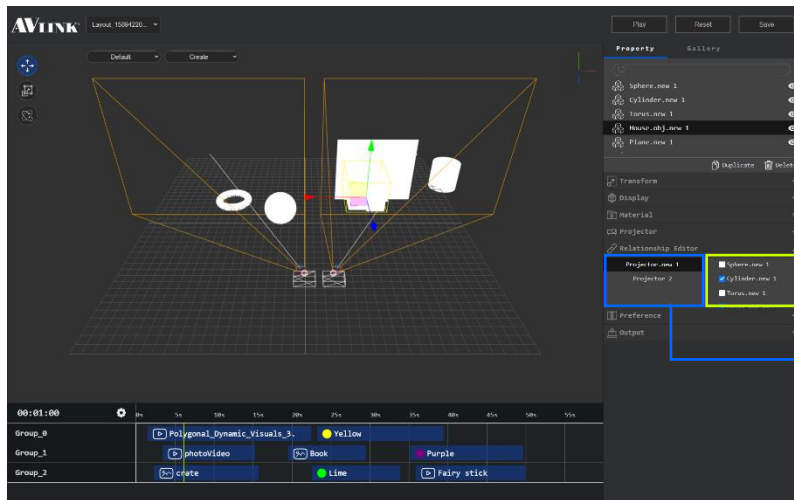
Projector

- Tool to adjust the projector parameter



Relationship Editor

- Correspondence between projector and models

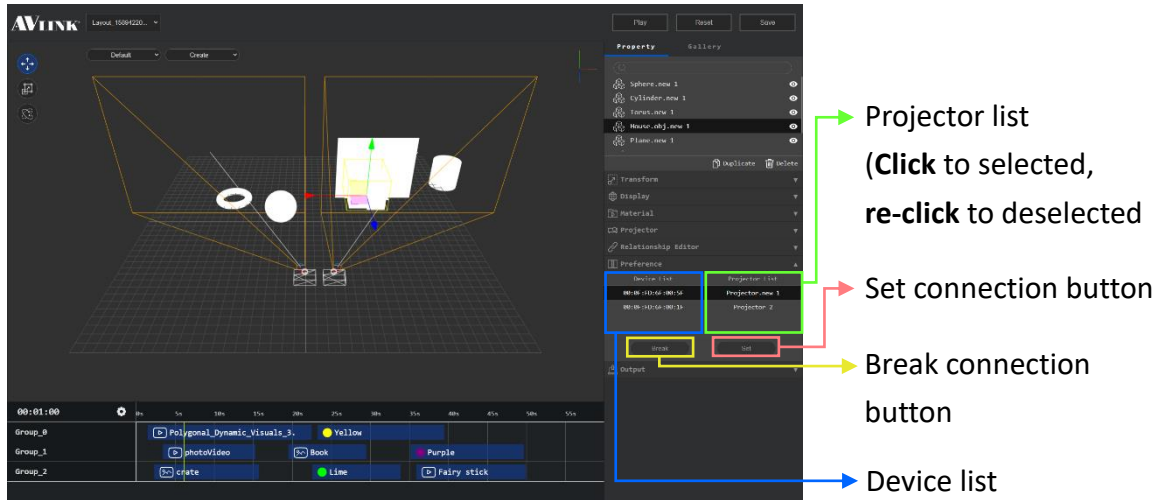


Model list

Projector list

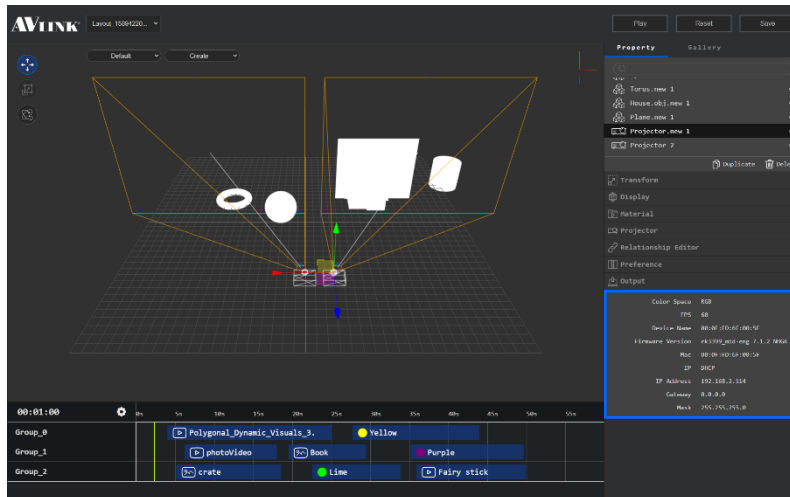
Preference

- **Set** - **Set** Setting **projector** connect to the **device**
- **Break** - **Break** Breaking the connection between projector and device



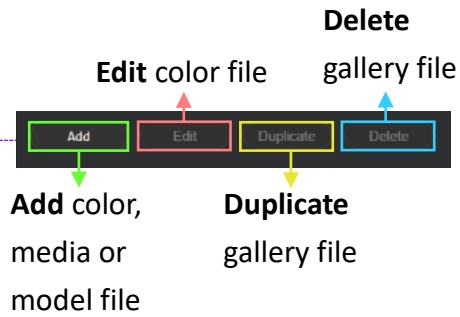
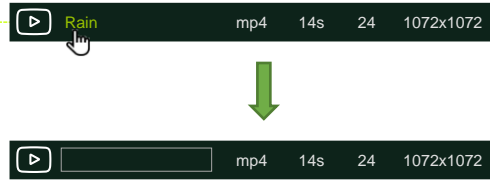
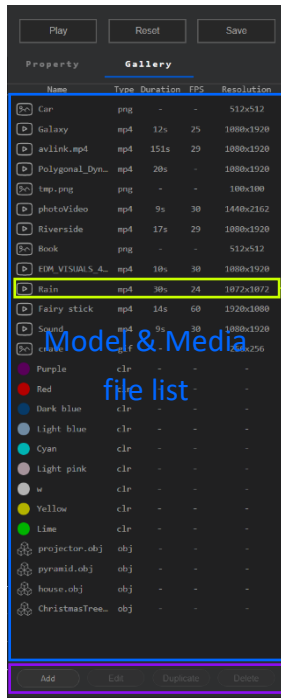
Output

- Display projector connecting device's info

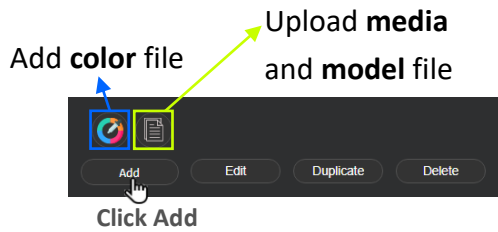


5.3.1.8 Gallery

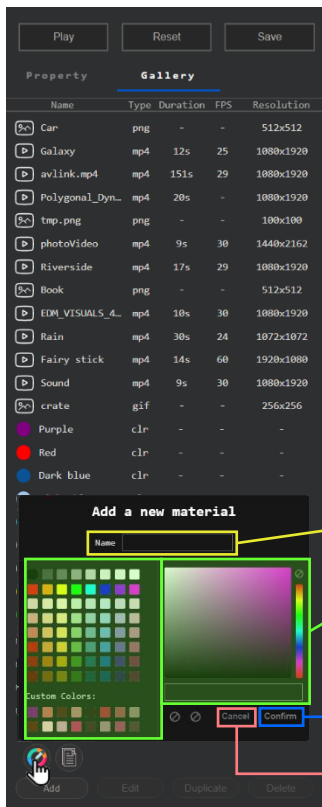
- Mouseover **file name** area, **Double-click & typing** new name



Gallery add file



Add color file



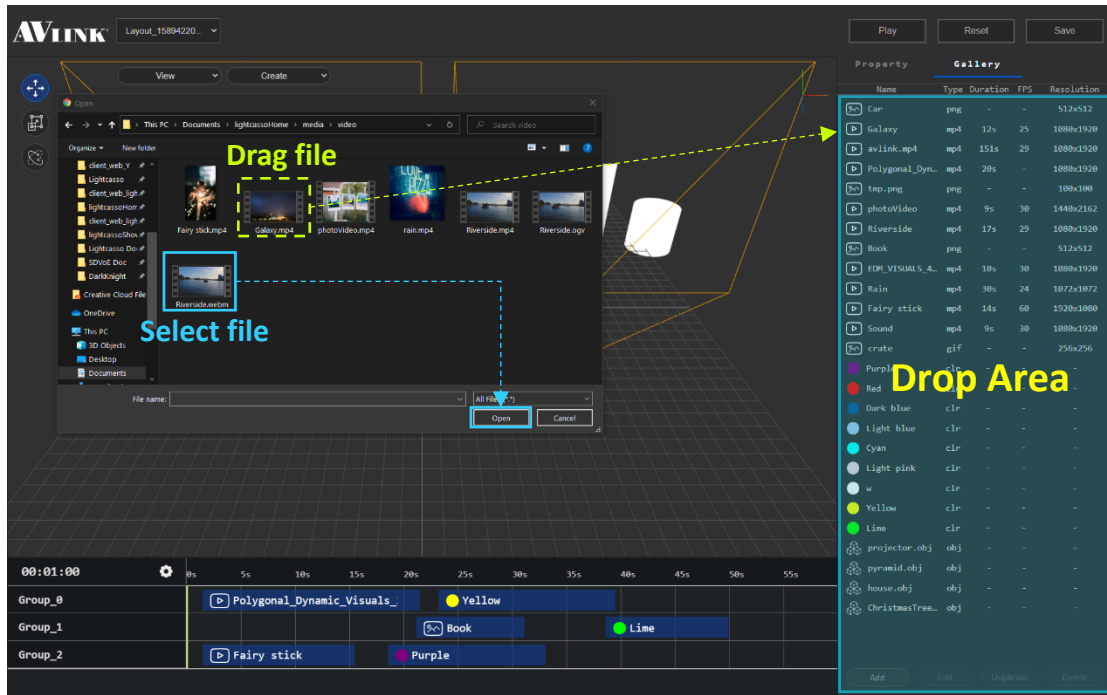
The screenshot shows a software interface with a 'Gallery' tab. The gallery contains a list of files with columns for Name, Type, Duration, FPS, and Resolution. Below the gallery is a 'Add a new material' dialog box. The dialog box has a 'Name' input field, a color selection grid, a color picker, and 'Cancel' and 'Confirm' buttons. Arrows point from text labels to these elements:

- Typing color file name
- Select color or typing color Hex string
- Confirm button
- Cancel button

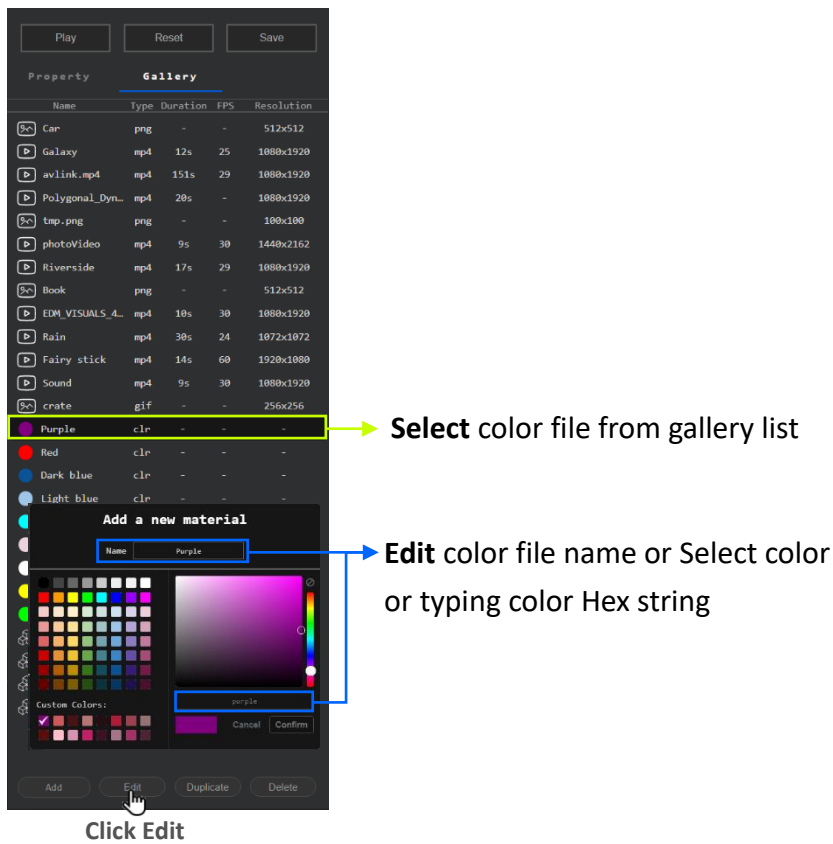
Click Add color

Upload media or model file

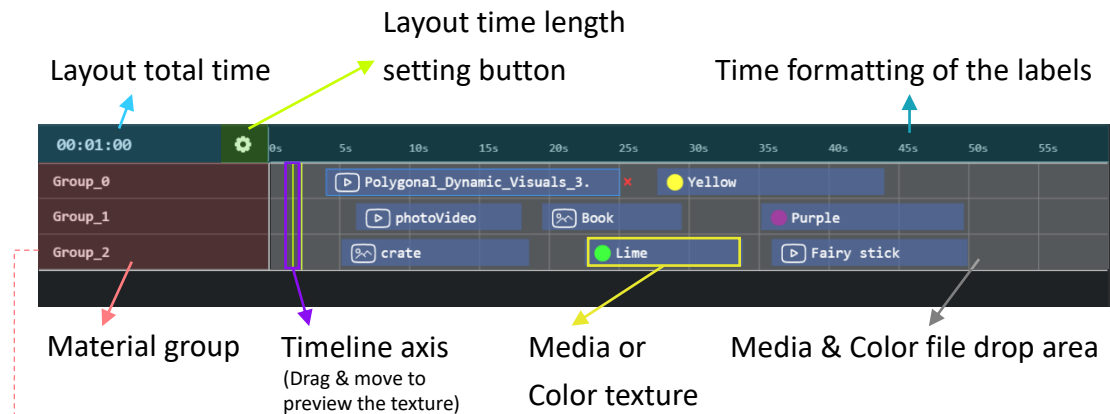
- 2 ways to upload files
 - **Drag** file from file browser and **drop** to drop area (gallery list)
 - **Select** file from file browser then click **Open** button



