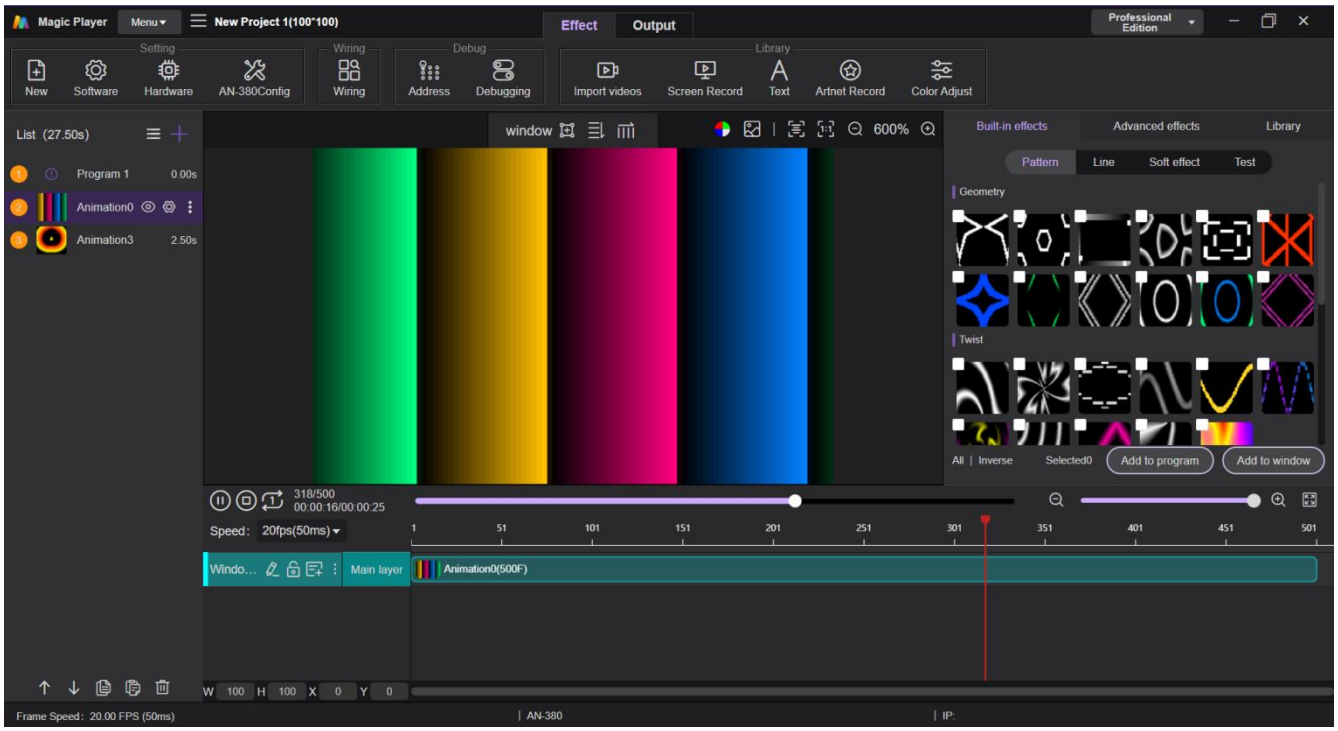

Magic Player Manual

Version: 2.1

Applicable to: Professional Edition, 3D Edition

August 2024

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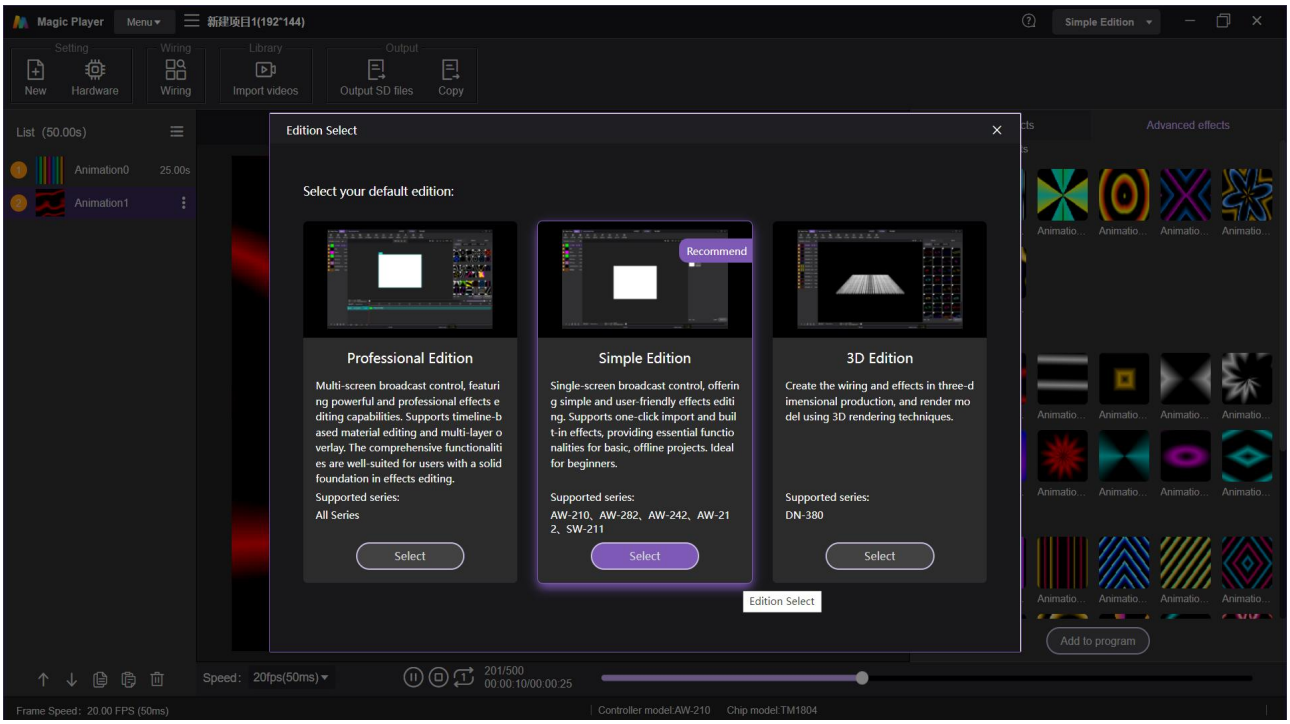
1. Overview

Magic Player software is a professional modeling wiring, online lighting, effects production, and playback output integrated software that works with Madrix's LED entertainment lighting control system. It features an attractive interface and easy operation.

Magic Player provides three interfaces: Professional Player, Simple Player, and 3D Player, tailored for different indoor application scenarios, allowing for targeted and contextual operations, and also supports seamless switching between them for convenience and efficiency.



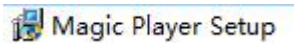
2. Software Usage Introduction

2.1. Operating Environment

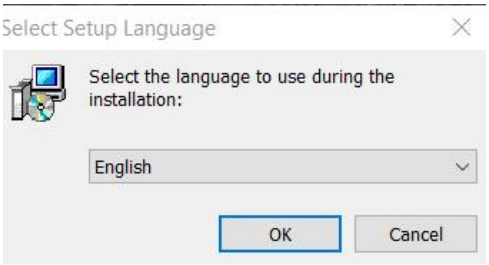
Operating System	Online Output: Windows 8 / Windows 10 / Windows 11 (64-bit). Offline Output: Windows 7 / Windows 8 / Windows 10 / Windows 11 (64-bit).
Driver Components	Microsoft .NET 4.6.1 or higher, WinPcap 4.1.3 (must be installed for the software to function properly).
Language Support	Simplified Chinese, Traditional Chinese, English (other languages will be displayed in English).
Running Path	Only supports 'Desktop' and non-system drive folders; running from USB drives is not supported.

2.2. Installation and Uninstallation

1. Double-click to run the software installation package.

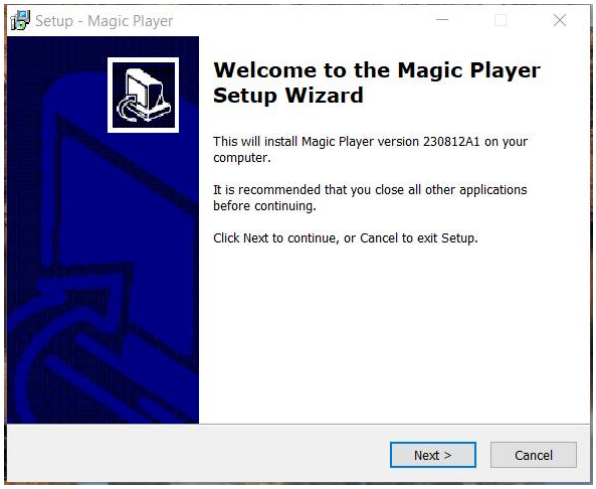


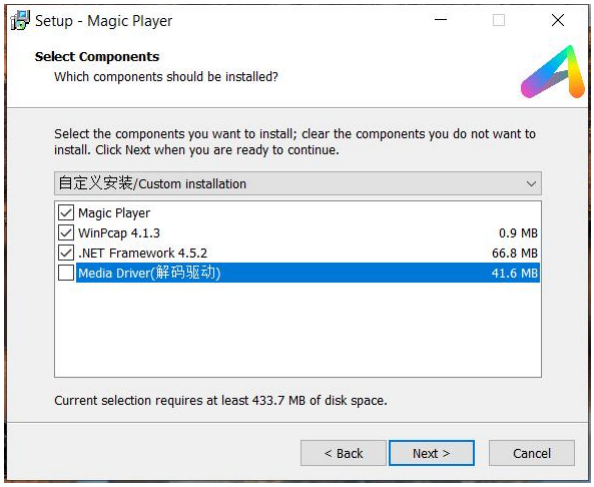
2. Select the installation language; currently, only Chinese is supported.



3. Follow the software installation wizard to continue the installation.

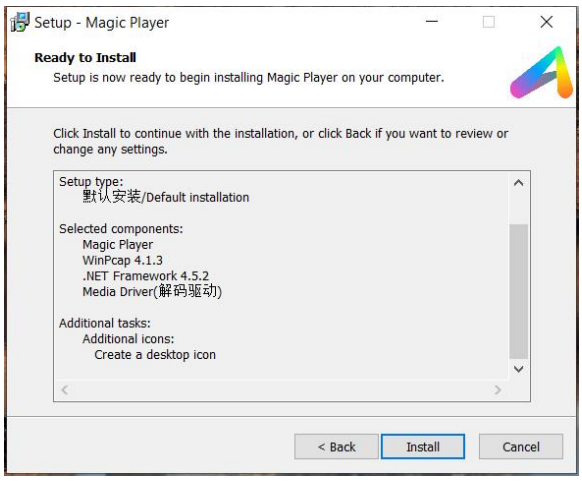
4. Select the installation driver components; please choose to install by default to ensure the software runs properly. If the computer does not have this driver component, it needs to be checked.