Gallery edit color file



5.3.1.9 Timeline



- Mouseover **Material group** area, **Double-click & typing** new name

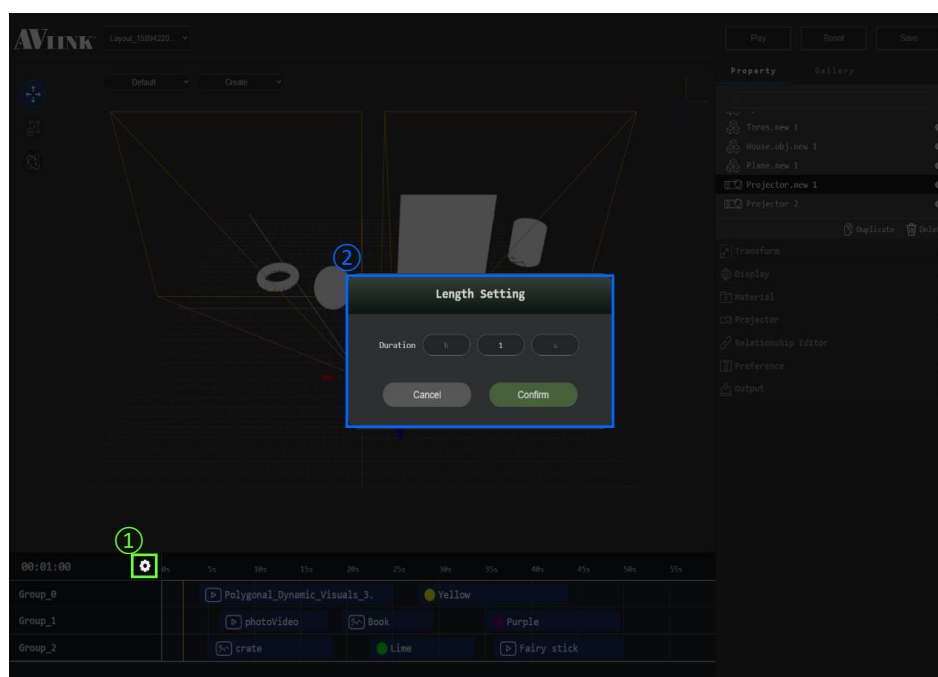


- The cursor type of **mouseover** timeline item

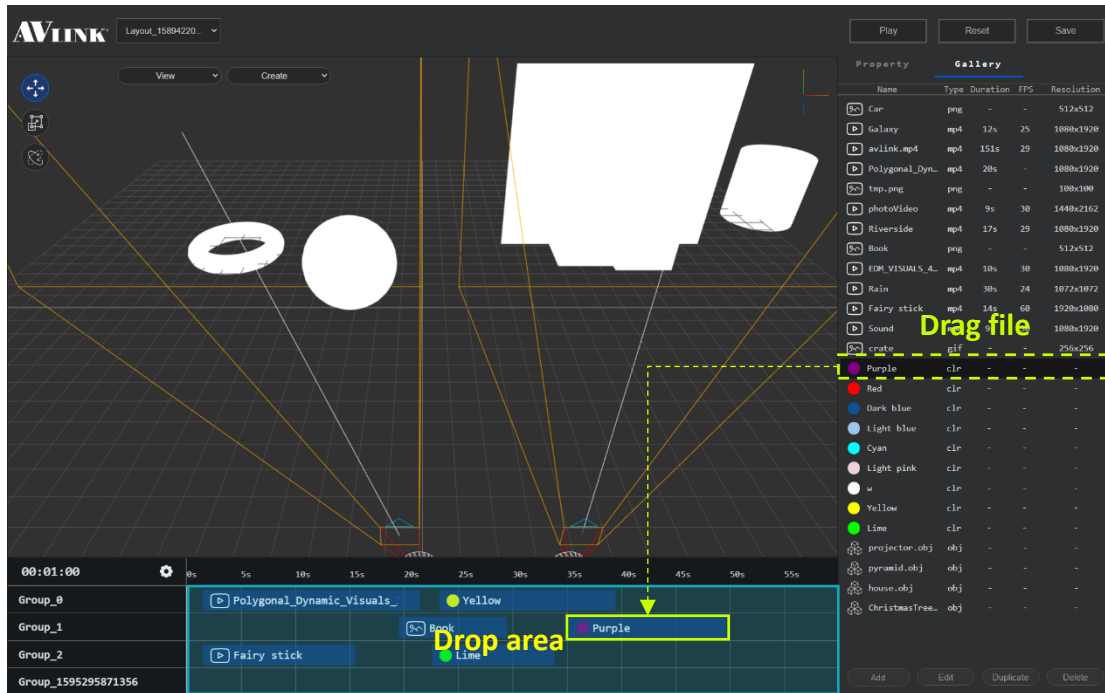


Timeline set time length

1. Click layout timeline length setting button
2. Set layout time length

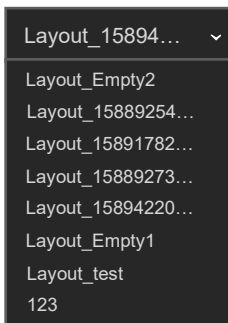


Add media or color file to timeline



5.3.1.10 Layout selector options

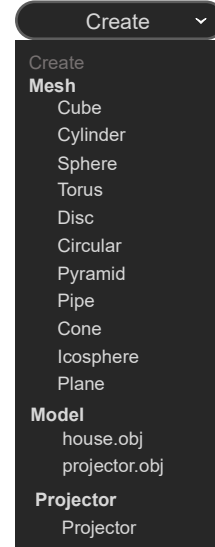
Layout list



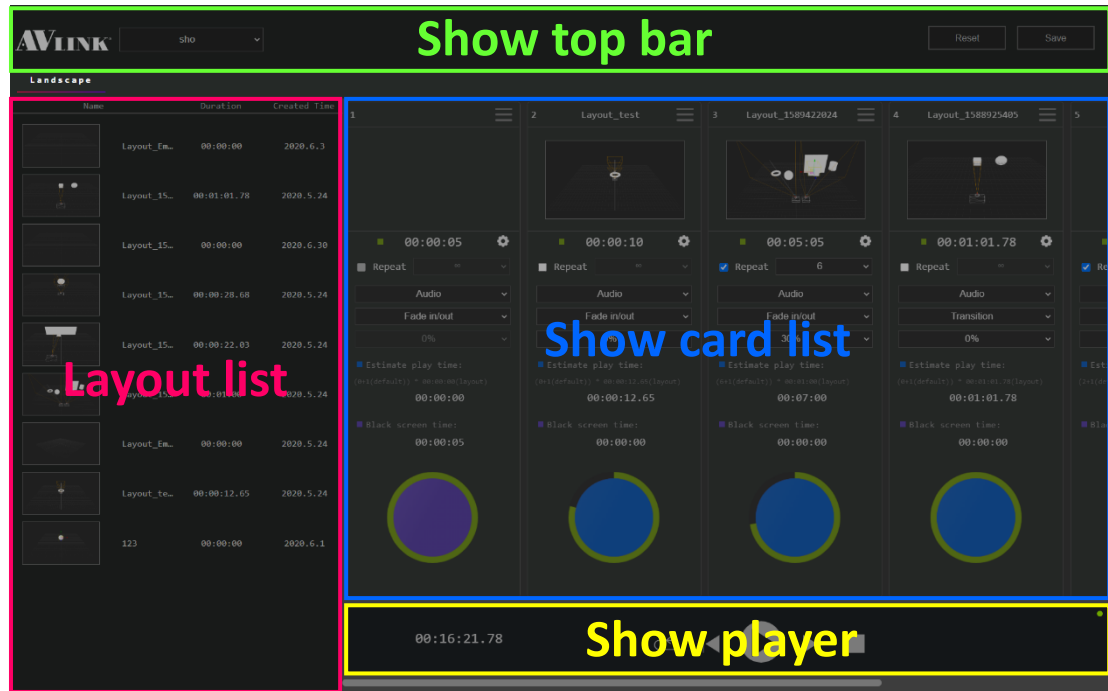
Viewport list



Create model list



5.3.2 Show



5.3.2.1 Show top bar



5.3.2.2 Logo

- Click **AVLINK** will popup **Copyright** info

5.3.2.3 Reset show

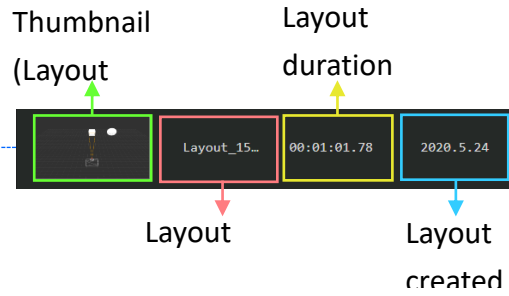
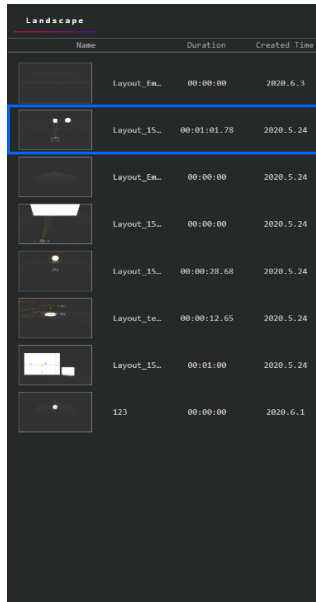
- Click **Reset** to start over edit show

5.3.2.4 Save show

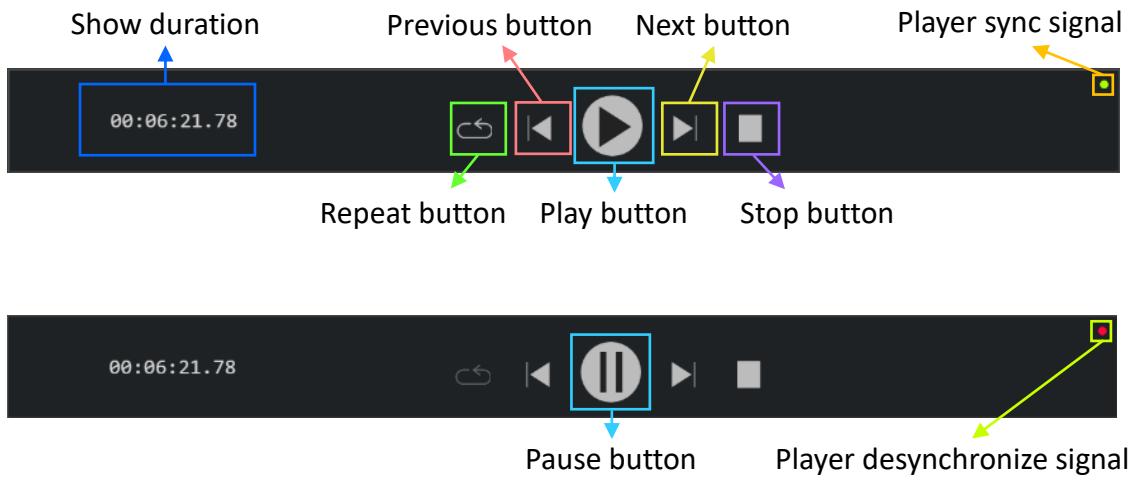
- Click **Save** to save the show that user edited

5.3.2.5 Layout list

- Layout list for add to show card

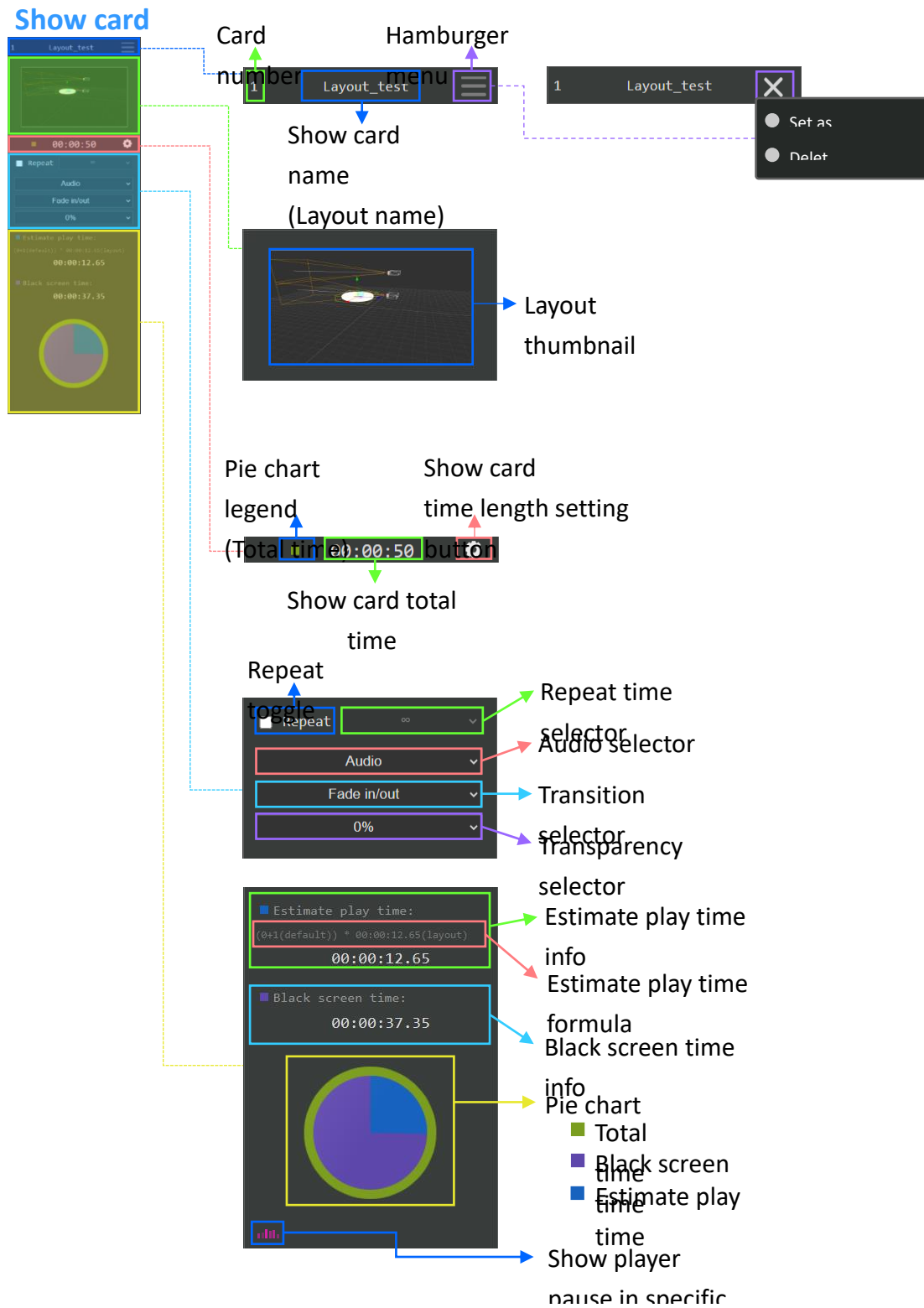


5.3.2.6 Show player



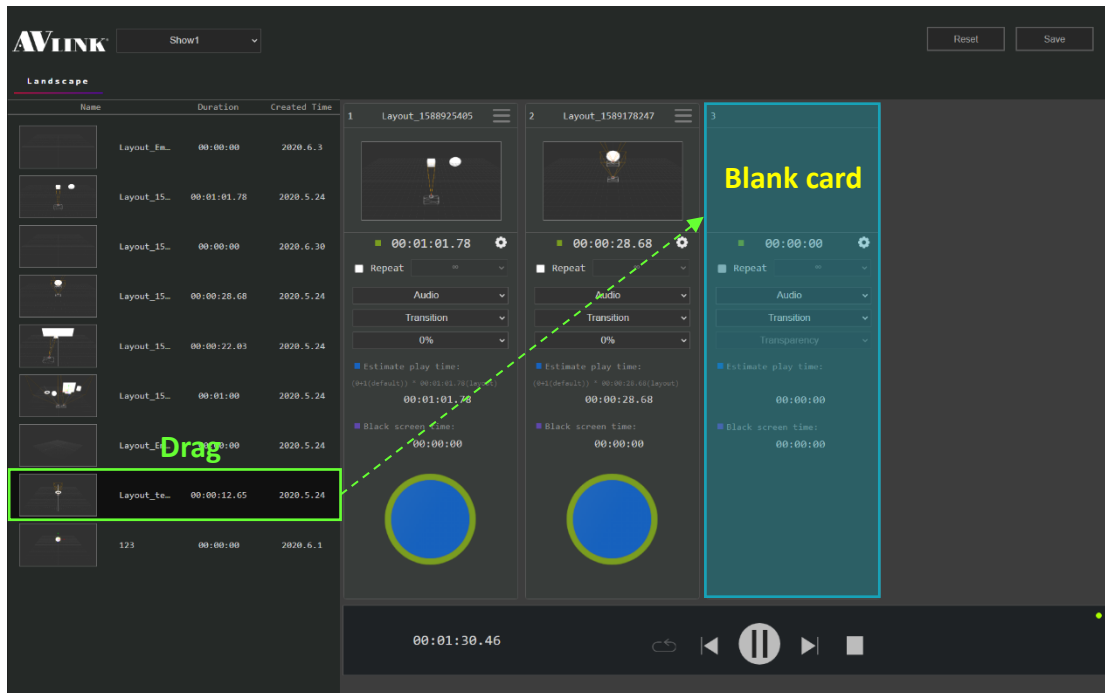
- Sync signal (**Green light**) : Show in sync with player
- Desynchronize single (**Red light**) : Show out of sync with player

5.3.2.7 Show card list



Add show card

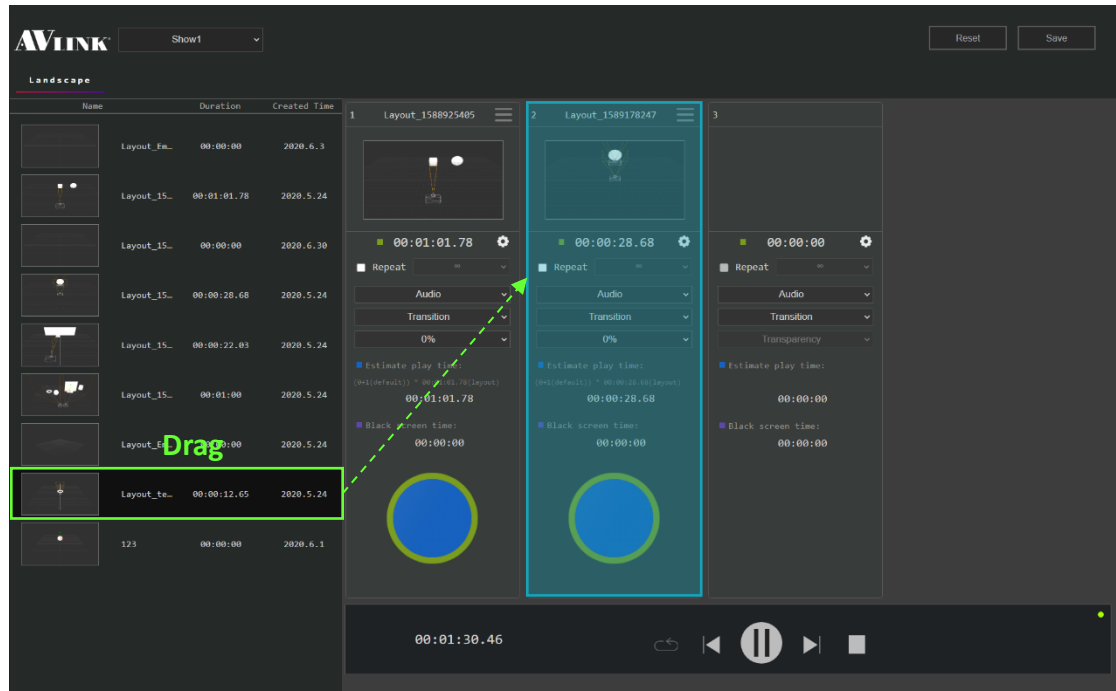
- **4 ways to add show card:**
 - Drag selected layout to blank card
 - Set show card time length
 - Choose audio (Default is **none**)
 - Set transition (Default is **none**)