5. Click 【Install】, and the installation will soon be completed successfully.

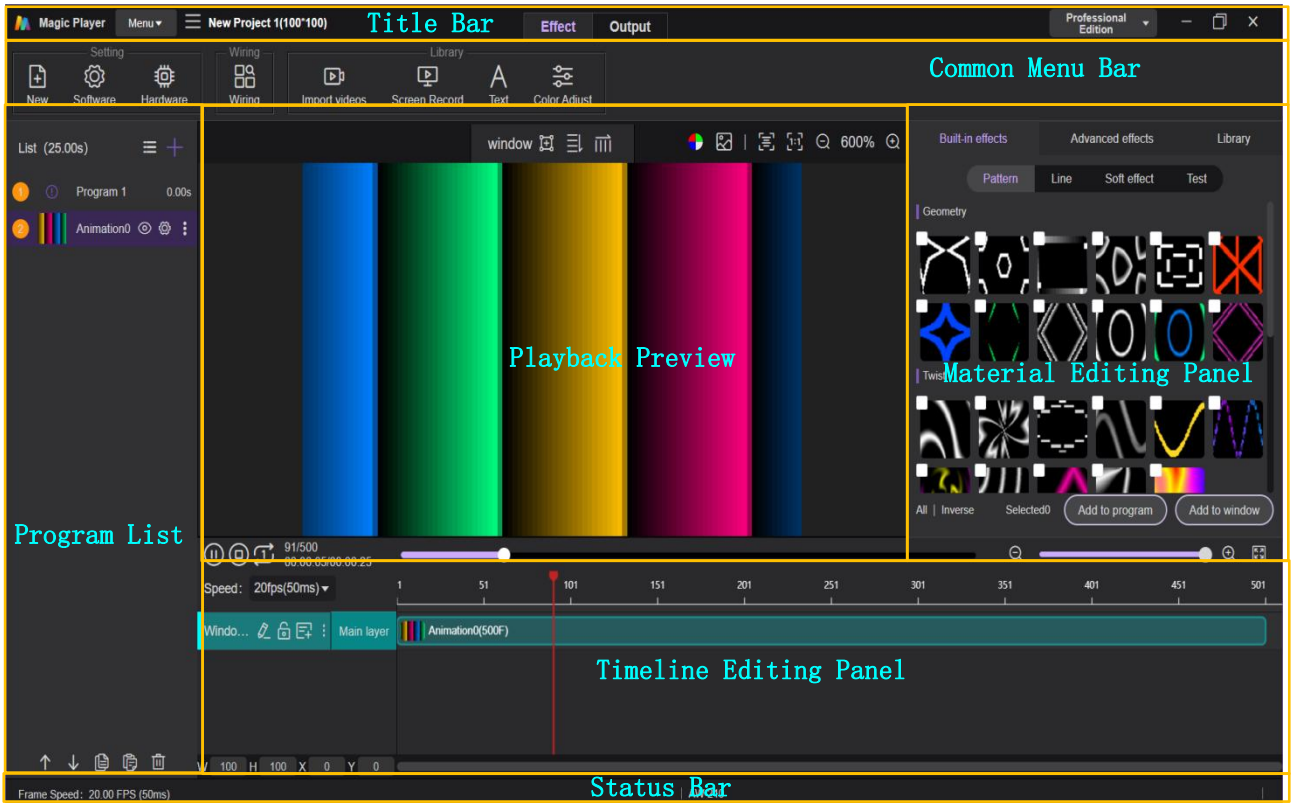
6. Installation successful, a folder has been created, including the file information shown in the image below. Double-click the 'Magic Player.exe' application to run the software.



3. Effect Editing Page Functions and Basic Operations

3.1. Introduction to the Working Interface

The working interface consists of seven main functional areas: title bar, common menu bar, program list, playback preview window, material editing panel, timeline editing panel, and status bar, as shown in the figure below.



Title Bar	Displays the current project information and all menus supported by the software, switching between the 'Effect Editing' and 'Output Playback' functional sections.
Common Menu Bar	Displays frequently used menu entries within the corresponding functional section page.
Program List	Displays the playback program list of the current project, allowing control over switching program modes and editing program attributes.

Playback Preview Window	Displays the 'Playback Screen' of the actual project size, playing programs and setting up the multi-screen 'Window' area.
Material Editing Panel	Provides various materials for addition, such as built-in effects, advanced effects, and material libraries, as well as editing parameters of the materials.
Timeline Editing Panel	Displays the content of the current program, consisting of windows, layers, and material levels, showing the content of the materials in a timeline format.
Status Bar	Displays the status information of the project settings, including hardware information, IP address, project frame rate, etc.

3.2. Program List

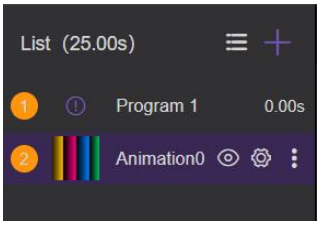
Displays the program content of the current project, switching the playback of the 'Timeline Editing Panel' materials by program, and editing the properties of the program.

Project Level Structure: Project -> Program -> Window -> Layer -> Material

Composition of the Project:	A complete project consists of four hierarchical levels: 'Program', 'Window', 'Layer', and 'Material'.
Program	Programs can be added to the program list (up to 100), played in order.
Window	Windows can be added to a program (up to 70), equivalent to a multi-screen effect, indicating the visible range, played in parallel.
Layers	A window can only have one main layer, and an overlay can be added; the main layer and overlay create a stacking effect, played in parallel.
Materials	Materials can be added to the main layer or overlay (up to 30), played in order.

Note: After modifying the playlist, please restart the software normally to ensure successful saving, to avoid data loss due to power failure during restart.

3.2.1. Edit Program



Add Program :

Click 【+】 to create a program at the end of the program list.

Enable/Disable Program: Set whether the program is valid for playback.

【👁】: Enable program, play normally;

【⊘】: Disable program, ignore and do not play.

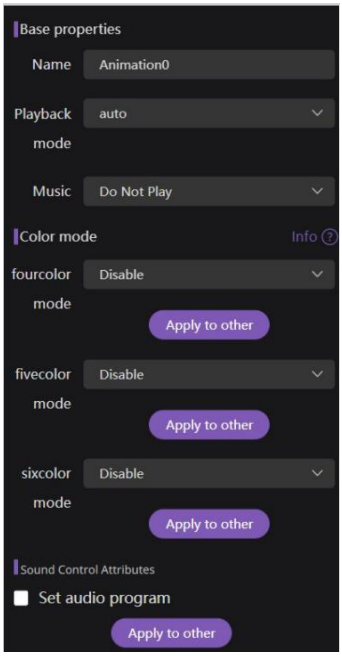
Double-click the program name: Quickly open the main layer's first material parameter editing panel of the first window to modify parameters.

Set Program Properties:

Click 【⚙】 to pop up the panel, where the following properties can be set:

Property	Description
Name	Set the name of the current program.
Playback mode	Set the playback method of the program: "Auto": Play once, default option; "Specify Playback Frame": Set the playback frame count of the program; "Specify Playback Duration": Set the playback

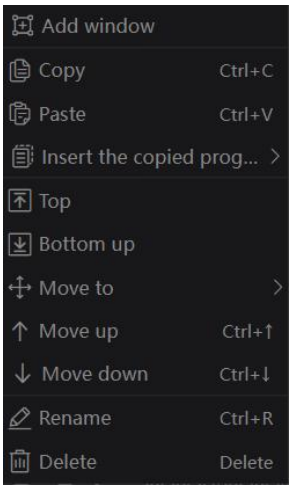
	duration of the program, in seconds; “Specify Playback Time”: Set the playback count for the program; “Stop When music Ends”: Set the program playback duration to the length of the background music.
Music	Set the music for the program: “Do not play”: Do not play music, default option; “Play original video audio”: Supports synchronous playback of the original audio that comes with the video; “Play Custom music”: Set the background music used during the program playback.
Four/Five/Six Color Mode	Project selection for four/five/six channel light fixtures is required, providing 21 color mode options to mix colors for the current program according to the selected mode, defaulting to 'Disabled'. This color mode can be applied to other programs with one click. For mode introduction, see '3.2.3 Four/Five/Six Color Settings'.
Set audio program	Convert the pattern effects program to an audio program controlled by volume. Check 'Set audio program' to enable. At this time, the preview image of the program displays an icon, marked as a dynamic audio control program. Multiple programs can also be set to apply as audio control programs.



More basic function operations for the program:

Click【⋮】or right-click the program to bring up the menu, where you can operate the following functions:

If performing batch operations on multiple programs, click【☰】to select program operations, supporting shortcut keys: press and hold <Ctrl> or <Shift> while clicking on programs.

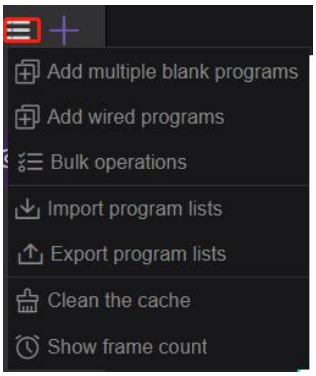


Property	Description
【Copy/Paste】	Copy the selected program and paste. Batch operations are also supported 【⧉】/【📋】 Supported shortcut keys: <Ctrl>+<C>, <Ctrl>+<V>
【Insert copied program】	Insert the copied program before/after the currently selected program. Supported shortcut keys: <Ctrl>+<I>/<Ctrl>+<T>
【Top/Bottom up】	Move the current program to the top/bottom.
【Move to】	Quickly move the current program to a specified position.
【Move Up/down】	Click to move up/down one position, or select the target to drag and change the order. Batch operation is also supported 【↑】/【↓】, just select consecutive programs to move them

	together. Supported shortcut keys: <Ctrl>+<↑>/<Ctrl>+<↓>
【Rename】	Rename the program file. Supported shortcut keys: <Ctrl>+<R>
【Delete】	Delete the program, batch operation is also supported 【🗑】. Supported shortcut keys: <Delete>
【Toggle Selected Program】	Supported shortcut keys: <↑>/<↓>

Program List Function Operations:

Click 【☰】 to pop up the menu, and the following functions can be operated:



Property	Description
【Add Multiple Blank Programs】	Add multiple programs to the project.
【Add wired Programs】	Create corresponding windows based on the number, position, size, and name grouped by MAP wiring, supports secondary modification and deletion.
【Import Program Lists】	Import the selected program list.
【Export Program Lists】	Export the selected programs to a specific file.
【Clear the Cache】	Clear unused material files in the project RGB folder that are not used by the program list.