Edit show card

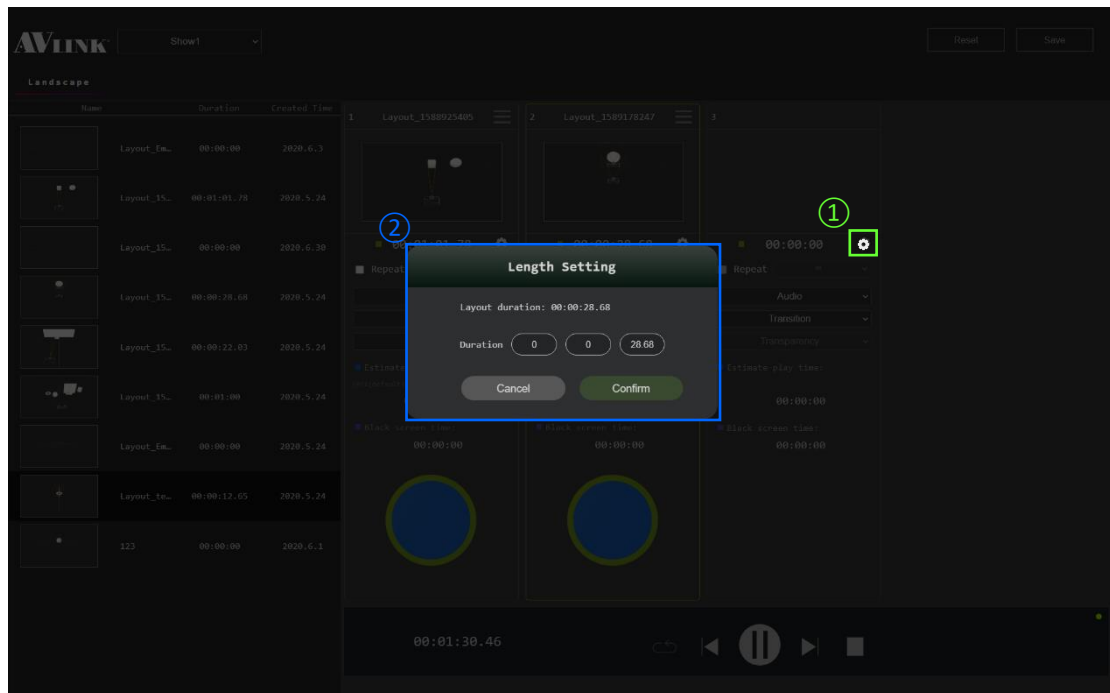
Change layout

- Drag layout to existing show card



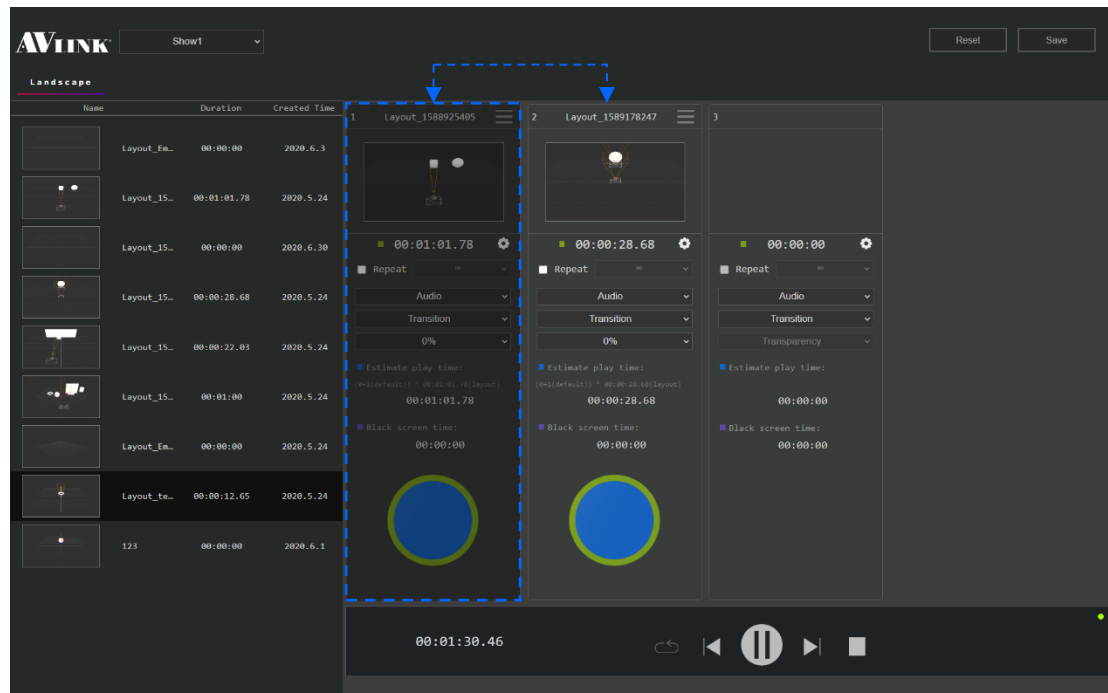
Change card time

1. Click show card time length setting button 
2. Set show card time length

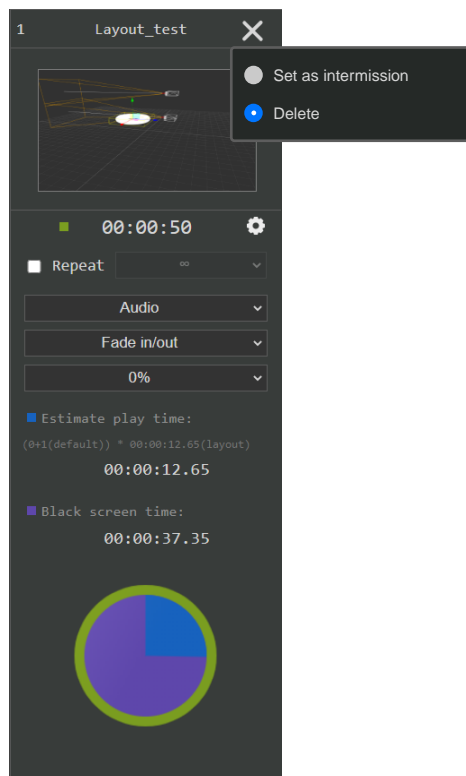


Rearrange card order

- Drag the selected card, move **horizontally** to the position you want

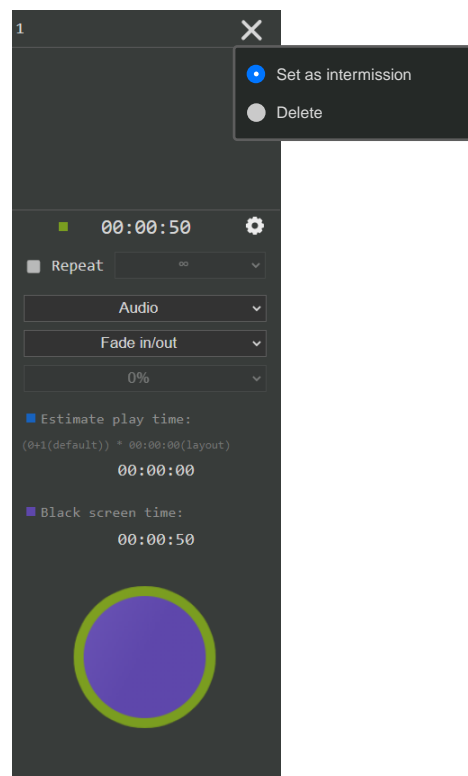


Delete card



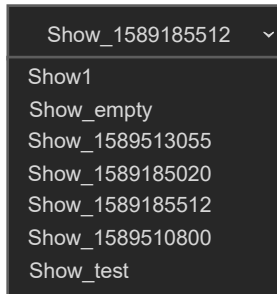
Intermission

An interval between parts of the Show

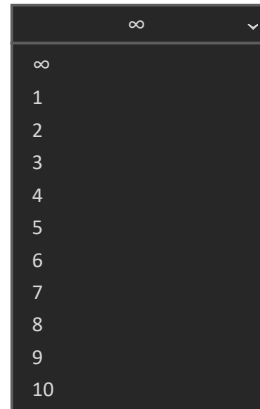


5.3.2.8 Show card selector options

Show list

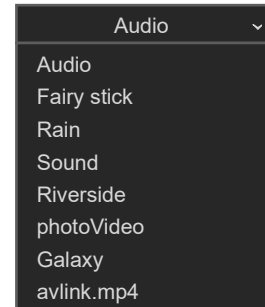


Repeat list

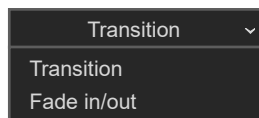


Audio list

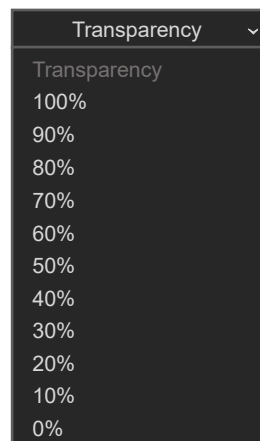
(All the gallery mp4 files)



Transition list

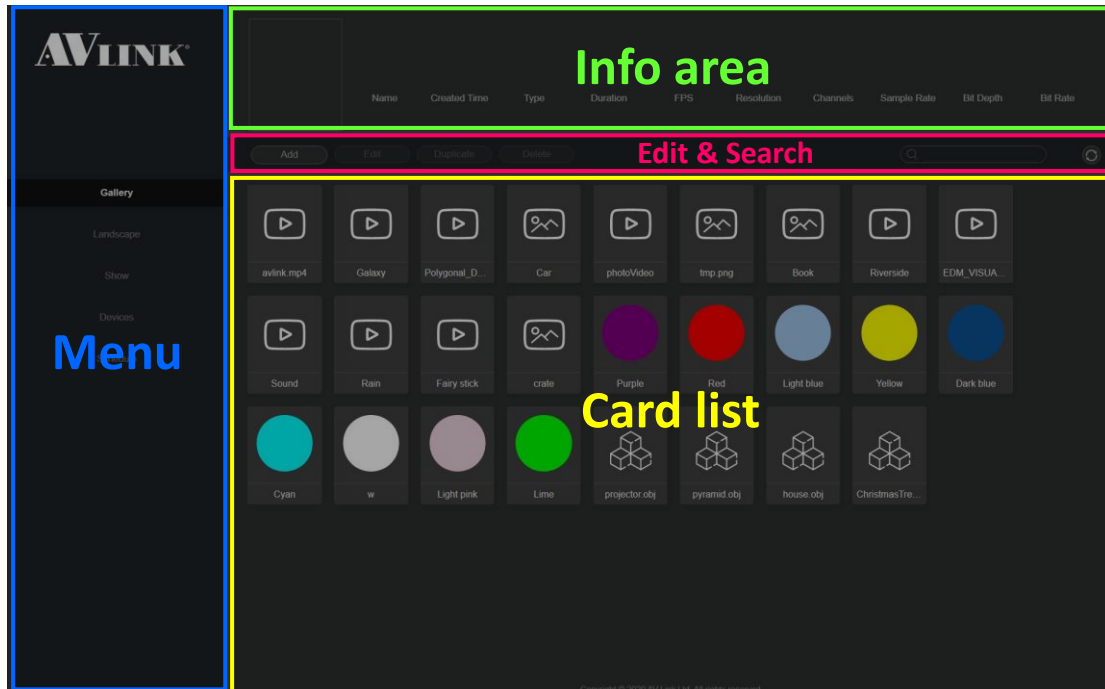


Transparency list

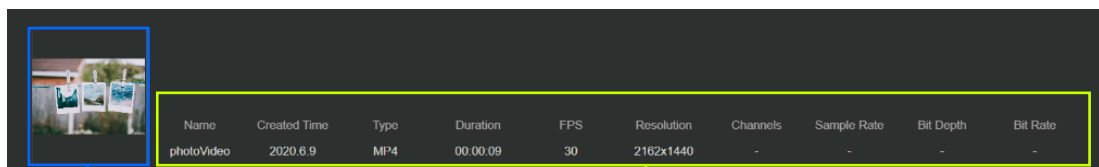


5.3.3 Home

5.3.3.1 Main



Info area

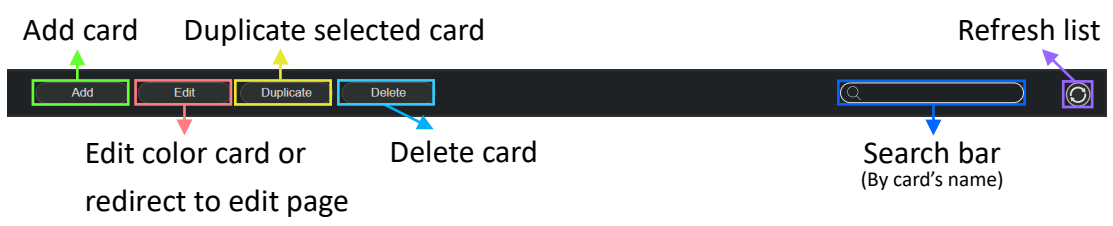


Media or Layout thumbnail

Selected card's info area

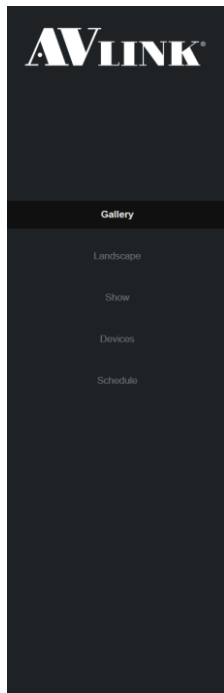
Edit & Search

- Edit button on different pages:
 - Gallery: **Edit** color card
 - Landscape & Show: **Redirect** to the edit page



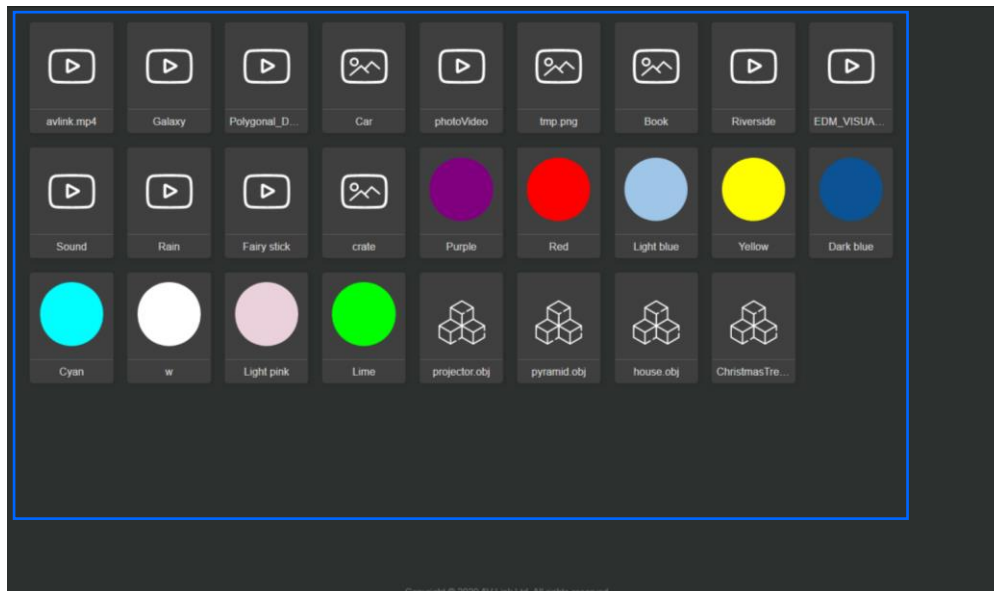
Menu

- Navigate to different pages

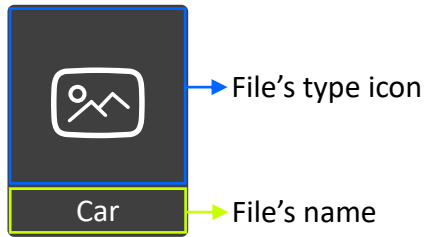


Card list

- Display all the files from controller

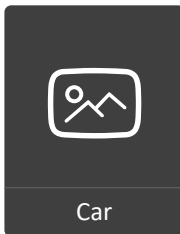


Card

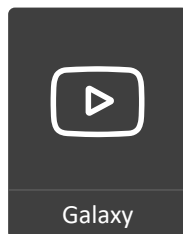


Icon type

Image



Video



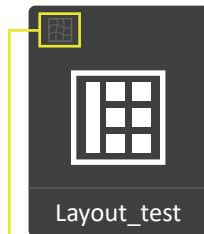
Color



Model



Layout



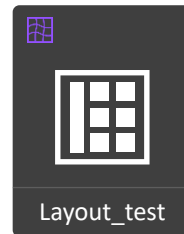
Layout **warping** status

Layout – No warping



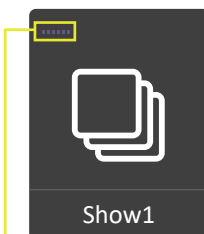
Layout warping status –
No warping

Layout - Warping



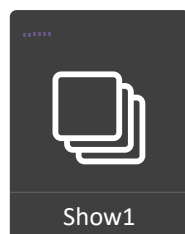
Layout warping status –
Warping

Show



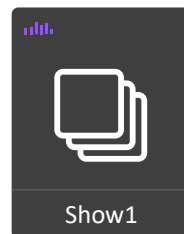
Show **player** status

Show - Stop



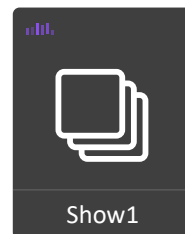
Show player status – Stop

Show - Playing



Show player status – Playing
(with **animation**)

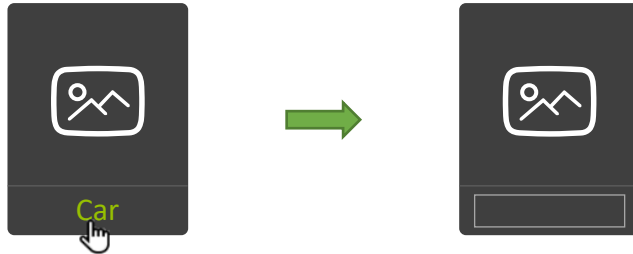
Show - Pause



Show player status – Pause
(no animation)

Edit card name

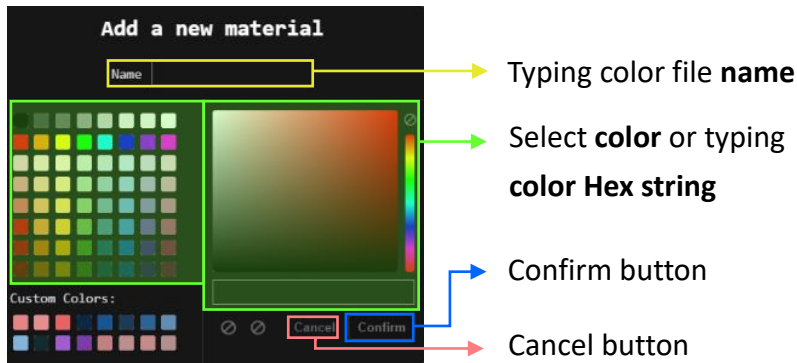
- **Mouseover** the card name & **Double-click**
- **Typing** new name



5.3.3.2 Gallery

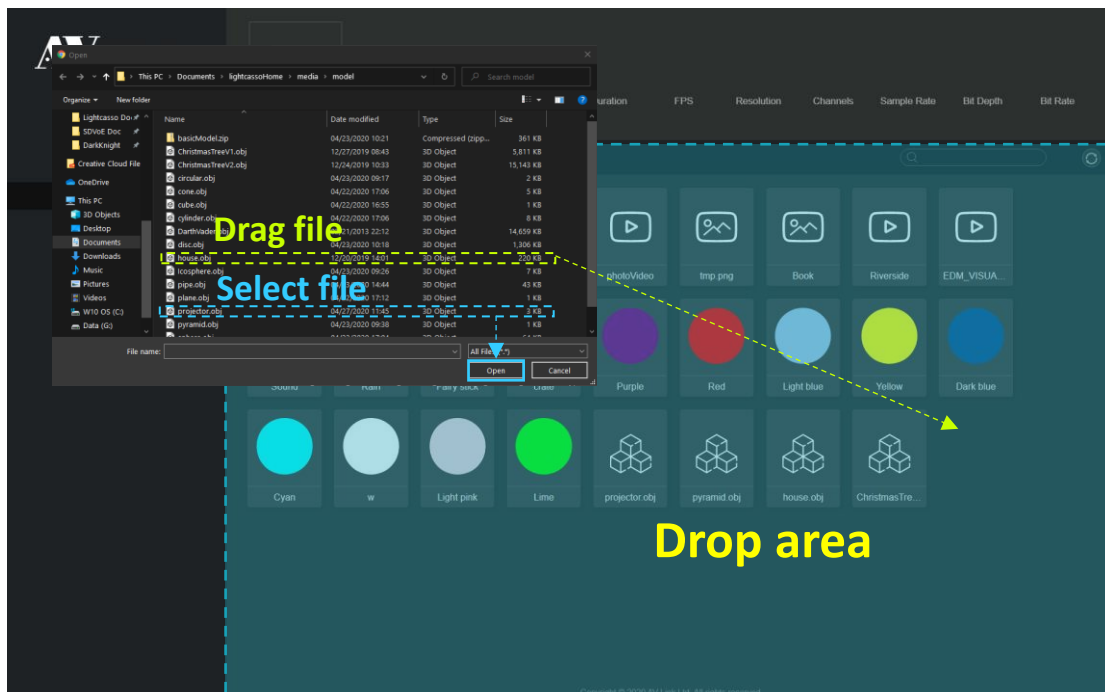
Gallery add file

Add Color file 



Upload media or model file 

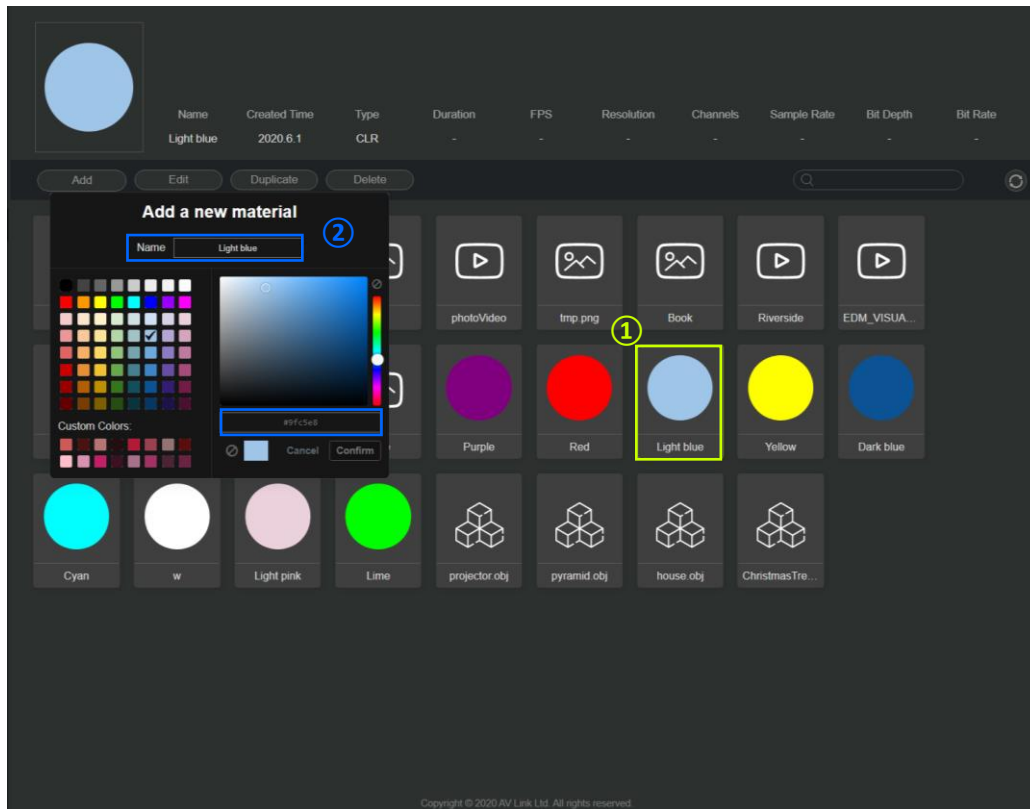
- 2 ways to upload files
 - Drag file from file browser and drop to drop area (gallery list)
 - Select file from file browser then click **Open** button



- Supported media
 - Video: mp4 with H.263 or H.264 encoding
 - Image: png, jpg, and bmp