3.2.2. Export and Import Program List

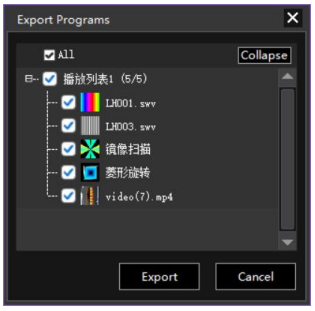
To avoid loss or errors when copying programs, the software supports one-click output and import of the program list.

The operation is as follows:

1. Export Program List

① Select Program: You can check the programs that need to be exported.

② Click 'Export' to start exporting the program list and save the *.swpl file in the project folder.



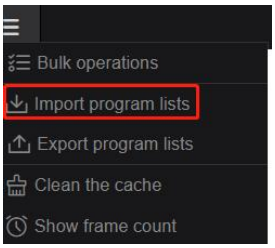
2. Import Program List

① After selecting the playlist to import, enter the import program list interface.

② Import

Replace existing: Delete the original programs in the playlist and add the new list.

Append to existing list: Insert the newly imported list after the last program in the original playlist.



Insert before existing list: Insert the newly imported list before the first program of the original playlist.

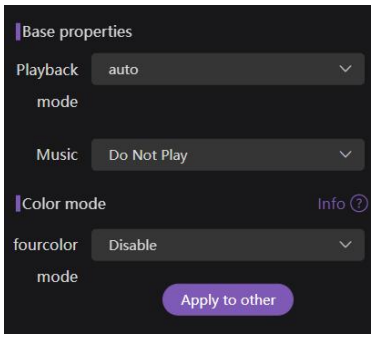
③ Select Program: You can check the programs that need to be imported.

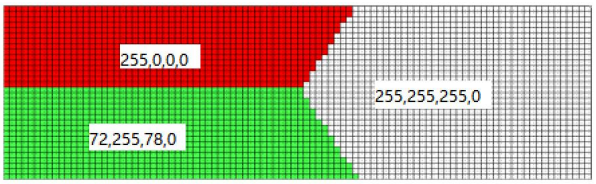
PS, you can choose 'Adaptive Project Size': if checked, it will adapt to the current project size (including: window size proportionally, cel automatically converted to the current project size), if unchecked, it will maintain the original size.

Or 'Import Width/Height': displays the original project size of the exported program list (not editable).

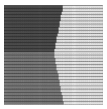
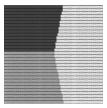
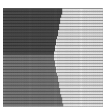
3.2.3. Four/Five/Six Color Settings

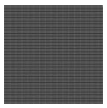
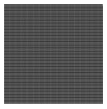
When the chip channel is four/five/six channels, you can set it in the 'Program List' - 'Program Attributes' - 'Color Mode' on the 【Effect Editing】 page (both offline and online support), this function does not support image preview.

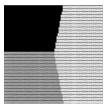
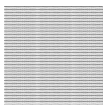
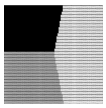




Example: Divide the screen into three areas, set 3 fixed color areas, the first area 255,0,0 (red), the second area 255,255,255 (white), the third area 72,255,78 (green), with a custom effect. (Grayscale formula: Gray=R*0.299+G*0.587+B*0.114)

Options	Description	Channel 1, 2, 3	Channel 4/5/6
Disable	All effects revert to original effects	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	 Area 1: 0 Area 2: 0 Area 3: 0
Energy Saving Mode 01	Only when RGB exceeds a certain value, RGB will not light up, W takes the average value. (Standard value is 0)	 Area 1: 0, 0, 0 Area 2: 0, 0, 0 Area 3: 0, 0, 0	 Area 1: 85 Area 2: 255 Area 3: 135
Energy Saving Mode 02	Only when all RGB exceed a certain value, RGB will not light up, W takes the grayscale value. (Standard value is 0)	 Area 1: 0, 0, 0 Area 2: 0, 0, 0 Area 3: 0, 0, 0	 Area 1: 76 Area 2: 255 Area 3: 180
Supplementary Light Mode 01	W takes the average value of RGB.	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	 Area 1: 85 Area 2: 255 Area 3: 135
Supplementary Light Mode 02	When the light intensity of the fixture is insufficient (grayscale value less than 120), W is	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	Insufficient light in Area 1.  Area 1: 76 Area 2: 0 Area 3: 0

Options	Description	Channel 1, 2, 3	Channel 4/5/6
	supplemented according to the grayscale formula.		
Basic Mode 01	When the RGB channels are not the same (only two need to be different), W takes the minimum value from RGB.	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	 Area 1: 0 Area 2: 0 Area 3: 72
Basic Mode 02	When the RGB channels are not the same (as long as two are different), W takes the maximum value from RGB.	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	In Area 2, R and G are equal, W is 0.  Area 1: 255 Area 2: 0 Area 3: 255
Basic Mode 03	When the RGB channels are not the same (as long as two are different), W takes the average value from RGB.	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	In Area 2, R and G are equal, W is 0.  Area 1: 85 Area 2: 0 Area 3: 135
Basic Mode 04	Only when RGB are equal, W is equal to RGB, and RGB are all off.	RGB are equal in Area 2, so RGB is completely black.  Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 0, 0, 0	 Area 1: 0 Area 2: 255 Area 3: 0
White Light Animation Mode	W takes the gray value of RGB, and RGB are all off.	 Area 1: 0, 0, 0 Area 2: 0, 0, 0 Area 3: 0, 0, 0	 Area 1: 76 Area 2: 255 Area 3: 180
Lighting Mode	Only W is lit, W value is specified externally.	 Area 1: 0, 0, 0 Area 2: 0, 0, 0 Area 3: 0, 0, 0	 Area 1: 100 Area 2: 100 Area 3: 100
Special Mode 01	Only when RGB are all greater than or equal to a certain value, RGBW will light up, W takes the gray value. (Standard value is 0)	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	 Area 1: 76 Area 2: 255 Area 3: 180
Equal Gray Same Light Mode	Only when RGB values are equal, W is equal to RGB.	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	 Area 1: 0 Area 2: 255 Area 3: 0
White Light Fixed Brightness Mode	RGB remains unchanged, W takes a fixed value.	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	 Area 1: 100 Area 2: 100 Area 3: 100

Options	Description	Channel 1, 2, 3	Channel 4/5/6
RGBW Four-Color Full Mixing Light Mode	RGB remains unchanged, W takes the gray value.	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	 Area 1: 76 Area 2: 255 Area 3: 180
RGBW Four-Color Half Mixing Light Mode	W lights up only when R*G*B>0, W takes the gray value.	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	 Area 1: 0 Area 2: 255 Area 3: 180
RGBW High Light Mode	W takes the maximum value from RGB.	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	 Area 1: 255 Area 2: 255 Area 3: 255
RGBW Low Light Mode	W takes the minimum value from RGB.	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	 Area 1: 0 Area 2: 255 Area 3: 72
Specify W Mode	W is specified to be equal to one of RGB.	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	Specify the brightness value of the R channel.  Area 1: 255 Area 2: 255 Area 3: 72
R*G*B must be > 0 for W to light up, where W is the grayscale	W only lights up when R*G*B>0, W is grayscale.	 Area 1: 0, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	 Area 1: 0 Area 2: 255 Area 3: 180
RGBW is specified externally	RGBW are all specified externally.	Set to 100.  Area 1: 100, 100, 100 Area 2: 100, 100, 100 Area 3: 100, 100, 100	Set to 100.  Area 1: 100 Area 2: 100 Area 3: 100
Disable all, set all to 0.	RGBW are all 0.	All are 0.  Area 1: 0, 0, 0 Area 2: 0, 0, 0 Area 3: 0, 0, 0	 Area 1: 0 Area 2: 0 Area 3: 0
Basic Mode 05	When RGB are equal, W takes the gray value according to the RGB ratio, RGB does not light up.	 Area 1: 255, 0, 0 Area 2: 255, 255, 255 Area 3: 72, 255, 78	 Area 1: 76 Area 2: 255 Area 3: 180 R:29.9 G:58.7 B:11.4

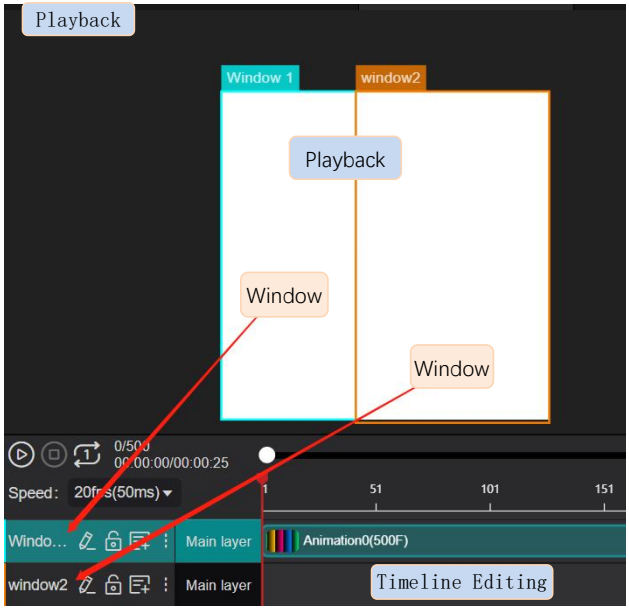
3.3. Playback Preview Window

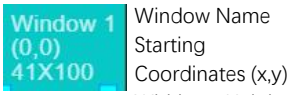
Displays the actual playback screen size of the project and the wiring position, plays the effect of the 'Program List', and allows for free setting of multi-screen 'Window' areas.

3.3.1. Edit Window (Multi-screen)

Add Window :

Click 【□】 to add a new window frame to the 'Playback screen' in the 'Playback Preview Window', while also adding a corresponding window layer in the 'Timeline Editing Panel'. Alternatively, you can right-click in the blank area below the window row to create a new window. Multiple 'Window' areas can be set for the same program.





Window Name
Starting Coordinates (x,y)

Horizontally/Vertically Split Windows:

Click 【】/【】 to automatically evenly split all windows under the program horizontally or vertically.

Set window size and position:

Select the window frame to display the current starting coordinates and dimensions of the window.

1) Size: Manually stretching the anchor points of the window frame can adjust the size of the window. Holding down 【Ctrl】 while stretching the window will achieve proportional scaling.