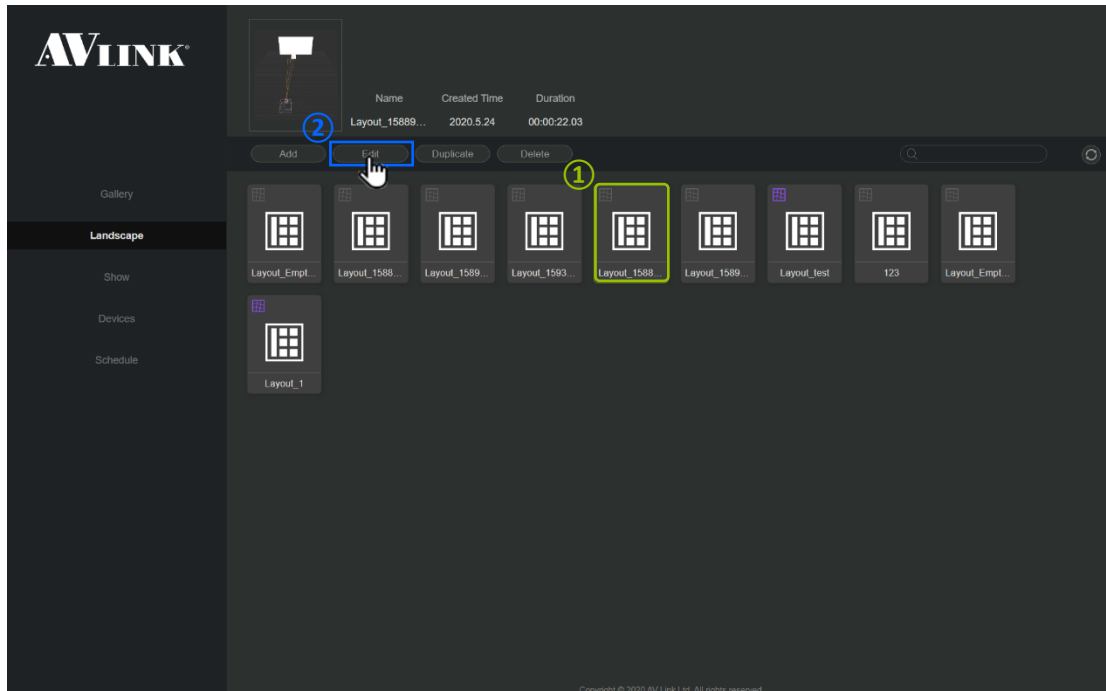
Edit color card

1. **Select** color card from gallery list
2. Make changes to the color card

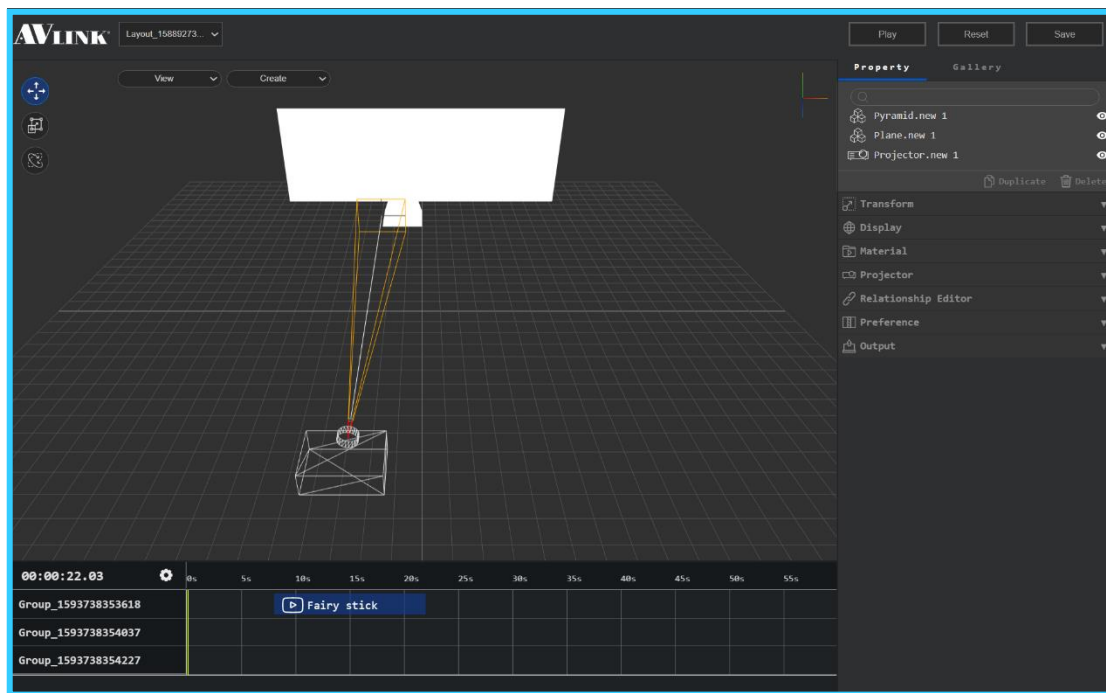


5.3.3.3 Landscape

Edit landscape card

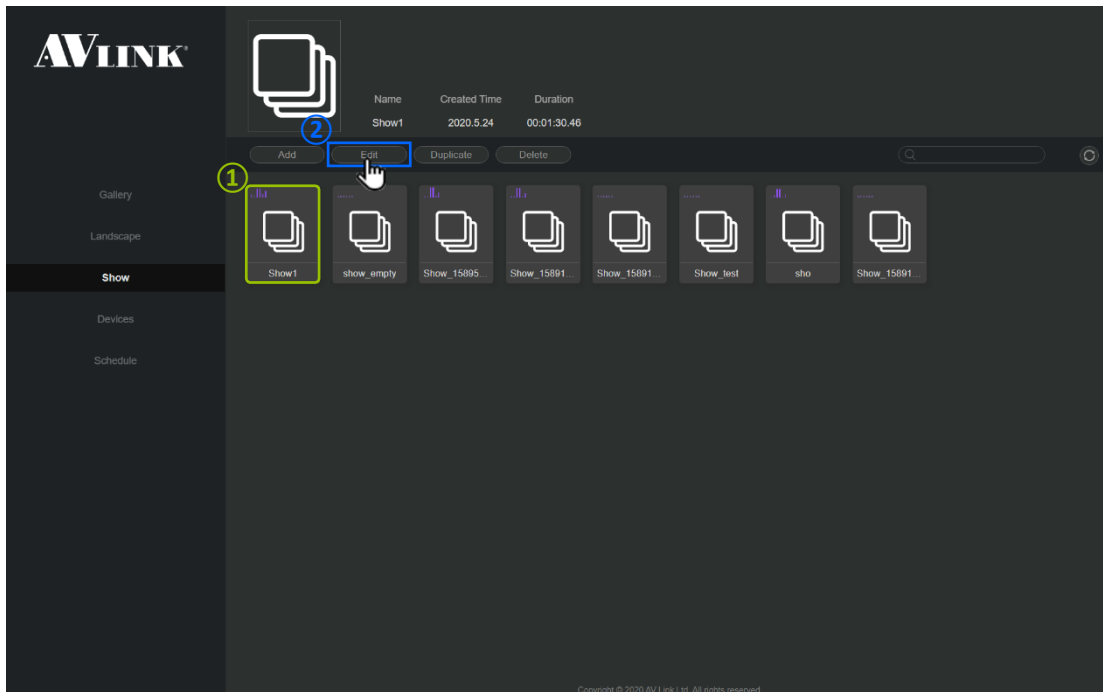


③ Redirect to selected **Layout** edit page

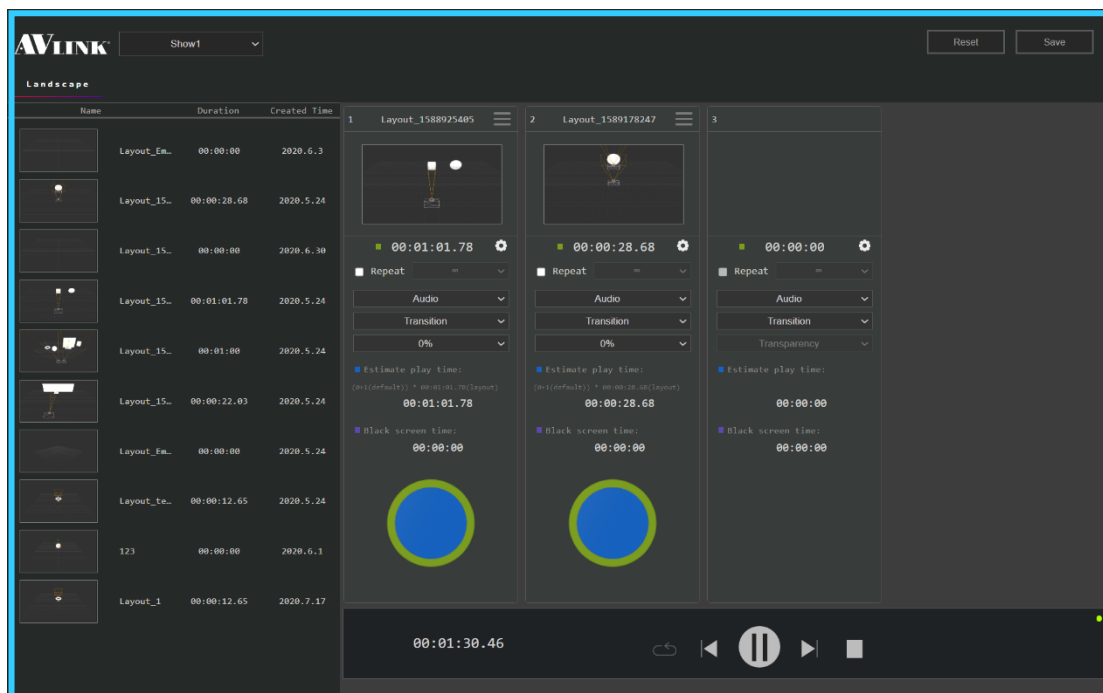


5.3.3.4 Show

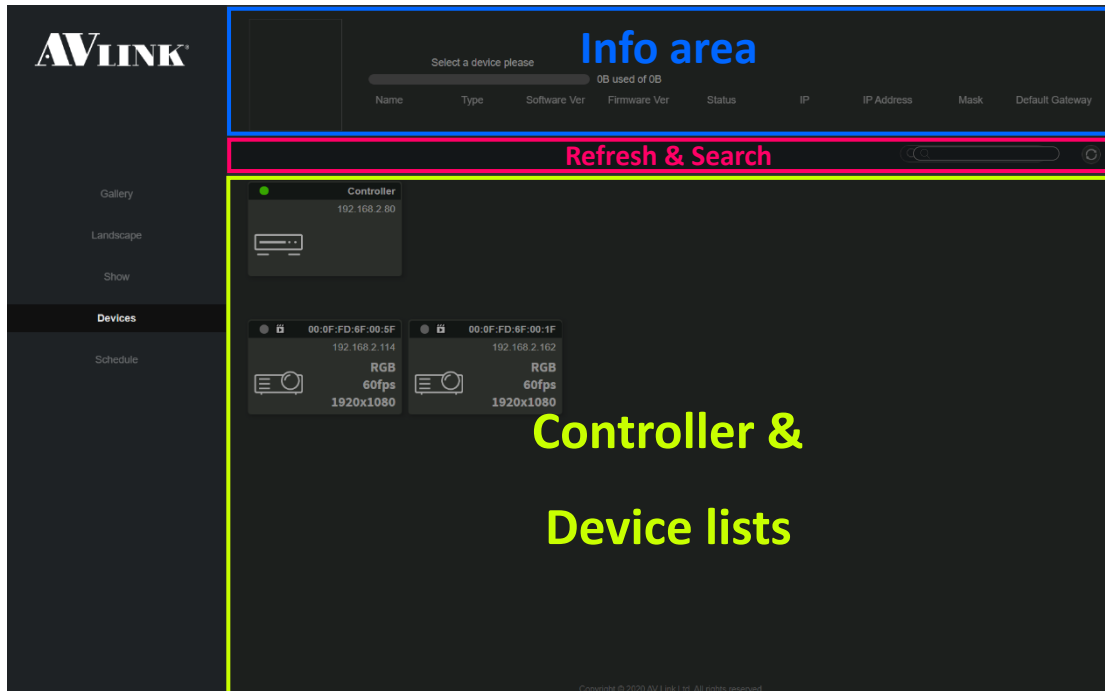
Edit show card



3 Redirect to selected Show edit page

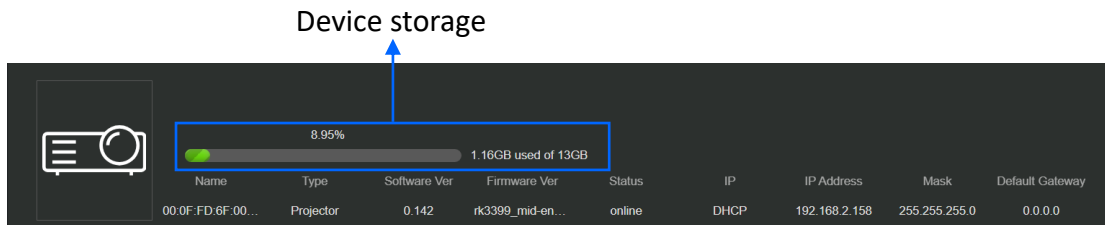


5.3.3.5 Device



Info area

- Click a controller or device card, info area will display device info



Refresh & Search

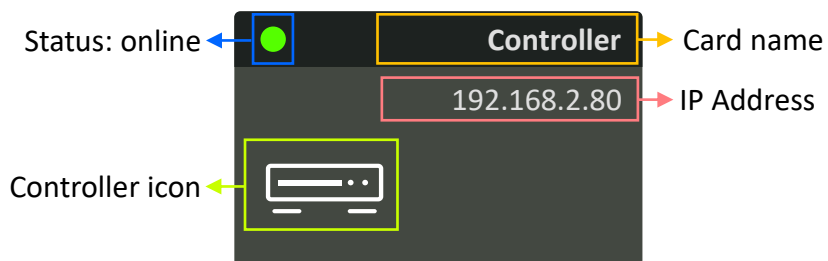


Controller & Device list

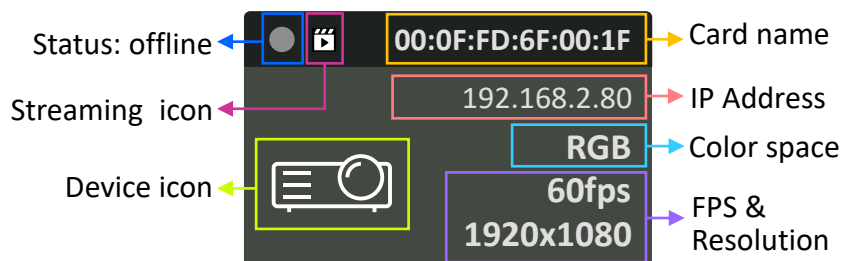


Controller & Device card

Controller

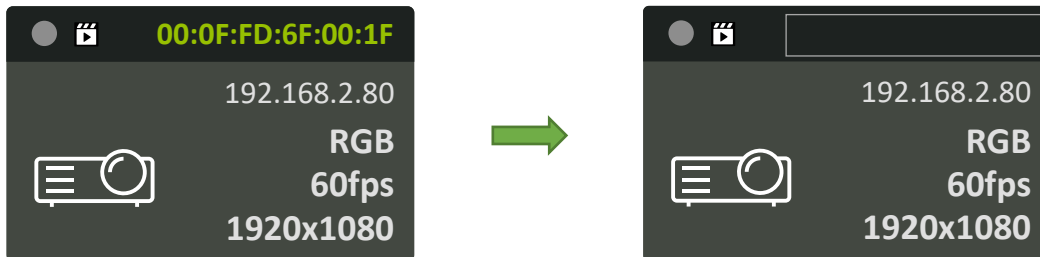


Device



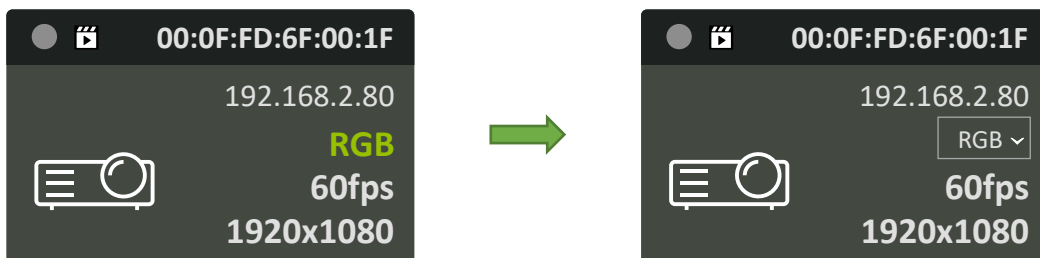
Edit card name

- Mouseover **name** area, **Double-click & typing** new name



Edit Color space

- Mouseover **color space** area, **Double-click & select** supported option

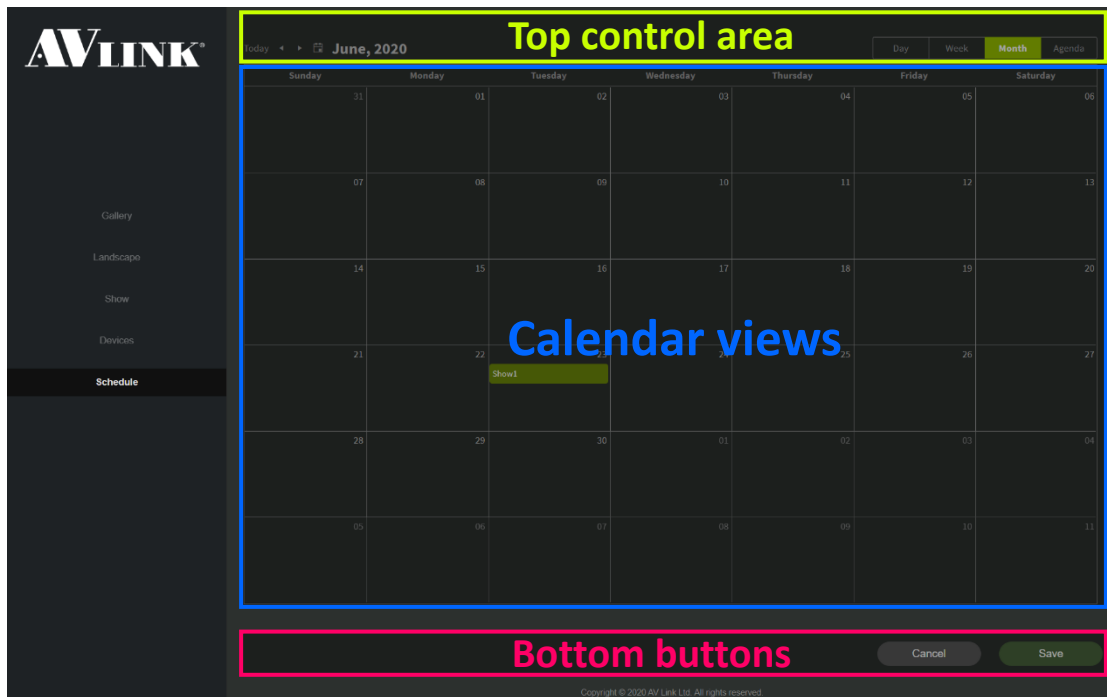


Edit Resolution & FPS

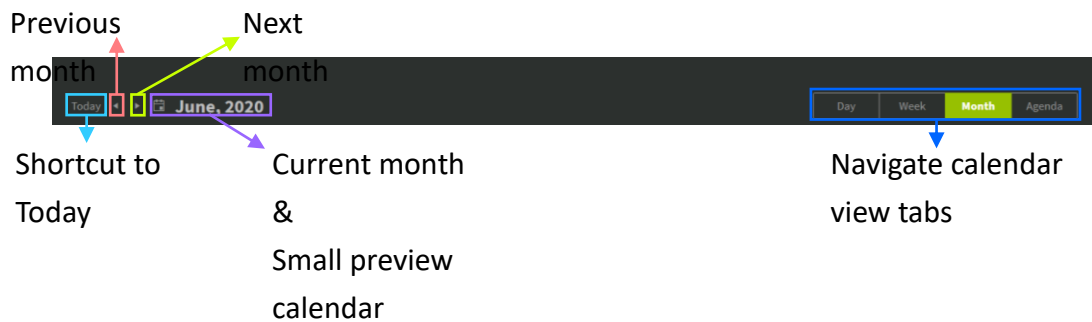
- Mouseover **resolution** or **fps** area, and **Double-click & select** supported option



5.3.3.6 Schedule

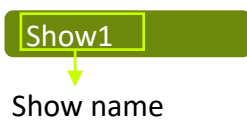


Top control area

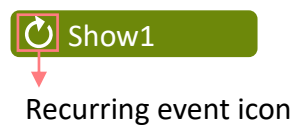


Calendar event

Show event

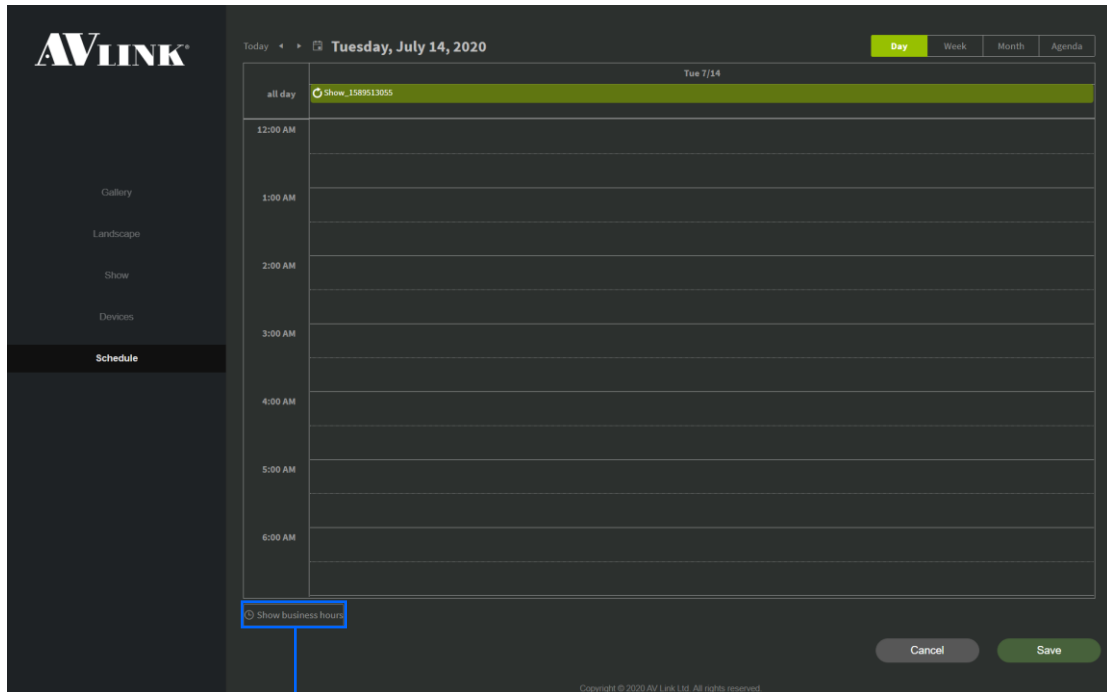


Show recurring event



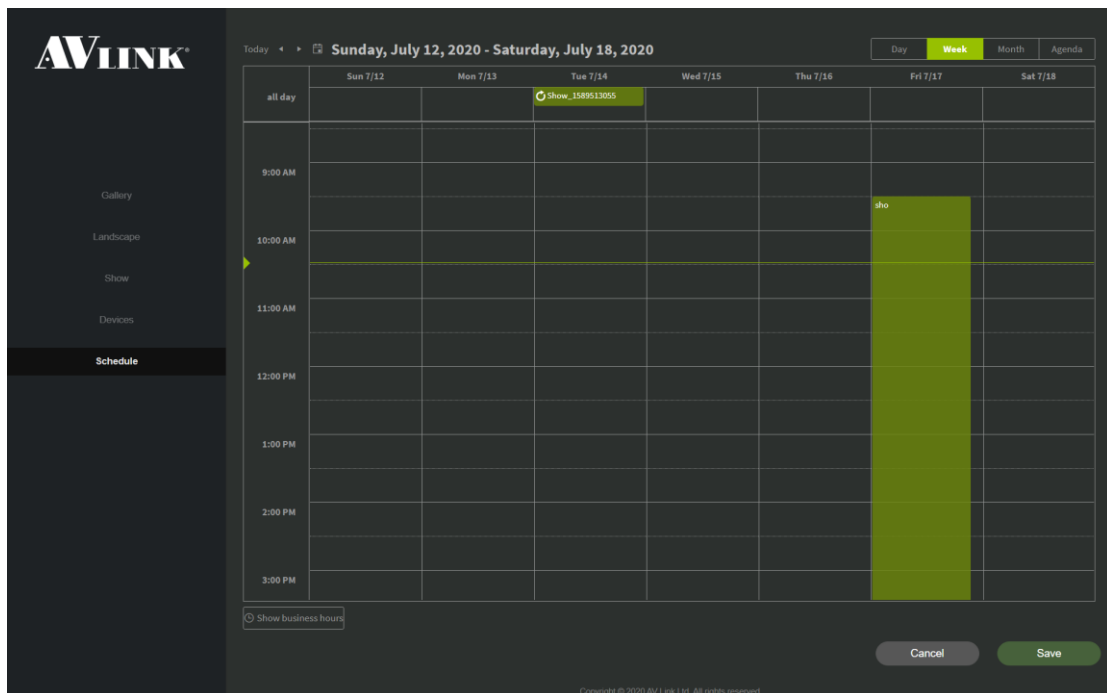
Calendar views

Day view



Click -> display business hour

Week view



Month view (Default view)

AVLINK

Today < > 📅 July, 2020

Day Week **Month** Agenda

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	30	01	02	03	04
05	06	07	08	09	10	11
12	13	14 Show_1589513055	15	16	17 sho	18
19	20	21 Show_1589513055	22	23 Show1	24	25
26	27	28 Show_1589513055	29	30	31	01
02	03	04 Show_1589513055	05	06	07	08

Cancel Save

Copyright © 2020 AV Link Ltd. All rights reserved.

Agenda view

AVLINK

Today < > 📅 Tuesday, July 14, 2020-Tuesday, July 21, 2020

Day Week Month **Agenda**

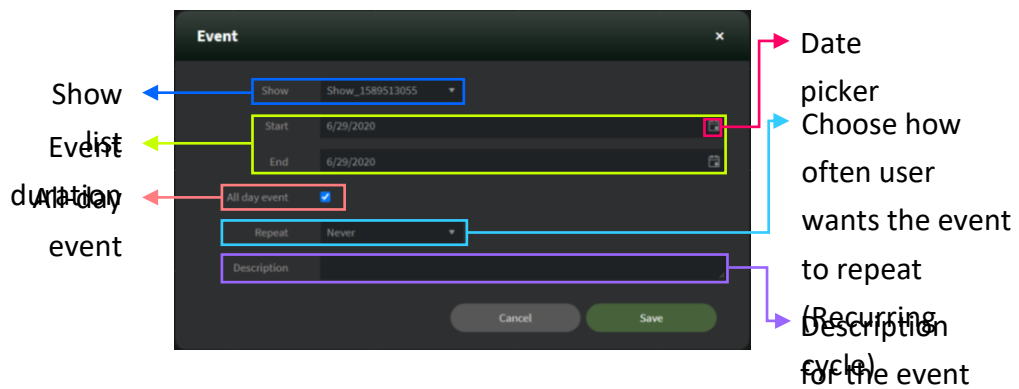
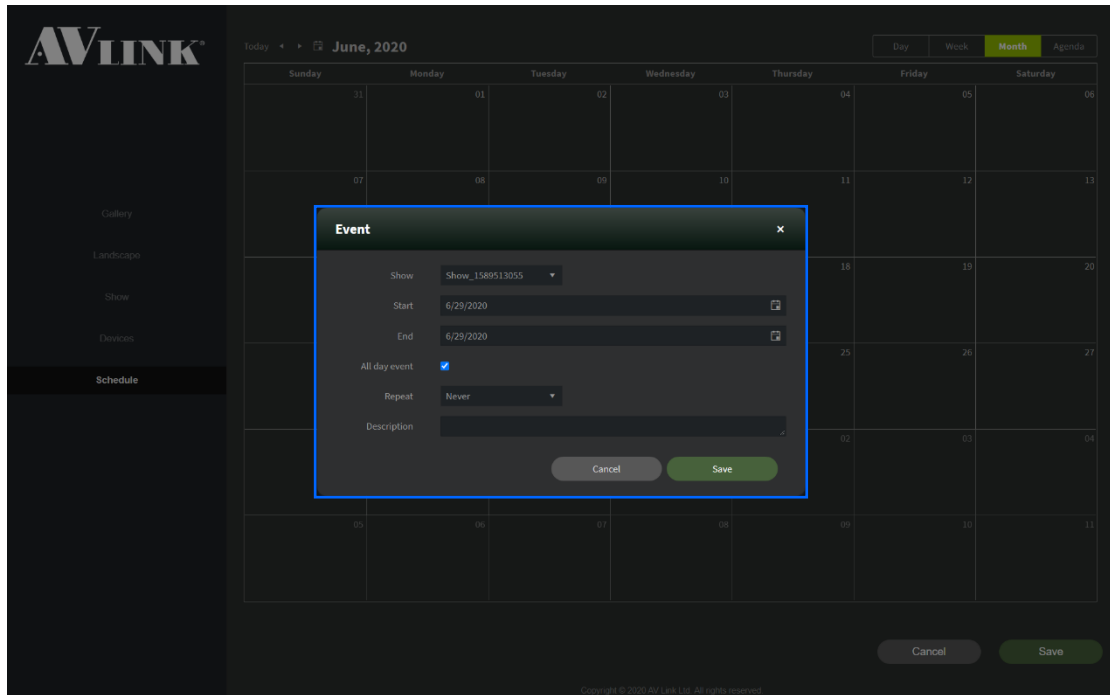
Date	Time	Event
14 Tuesday July, 2020	all day	Show_1589513055
17 Friday July, 2020	9:30 AM - 8:00 PM	sho
21 Tuesday July, 2020	all day	Show_1589513055

Cancel Save

Copyright © 2020 AV Link Ltd. All rights reserved.