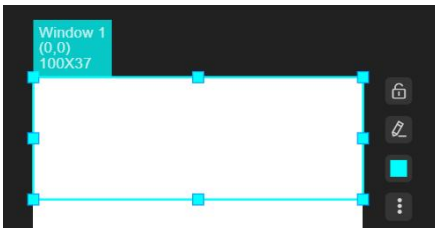
2) Position: Long press and drag the window frame to move and adjust its position on the playback screen.

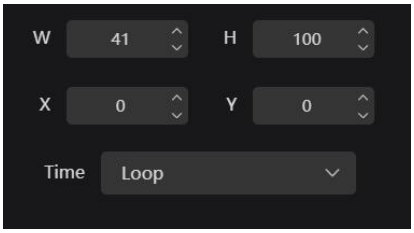
You can also click 【】 to input the parameters for position and size for precise adjustments.

Set window properties:

Click on the window frame, and a toolbar will appear on the right:

Icon	Property	Description
🔒/🔓	Lock/Unlock	The window is locked and cannot be resized or moved. It can be set only after unlocking.
✎	Set Window Parameters	W, H: Width and height of the window. X, Y: Coordinates relative to the top-left corner of the playback screen. These can also be changed by stretching and moving the window while playback is stopped. Playback Count: Displays and sets the number of times the current window's animation loops, defaulting to loop.
■	Set Window Color	Set the color of the window frame.

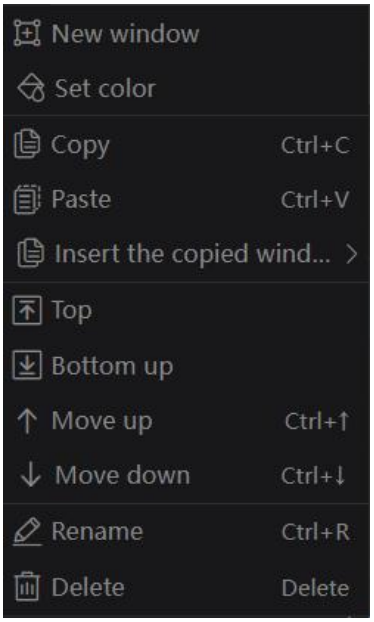




⋮	More Functional Operations for the Window	See the feature introduction below for details.

More Basic Functional Operations for the Window:

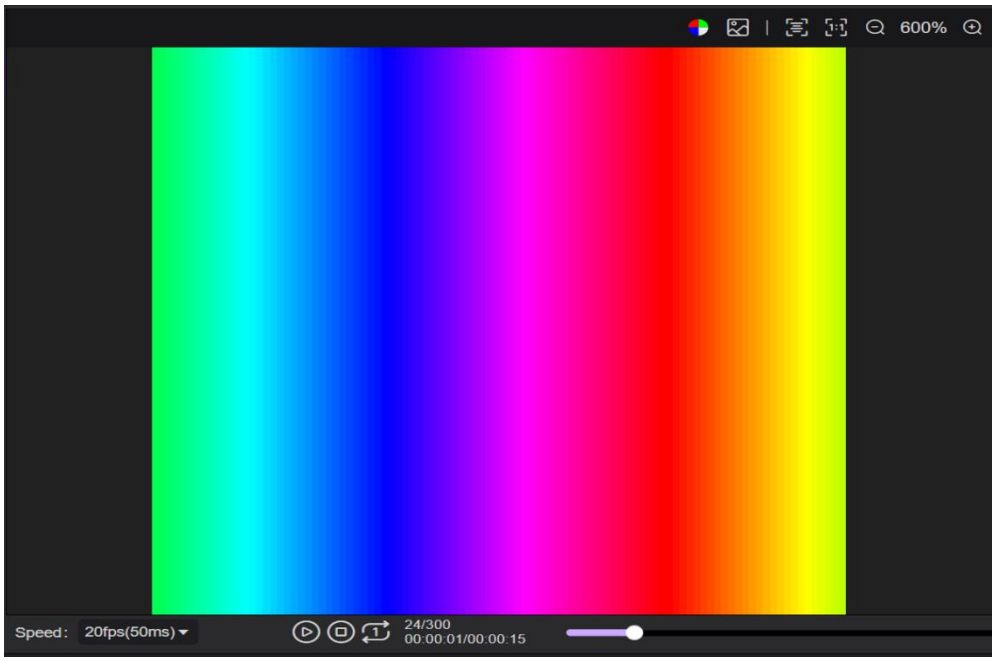
Click 【⋮】 or right-click the window frame to bring up the menu; the following functions can also be operated in the 'Timeline Editing Panel':



Property	Description
【New Window】	Click once to create a new window.
【Set Color】	Set the color of the window frame.
【Copy/Paste】	Copy the selected window and paste. Supported shortcut keys: <Ctrl>+<C>, <Ctrl>+<V>
【Insert the copied window】	Insert the copied window before/after the currently selected window. Supported shortcut keys: <Ctrl>+<I>/<Ctrl>+<T>
【Top/Bottom up】	Move the current window to the front/back.
【Move Up/down】	Click to move up/down one position, or select the window name in the 'Timeline Panel' and drag it up/down to change the order. Supported shortcut keys: <Ctrl>+<↑>/<Ctrl>+<↓>
【Rename】	Rename the window, or double-click the window name to rename. Supported shortcut keys: <Ctrl>+<R>
【Delete】	Delete window . Supported shortcut keys: <Delete>

3.3.2. Animation preview playback

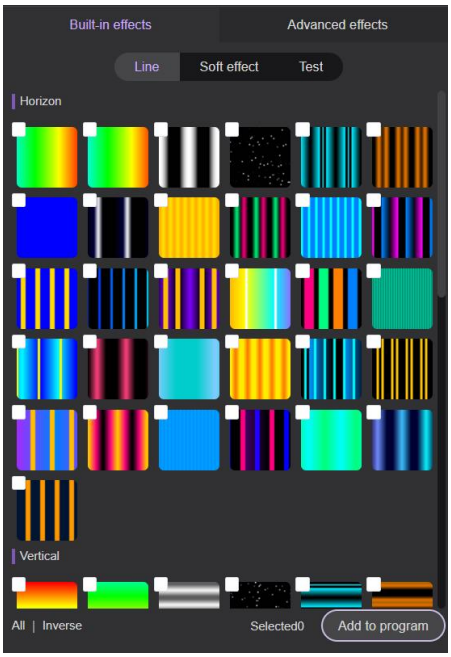
Real-time output playback of the 'Program List' effect, controlling the playback state and display of the 'Playback Screen'.



Icon	Description	Function
	Play/Pause/Stop	Play/Pause/Stop animation. In playback status, select the program in the 'Program List' to play the corresponding animation. Switching to another program in pause status can resume playback.
	Looping Method	Set the looping method for program playback: overall loop, single loop.
7/108 00:00:01/00:00:21	Playback progress bar	The frame count and time for previewing the animation of programs and materials; adjusting the playback progress bar in asynchronous status allows for real-time jumping in playback.
Speed: 20fps(50ms)	Playback Frame Rate Level	Select the frame rate level for previewing this project. Note: The playback frame rate set in the software is for preview reference only; it does not affect the actual output of offline series projects.
	Four/Five/Six Color Display Mode	Project selection for four/five/six channel light fixtures can be set, switching display between three colors, white, four colors, five colors, and six colors mode.
	Image:show	When playing a program, whether to present on the playback screen; the light fixture will still be controlled even if the image is not displayed.
	Self-adaption	The playback screen adapts to the size of the 'Playback Preview Area'.
1:1	100% Display	Restore the playback screen size to the project size, displaying at 100% display ratio.
	Shrink	Click once to reduce the display ratio of the playback screen.
	Enlarge	Click once to increase the display ratio of the playback screen.

3.4. Add Material

3.4.1. Add Built-in Effects



Provides multiple preset effects such as 'Pattern Effect', 'Linear Effect', 'Soft Effect', 'Test Effect', and 'Factory Effect' for one-click generation.

Add Built-in Effects:

In the right-side material panel of the main interface 【Built-in Effects】, check the corresponding material preview image,

Method 1: Click【Add to Window】to add the selected built-in effect to the currently selected window in the program.

Method 2: Click【Add to Program】to split the selected effect into an independent program added to the 'Program List', with one program corresponding to one built-in effect.

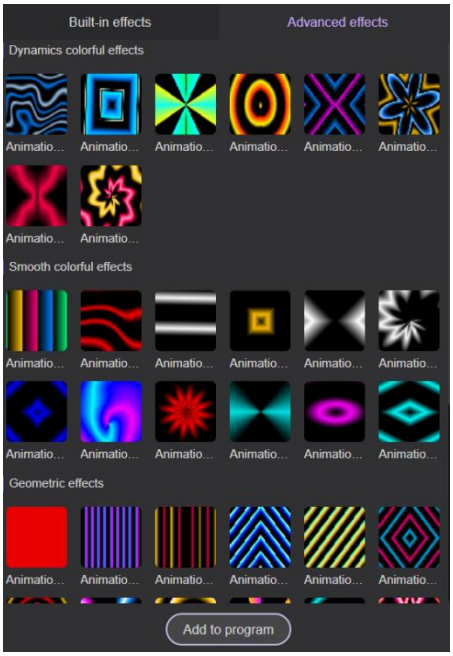
Method 3: Supports double-clicking the preview image to directly add the current effect to the 'Program List'.

Added materials (in .swv format) will be displayed in the window layer of the 'Timeline Editing Panel'.

Editing Built-in Effects:

In the window layer of the 'Timeline Editing Panel', double-click the Material Name Segment to enter the editing state of the current material, and the 'Material Editing Panel' will appear in the upper right corner, displaying the parameter settings of the material. For details, see '3.5.2 Material Editing'.

3.4.2. Creating Advanced Effects



Users can set effect modes and other material attributes and call color bands to freely edit pattern effects.

Click on the material preview image to preview this advanced effect in real-time in the 'Playback Preview Window'.

Adding Advanced Effects:

In the right-side material panel of the main interface 【Advanced Effects】:

Method 1: Click 【Add to Window】 to add the selected effect to the currently selected window of the program.

Method 2: Click 【Add to Program】 to add the selected effect as an independent program in the 'Program List'.

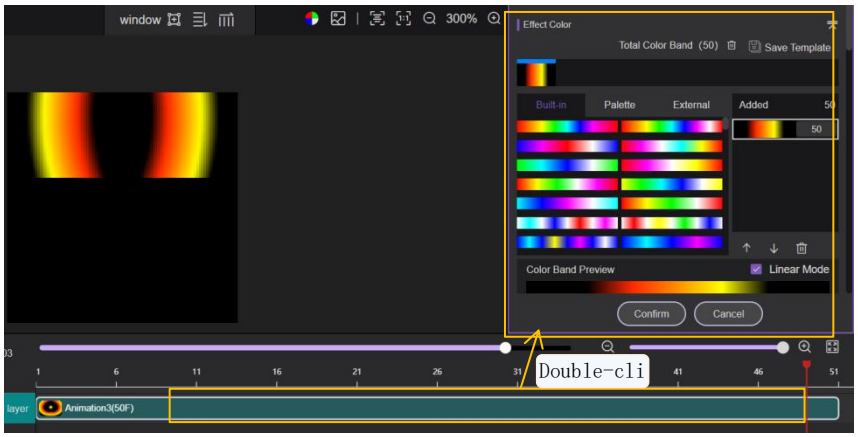
Method 3: Supports double-clicking the preview image to directly add the current effect to the 'Program List'.

You can also edit the color band and effect parameters in the properties panel on the right, see 'Edit Advanced Effects'

below for details.
The added materials will be displayed in the window layer of the 'Timeline Editing Panel'.

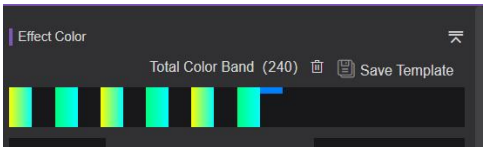
Edit Advanced Effects:

In the window layer of the 'Timeline Editing Panel', __double-click__ the material name segment to enter the editing state of the current material, where the 'Material Editing Panel' will appear in the upper right corner, displaying the color band editing of the 'Effect Color' and the parameter settings for 'Effect Style'.
For other functions of materials, see '3.5.2 Material Editing.'



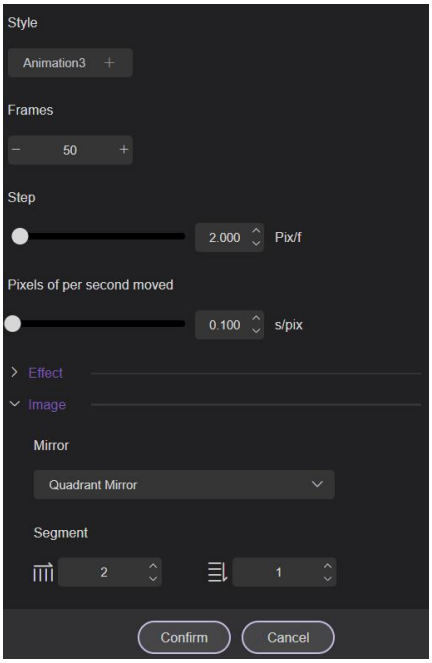
1. Effect Color

Customize the style and length of the color band, applied to advanced effect styles. For details, see 'Edit Color Band.'



2. Effect Style

Provides 30 different effect methods, each with distinct properties.

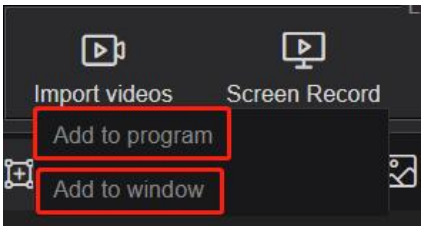


Property	Description
Style	Different effect modes can be selected: gradient, flowing translation, mirror flow, arrow flow, diagonal shift, diamond, circular, dot launch, spiral, semicircle launch, semicircle spiral, diamond grid, staggered flow, diagonal overlapping, mirror diagonal overlapping, audio column, dazzling effects, stacking, meteor shower, starry sky, fireworks, waves, etc.
Direction	Effect movement method.
Frames	Displays the current effect's frame count, which is related to the color band frame count and speed.
Step	Set how many pixels the animation moves per frame. The larger the number entered, the faster the speed; generally, the default is 1 for the smoothest effect.
Pixels of	Set how many seconds it takes to move one pixel.

second moved	The larger the number entered, the slower the speed. It interacts with step length.
Effect	The properties of each effect are also different.
Mirror	Set animation effects according to different mirror methods; options include 'None', 'Horizontal Mirror', 'Vertical Mirror', 'Square Mirror', 'Copy'.
Segment	You can set the number of equal divisions horizontally and vertically.
Overlay blending type	Provides 11 types of blend modes, affecting the color channel blending between the overlay file and the main layer material (only the overlay supports this). The default is 'black transparent'. See '3.5.2 Material Editing' for details.

3.4.3. Import Video File

Read video, supporting 'avi, mp4, mov' video formats.



Add imported video:

Click the 【Import Video】 menu and select the video (multiple selections supported),

Method 1: Click 【Add to Window】, which will add the selected video to the currently selected window in the program.

Method 2: Click 【Add to Program】, which will split the selected video into independent programs added to the 'Program List', with one program corresponding to one video file.

The added video files will be displayed in the window layer of the 'Timeline Editing Panel' and stored in the specified RGB folder.

*Note: If the same program needs to play multiple high-definition videos simultaneously, it is recommended to use a high-performance computer with 8GB or more of memory, and enable 'Do not load program preview images' in the 【Software Settings】 - 【More】 page to free up computer memory.

Edit Video:

In the window layer of the 'Timeline Editing Panel', double-click the Material Name Segment to enter the editing state of the current material, and the 'Material Editing Panel' will appear in the upper right corner, displaying the parameter settings of the material. For details, see '3.5.2 Material Editing'.

3.4.4. Record Screen Effects

You can easily capture any format of video and animation effects playing on the computer; Convert it to the Magic Player proprietary format and store it in the specified RGB folder.

Add Screen Recording Effects:

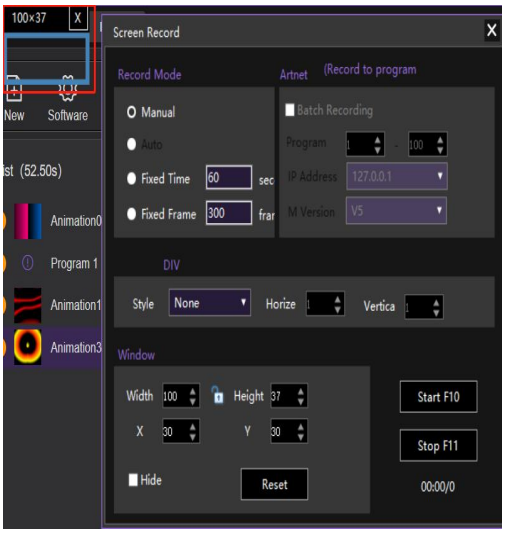
Click the 【Screen Record】 menu, the interface shown below will appear, click 【Start F10】 to begin recording any screen on the desktop, click 【Stop F11】 to stop recording the screen, and an effect file starting with the letter M will be automatically generated under the node and saved in the RGB folder of the project.

Method 1: Click 【Add to Window】, which will add the currently recorded effect file to the selected window of the current program.

Method 2: Click 【Add to Program】, which will split the currently recorded effect file into individual programs and add them to the 'Program List', allowing you to continue recording.

The added screen recording effect files (.swv format) will be displayed in the window layer of the 'Timeline Editing Panel'.

Function	Description	
Record Mode	Manual	Manually click 【Start F10】 and 【Stop F11】 to record effects.
	Fixed Time	Record effects for a specified duration.
	Fixed Frame	Record effects for a specified number of frames.
DIV	Style	Effect copy multiple identical parts, with five options: none, copy, horizontal mirror, vertical mirror, and four-way mirror.
	Horize/Vertica	Based on the mirror mode settings, copy again horizontally or vertically.
Window	Width/Height	Set the horizontal size of the screenshot window.
	X/Y	Set the starting horizontal position of the screenshot window.
	Hide	Check to hide the screenshot window.
	Reset	Click to restore the default size and position of the window.
Artnet	Batch Recording	Check to enable the automatic batch recording function of the Artnet protocol, and set a recording time or frame count for a program.
	Program	Set the range of effect quantity



Function	Description	
		serial numbers for automatic recording.
	IP address	Set the IP address of the communication network card.
	M Version	Select the version number of the recording Majestic software.
Playback Status	Start F10	Click to start recording the effect.
	Stop F11	Click to end effect recording.
	Recording Time/Frame	Displays the total recording time and total frame count of the effect.

Edit the recorded effect file:

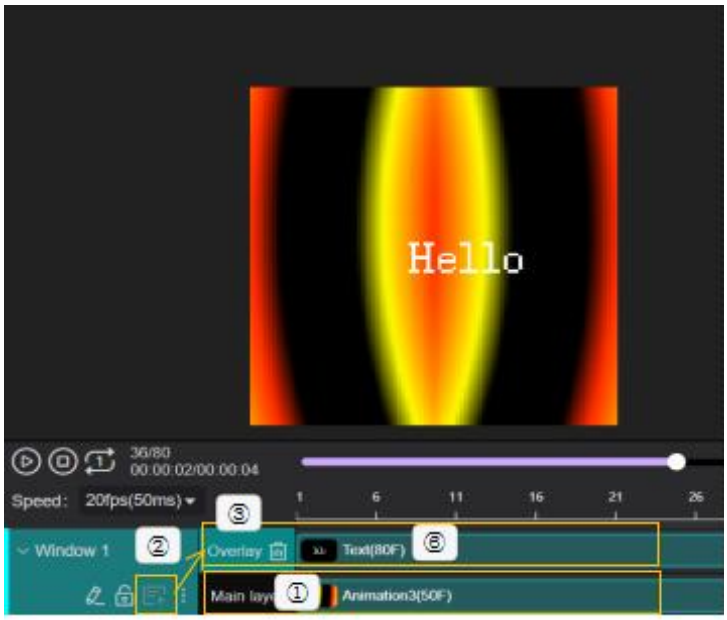
In the window layer of the 'Timeline Editing Panel', double-click the Material Name Segment to enter the editing state of the current material. The 'Material Editing Panel' will appear in the upper right corner, displaying the parameter settings of the material. For details, see '3.5.2 Material Editing'.

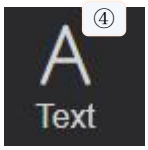
3.4.5. Add Dynamic Text

Output the entered text content to the playback screen, which can automatically overlay the text layer on the material background for playback.

Add Text:

Click the 【Text】 menu to pop up the 'Text Editing' window, set the relevant parameters for the text, with a transparent background. For details, see the table below. Click 【Save】 to successfully add the text.