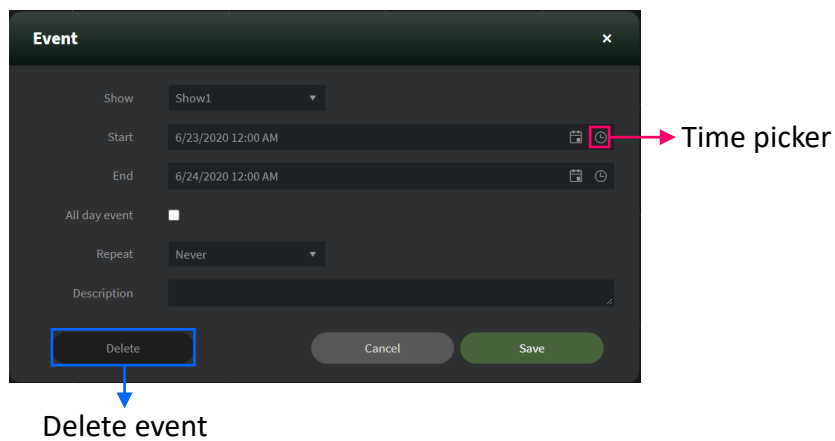
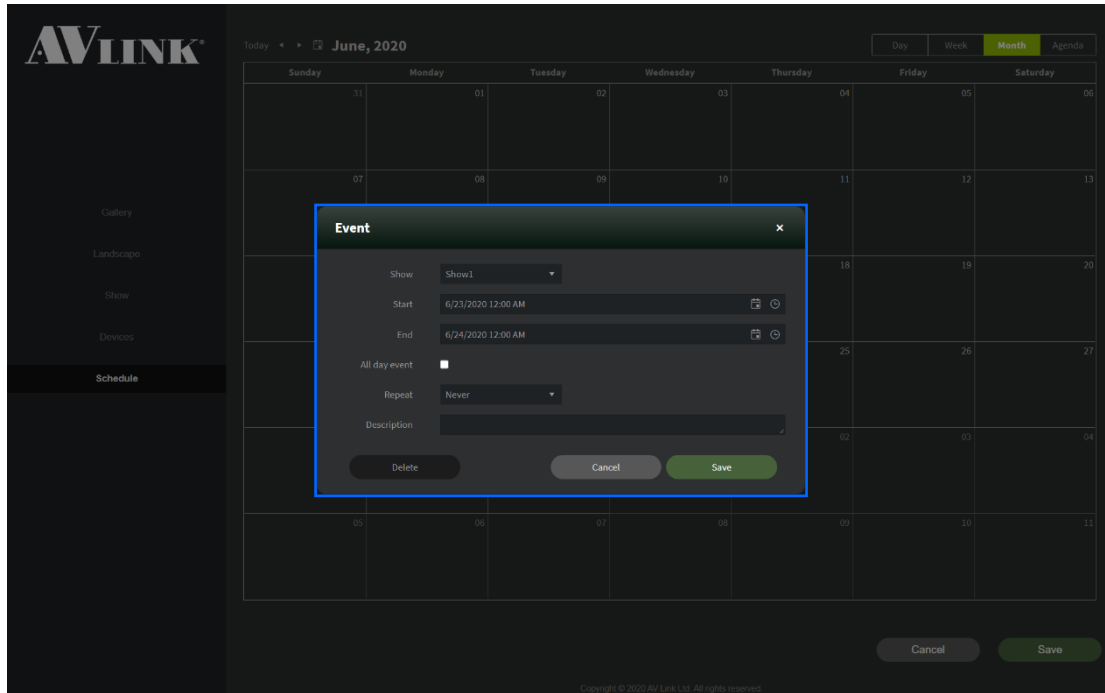
Create event

1. **Double-click** any date on the calendar
2. Select a show from **Show list** selector
3. Add any event details
4. Click **Save**



Edit event

1. **Double-click** the event user wants to edit
2. Make changes to the event
3. Click **Save**



Repeat – Weekly

Set repeat on the specific day

Set repeat end date

The screenshot shows the 'Event' dialog box with the following settings: 'Show' is 'Show1', 'Start' and 'End' are '7/29/2020', 'All day event' is checked, 'Repeat' is 'Weekly', and 'Repeat every' is '1 week(s)'. The 'Repeat on' section is highlighted with a blue box and contains checkboxes for 'Su', 'Mo', 'Tu', 'We', 'Th', 'Fr', and 'Sa', with 'We' (Wednesday) selected. The 'End' section is highlighted with a red box and contains radio buttons for 'Never', 'After 1 occurrence(s)', and 'On 7/29/2020', with 'Never' selected. 'Cancel' and 'Save' buttons are at the bottom.

Repeat – Monthly

Set repeat on the specific date

Set repeat end date

The screenshot shows the 'Event' dialog box with the following settings: 'Show' is 'Show1', 'Start' and 'End' are '7/29/2020', 'All day event' is checked, 'Repeat' is 'Monthly', and 'Repeat every' is '1 month(s)'. The 'Repeat on' section is highlighted with a blue box and contains radio buttons for 'Day 29', 'first', and 'Wednesday', with 'Day 29' selected. The 'End' section is highlighted with a red box and contains radio buttons for 'Never', 'After 1 occurrence(s)', and 'On 7/29/2020', with 'Never' selected. 'Cancel' and 'Save' buttons are at the bottom.

Repeat – Yearly

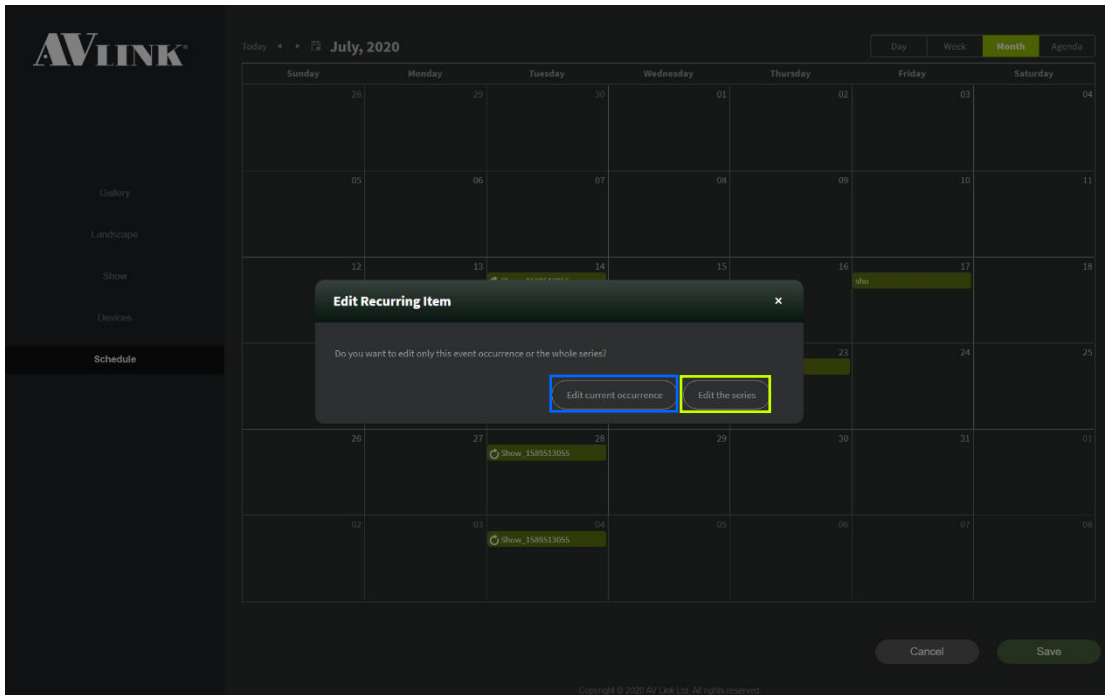
Set repeat on the specific date

Set repeat end date

The screenshot shows the 'Event' dialog box with the following settings: 'Show' is 'Show1', 'Start' and 'End' are '7/29/2020', 'All day event' is checked, 'Repeat' is 'Yearly', and 'Repeat every' is '1 year(s)'. The 'Repeat on' section is highlighted with a blue box and contains radio buttons for 'July 29 of July', 'first', and 'Wednesday of July', with 'July 29 of July' selected. The 'End' section is highlighted with a red box and contains radio buttons for 'Never', 'After 1 occurrence(s)', and 'On 7/29/2020', with 'Never' selected. 'Cancel' and 'Save' buttons are at the bottom.

Edit recurring event

- Double-click the recurring event user wants to edit



The "Event" form shows the following fields and options:

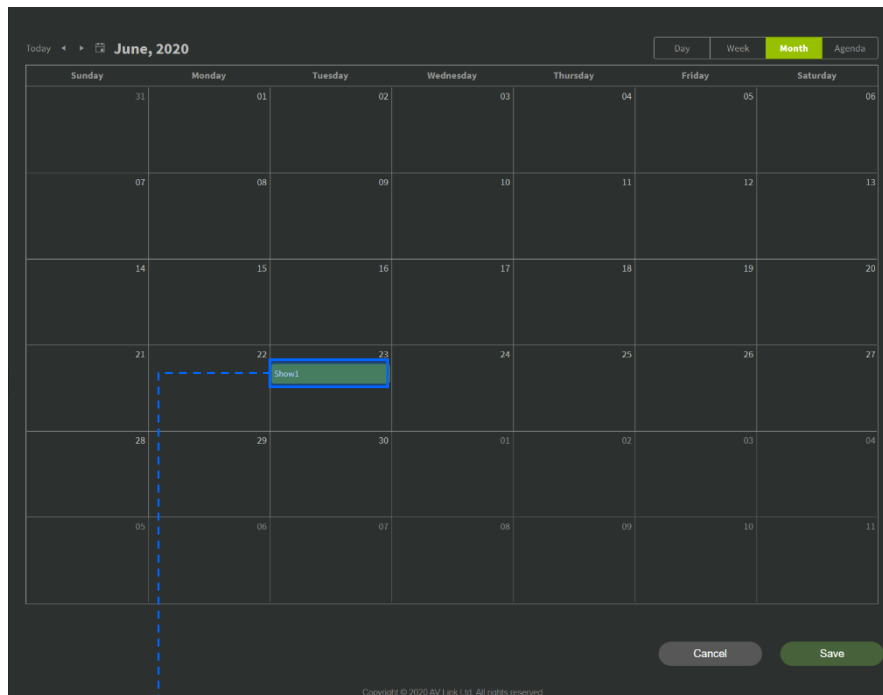
- Show: Show_1589513055
- Start: 7/21/2020
- End: 7/21/2020
- All day event:
- Description: [Empty text area]
- Buttons: Cancel, Save



The "Event" form shows the following fields and options:

- Show: Show_1589513055
- Start: 7/14/2020
- End: 7/14/2020
- All day event:
- Repeat: Weekly
- Repeat every: 1 week(s)
- Repeat on: S Mo Tu W Th F Sa
- End: Never
- After 1 occurrence(s)
- On 7/14/2020
- Description: [Empty text area]
- Buttons: Delete, Cancel, Save

Delete event



Mouseover the event, the
Delete button will display

Re-arrange event duration


- To re-arrange an event, click the **resize handle** and drag to the desired date



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

Bottom buttons

Save button

- Click  to save the schedule that user edited

Cancel button

- Click  to start over edit schedule