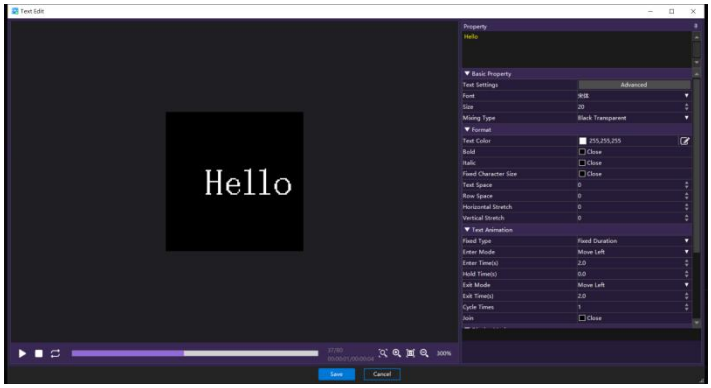
Creating text and background overlay effects:

① In the window's 'Main layer', add a background effect (video/built-in effects/test effect/advanced effects/effect file), for example, import a star video;

② Click on the window's 【】 to add a new overlay, which will create an overlay function with the main layer;

③ Select 'Overlay' as the layer for adding text;

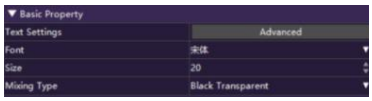
④ Click on the menu 【Text】;
⑤ A 'Text Editing' window will pop up, set the text-related parameters, input the text, and click 【Save】.
⑥ In the overlay, you will see the added dynamic text material, which can be moved, and adjust its position. Click play to preview the text overlay effect on the star video in real-time.

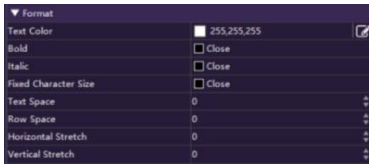


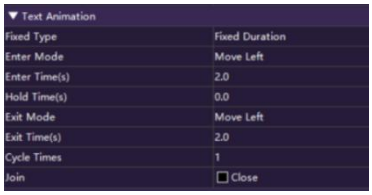
Modify Text:
In the 'Timeline Editing Panel' window layer, double-click the text name segment to enter the 'Text Editing' window and modify the relevant text parameters.
For other functions of text materials, see '3.5.2 Material Editing'.

Text properties are shown in the table below:

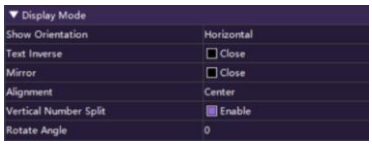
Property	Description	
Property	Enter the text to be displayed on the screen here	
Basic Property	Text Settings	More font options are available; all fonts in the user's computer font library can be displayed; Characters in languages other than Chinese and English must be used under the corresponding language system. Note: Some countries' languages are not fully covered.
	Font	Select font type.
	Size	Select font size.
	Mixing Type	11 blend types are provided, affecting the color channel blending between the file and the main layer's materials, defaulting to 'black transparent'.
Format	Text Color	Select the color of the text.
	Bold/Italic	Enable text to be bold/italic.
	Fixed Character Size/Text Space	Set the spacing between characters or between each line of text.
	Row Space/Horizontal	Stretch the font size in the horizontal direction.

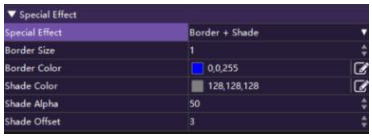






Property	Description	
	Stretch	
Text Animation	Fixed Type	Set the way the text moves, including fixed duration and fixed step length.
	Enter/Exit Mode	The direction of text movement when entering the scene.
	Enter/Exit Time	Set the duration of text movement when entering the scene.
	Step Length/Frames	When selecting a fixed step length, set the number of pixels that appear in one frame of movement.
	Hold time (s)	Set the pause duration of the text in the scene.
	Cycle Times	Set the number of times the text loops.
	Join	Set the transition effects for entering and exiting, suitable for scrolling text.
Display Mode	Arrangement Show Orientation	Set the method of displaying text; different selections will yield different effects.
	Text inverse	The input text will be played after being swapped left and right.
	Mirror	The input text will be played after being flipped left and right and then swapped.
	Alignment	Center alignment, top/bottom/left/right alignment, custom; custom allows setting horizontal/vertical displacement of the font position, with horizontal/vertical offset distance in the playback screen area.
	Vertical number split	Enables vertical split display of numbers.
	Rotation Angle	Set the rotation direction and angle of the text.
Special Effects	Special Effect	Set the style of text effects.
	Border Size/color	Width/Color of the text outline.
	Shade Color/Alpha/Offset	Color/Brightness/Distance of the text shadow.
	Rotation Radius	Set the radius of the font's circular rotation (distance from center to outer circle).



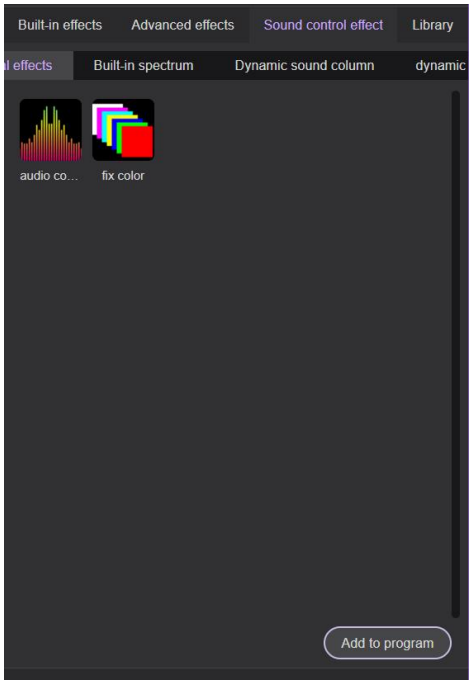


Property	Description	
	Rotation Direction	Set the rotation direction of the font.

3.4.6. Add Audio Control Effects (Offline)

3.4.6.1. Spectrum Effects

Users can freely edit 144 frames of spectrum music effects by setting effect parameters and calling color bands; A spectrum effect material corresponds to one program addition, and there is no split-screen addition of materials.



Add Spectrum Effect:

In the right material panel of the main interface【Sound Control Effects】-【Spectrum Effects】,

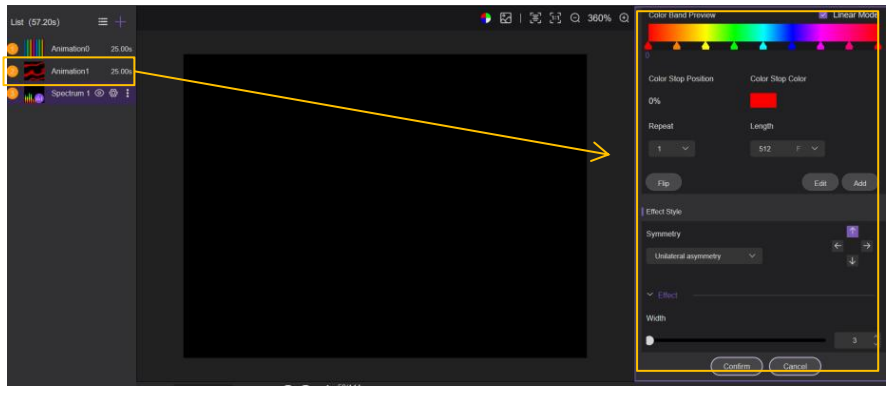
Method 1: Click【Add to Program】, which will add the selected effect as an independent program in the 'Program List.'

Method 2: Supports double-clicking the preview image to directly add the current effect to the 'Program List.'

At this time, the preview image of the program displays an icon, marked as a spectrum audio control program.

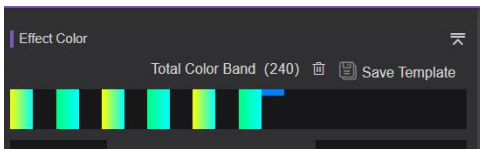
You can also edit the color band and effect parameters in the properties panel on the right, see below 'Edit Spectrum Effect'.

Edit Spectrum Effect:



Double-click Program Name to enter the editing state of the current material. The 'Material Editing Panel' will appear in the upper right corner, displaying the color band editing of the 'Effect Color' and the parameter settings for 'Effect Style'.

1. Effect Color



Audio Column: Customize the style and length of the color band, applied to the effect style of the spectrum. For details, see 'Edit Color Band'.

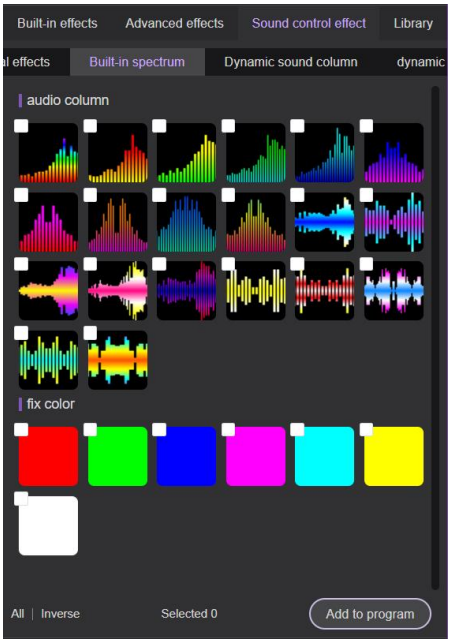
Fixed Color: Select a fixed color.

2、Effect Style

The properties of the Audio Column and Fixed Color effects are also different. Adjust according to actual requirements.

3.4.6.2. Built-in spectrum

Provides multiple sets of 144-frame spectrum audio control effects that can be generated with one click for easy access. It also supports secondary parameter editing.



Add Built-in Spectrum:

In the right material panel of the main interface【Sound Control Effects】-【Built-in spectrum】,

Method 1: Check the corresponding material preview image, click 【Add to Program】, and the selected effects will be split into independent programs added to the 'Program List', with one program corresponding to one built-in effect.

Method 2: Supports double-clicking the preview image to directly add the current effect to the 'Program List.'

At this time, the preview image of the program displays an icon, marked as a spectrum audio control program.

Edit Built-in Spectrum:

Double-click Program Name to enter the editing state of the current material, and the 'Material Editing Panel' will appear on the right, displaying the parameter settings for that material.

3.4.6.3. Built-in Dynamics

Provides multiple sets of dynamic audio control effects that can be generated with one click for easy access.

Add Built-in Dynamic Audio Column/Dynamic Pattern:

In the right-side material panel of the main interface, 【Sound Control Effects】 - 【Dynamic Sound Column/Pattern】,

Method 1: Check the corresponding material preview image, click【Add to Program】, and the selected effects will be split into independent programs added to the 'Program List', with one program corresponding to one built-in effect.

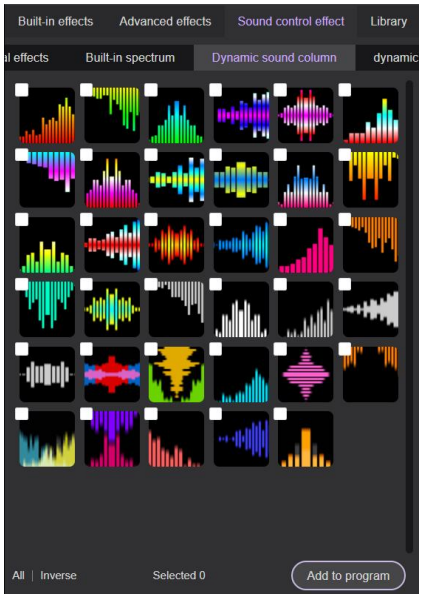
Method 2: Supports double-clicking the preview image to directly add the current effect to the 'Program List.'

At this time, the preview image of the program displays an icon, marked as a dynamic audio control program.

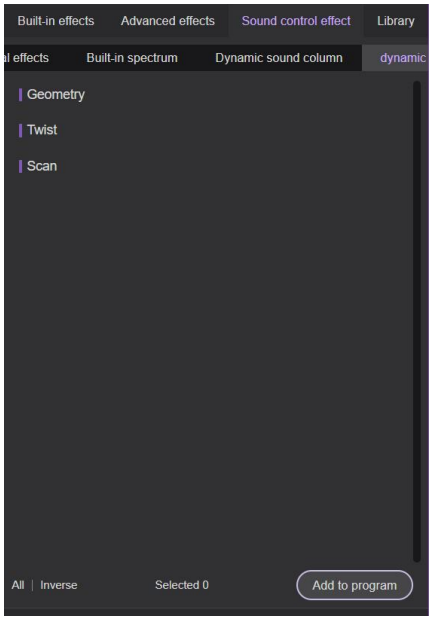
Editing Built-in Effects:

In the window layer of the 'Timeline Editing Panel', double-click the Material Name Segment to enter the editing state of the current material, and the 'Material Editing Panel' will appear in the upper right corner, displaying the parameter settings of the material. For details, see '3.5.2 Material Editing'.

Dynamic audio column:

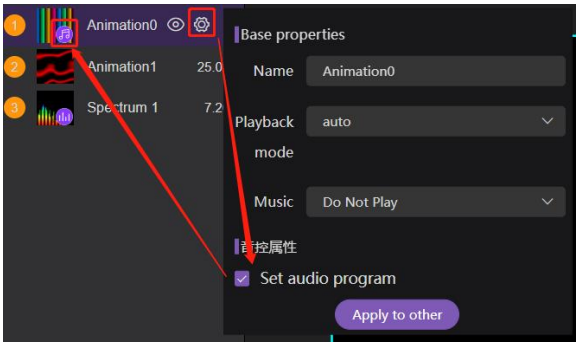


Dynamic patterns:



3.4.6.4. Convert regular program to dynamic audio control program

Transform pattern effects program into an audio program controlled by volume.



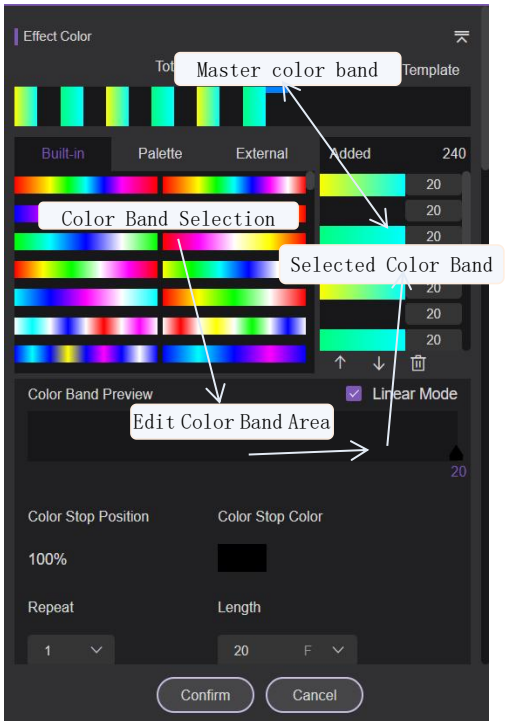
Conversion operation:

In the program list, select a program click 【⚙】 to pop up the panel, check 'Convert to audio control program' to enable. At this time, the preview image of the program displays an icon, marked as a dynamic audio control program.

You can also batch set multiple programs to be converted into audio control programs by clicking 【Apply to Other】.

3.4.7. Edit Color Band

Customize the style and length of the color band, and apply it to the style of the effects.



Operation method: Move the mouse to the 'Master Color Band' area to display the color band editing panel, or click 【▽】 to fix and expand the color band editor.

Area Introduction:

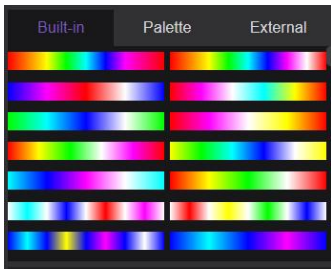
Master Color Band: The color band that the material colors are ultimately applied to, composed of 'Selected Color Bands';

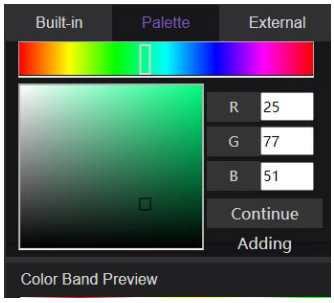
Color Band Selection Template: Provides three modes to choose from: 'Built-in Template', 'Palette', and 'External Template'. Double-click the target color band to add it to 'Selected Color Bands';

Selected Color Bands: The selected color bands are components that have been added to the 'Master Color Band', corresponding one-to-one, and can be modified again;

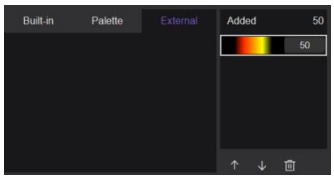
Edit Color Band Area : You can edit the color ratio, richness, as well as the gradient mode, length, and number of times for the color bands (right-click on the color band to edit).

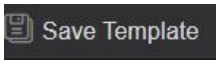
Color Band Selection Template	Built-in Templates	Provides some commonly used built-in color bands for users to quickly select, with default color band lengths of 64, 256, etc. Add Operation: ① Double-clicking can directly add the original color band to 'Selected Color Band'; ② After selecting with a single click, the color band will be displayed in the 'Edit Color Band Area' for specific editing, then click 【Add】 or 【Modify】 to add it to 'Selected Color Band';
	Color Palette	Provides a professional 'Color Selector' for custom monochrome. Add Operation: ① Color Selection: You can obtain any desired color by dragging 【■】 or changing the value on the right. ② Add 'Selected Color Band': Click 【Add】, 【Modify】, or 【Append】 to add.

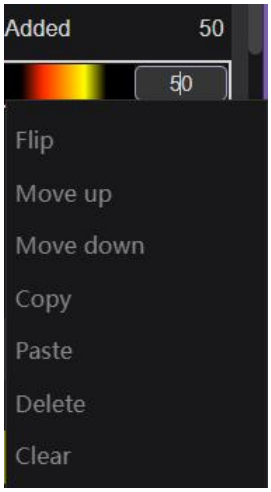


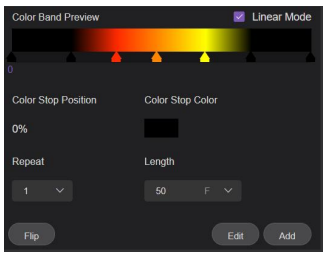


	External template	Used to store user-defined 'master color bands' for easy reuse, supporting editing and modification. By clicking the above 【Save Template】, the currently edited 'master color band' will be generated as a template, and the generated template file will be saved in the ColorScrolls folder within the current project folder for easy reuse. <u>Add Operation:</u> The addition operation is consistent with that of the built-in templates. Right-click operations: 【Delete】: Remove the selected color band from 'external color bands'.
Selected Color Band		Displays the color bands that have been added to the 'master color band'. The number shows the total length of the color bands. Clicking the number on the right allows you to directly modify the length of the selected color band, with a maximum length of 50000 for a single color band. <u>Icons and right-click operations:</u> The following functions support batch operations, shortcut keys: press and hold <Ctrl> or <Shift> while clicking on Program. 【Flip】: Flip the current 'Edit Color Band' bar. 【Move Up/Down】: Move the selected color band up/down, <Ctrl>+<↑>/<Ctrl>+<↓> is supported. 【Copy/Paste】: Click to copy the selected color band, shortcut keys <Ctrl>+<C>, <Ctrl>+<V>. 【Delete】: Remove the selected color band from 'Selected Color Band', shortcut key <Delete>. 【Clear】: Clear all color bands from 'Selected Color Band'.
Master color band		Display and arrange all selected color bands; right-click for secondary editing operations. The blue line on the color band indicates the currently selected color band.
Edit Color Band Area		Customize and edit a color band. "Color Band Preview": Displays the currently selected color band, and changes the color ratio by sliding the color marker position left or right; "Color Stop Position": Displays the position of the currently selected color marker as a percentage. "Color Stop Color": Displays and sets the color of the currently selected color marker.



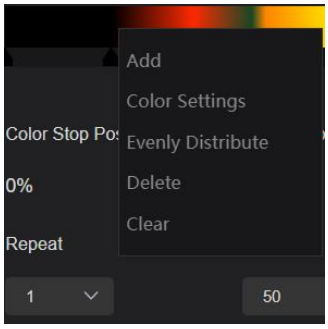






“Length”: Select “F” or “S” to display and set the length of the current color band.
“Repeat”: Sets the number of times to add multiple identical selected color bands simultaneously.
【Linear Mode】: Check to display all color markers of the current color band in a gradient; uncheck to display color markers in fixed colors.
【Flip】: Flips the current “Editing Color Band Bar”.

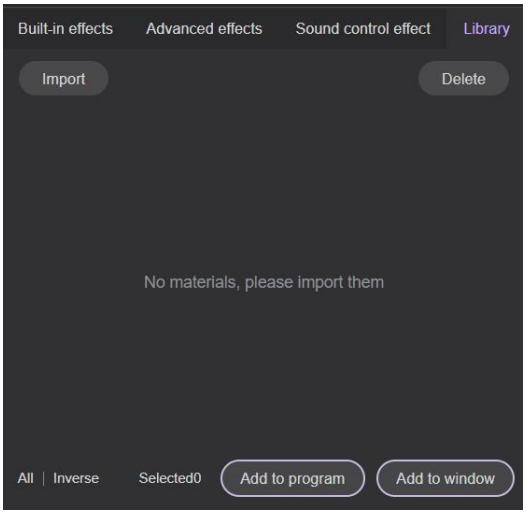
Add and Modify Operations:
【Add】 - 【Insert Add】: Inserts the current “Editing Color Band Bar” into the corresponding position of the “Selected Color Band”.
【Append】-【Append Add】: Appends the current 'Edit Color Band' to the end of the 'Selected Color Band'.
【Edit】: Modify the edited 'Selected Color Band', confirm the modifications to the edited color band.



*Color Band Editing Bar Operations:
① Click on the 【Color Marker】, the blue number displays the frame count of the current color marker in the color band;
② Double-click on the 【Color Marker】 to display the RGB value of the current color marker, and you can choose to click on the color palette or input the RGB value to modify the color.
③ Long press and drag down on the 【Color Marker】 to directly delete this color marker.
④ 'Custom Color': When editing the color of the color marker, after setting the color, click 【Add to Custom Color】 to directly call this color by clicking the color block next time.
⑤ When the mouse hovers over the color marker, a tooltip will display the RGB value of that marker.
⑥ Right-clicking on the color marker, a blank area of the color band, or the color band region will bring up the following options:
【Add】: Select a color and then add a color marker in the clicked area.
【Color Setting】: Display the current RGB value of the color marker, and allow modification of the color by clicking on the color palette or entering RGB values.
【Evenly Distribution】: Evenly distribute all color markers on the color band.
【Delete】: Remove the currently added color marker.
【Clear】: Clear all color markers except for the first and last markers.

3.4.8. Using Material Library

Supports importing video and .swv material files, which can be added to the program. Stored in the folder named 'MaterialLib' under the software installation directory.



Import Material Library:

Click 【Import】 to select video files (avi, mp4, mov formats) and .swv, .bin format material files. Multiple selections are supported for import. After importing, the preview images of the materials and file information will be displayed on the interface. Click on the material preview image to preview the content. Right-click on the material to delete it.

Add Material:

Select the corresponding material preview image,
Method 1: Click 【Add to Window】, which will add the selected material to the currently selected window of the program.
Method 2: Click 【Add to Program】, which will add the selected material as an independent program in the 'Program List.'
Method 3: Support double-clicking the preview image to directly add it to the 'Program List'.
The added materials will be displayed in the window layer of the 'Timeline Editing Panel'.

Edit Material:

In the 'Timeline Editing Panel' window layer, double-click the material name segment to enter the editing state of the current material. The 'Material Editing Panel' will appear in the upper right corner, displaying the parameter settings for that material. See '3.5.2 Material Editing' for details.

Delete Material:

Select the material, click 【Delete】, and you can batch delete the selected materials.

3.4.9. Create Stage Lighting Effects

Supports the creation of DMX512 channel control commands for setting gray values, applicable to small indoor simple stage lighting and controlled by specified controllers. DMX512 light fixtures include but are not limited to: moving head lights, color lights, flood lights, laser lights, pattern lights, imaging lights, scanning lights, etc.

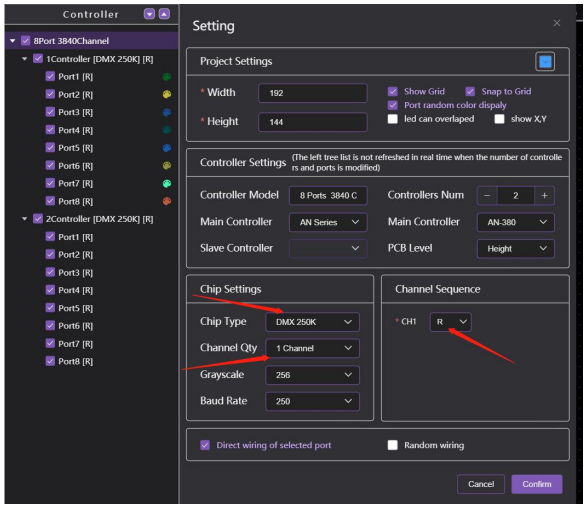
Overall Function Introduction:

1、Modularize and centralize all control channels for different light fixtures, using changes in gray values to control various functions of the fixtures, which also change in real-time.
2、After adjusting different gray values for all channels of the light fixtures, they can be saved in the current project's program for use or imported into other projects, forming a library of light fixture commands.
3、The current program has the ability to modify and save at any time, allowing for free arrangement of command sequences on the timeline.

The operation for creating stage lighting effects projects is as follows:

1. Create a project using the MAP4 wiring tool:

Hardware setting parameter selection: Choose AP-383 model, set DMX standard, 250K, single channel DMX512 light fixture.

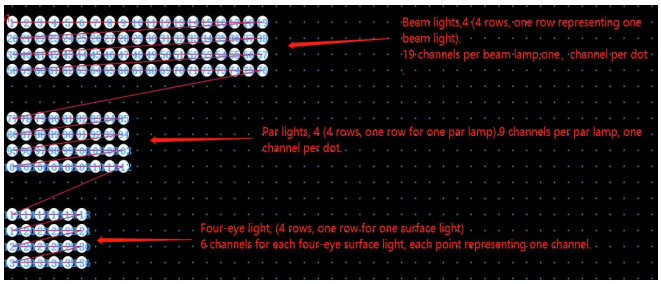


2. Start wiring:

Refer to the channel manual of the light fixture manufacturer, and place points according to the number of channels of the light fixture. In an N-type arrangement, place as many points as the number of channels for each light fixture, and increase equally when there is more than one light fixture.

Horizontal represents the number of channels of the light fixture;

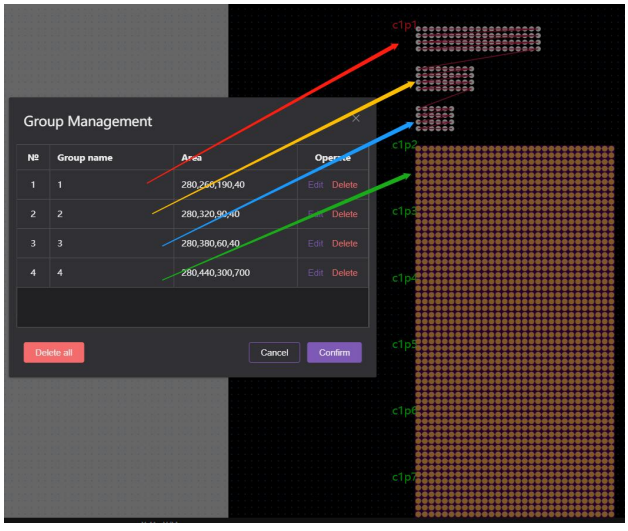
Vertical represents the number of light fixtures.



3、Manage light fixtures with sub-window management:

Set up a control window for each type of light fixture, defining the area for placing points.

Method 1: Use the grouping function of MAP4 to group light fixtures by category after wiring is completed. Refer to '7.3.3 Grouping Function' for how to group. In the program list of the 'Effect Editing' interface , use the program that creates the wiring preset window; the newly created program will automatically include the preset windows set by group, making this method quicker for setup. Refer to '3.2.1

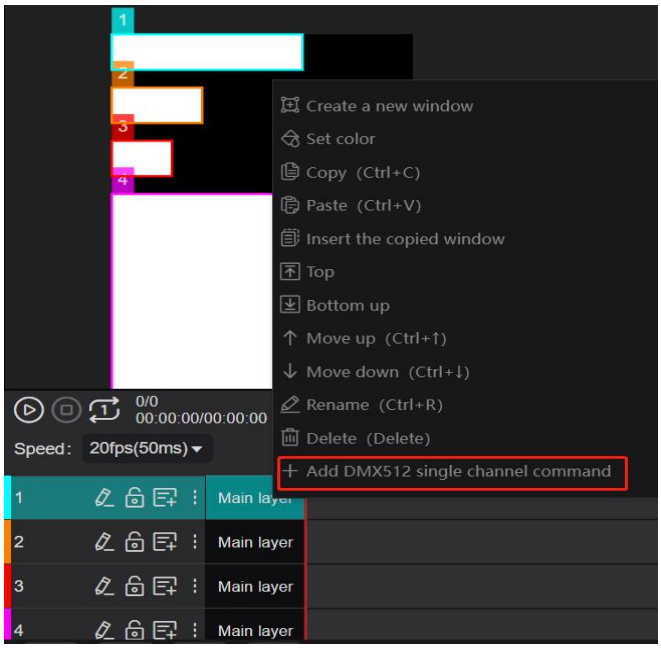


Edit Program' for an introduction to creating wiring preset windows.

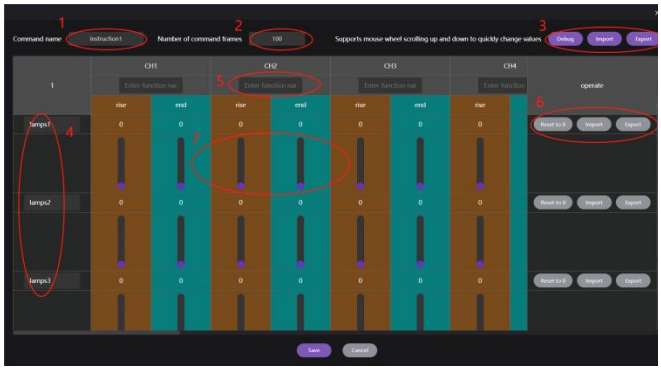
Method 2: Directly create multiple windows in the program of the 'Effect Editing' interface.

4. Add DMX512 single-channel command:

Select a window individually, right-click in the 'Main Layer' position, and choose 'Add DMX512 Single-Channel Command'.



5. Set the gray value range for each channel:



1) Set the material name.

2) Set the material length.

3) Overall function of the command:

①Debugging: Test the overall effect.

②Import: Import light fixtures and effect instructions with the same quantity.

③Export: Export parameters for subsequent light fixtures and calls with the same quantity.

4) Light Fixture Name: Customize the name of each row of light fixtures, automatically generating as many rows as there are light fixtures, meaning that the number of rows generated corresponds to the number of rows of lights.

5) Channel Order Value: Display the number of channels for the light fixtures, automatically generating as many as there are based on the number of channels. For each row, the number of points corresponds to how many numbers are generated. You can also annotate the specific function name corresponding to the input channel.

6) Function of Individual Light Fixture Instructions:

①One-Click Reset: Clear all parameters of a

single light fixture.

② Import: You can import previously saved individual light fixture materials.

③ Export: Save the current parameters of the individual light fixture settings as materials for later use with similar types of fixtures.

7) Set the starting and ending range of gray values (effect programming), adjusting while previewing the current stage light's effect on this channel in real-time:

① 'Start' and 'End' represent the beginning and ending gray values for this channel, with the gray value parameters referenced from the light fixture's manual.

② Control the changes of the light fixture through the gray value parameters.

There are two ways to change the numbers: one is to manually enter the numbers; the other is to scroll the mouse wheel up and down to change the numbers. The process from start to stop is a gradual change process; if the start and stop numbers are the same, the state remains unchanged.

8) Save the modified channel data.

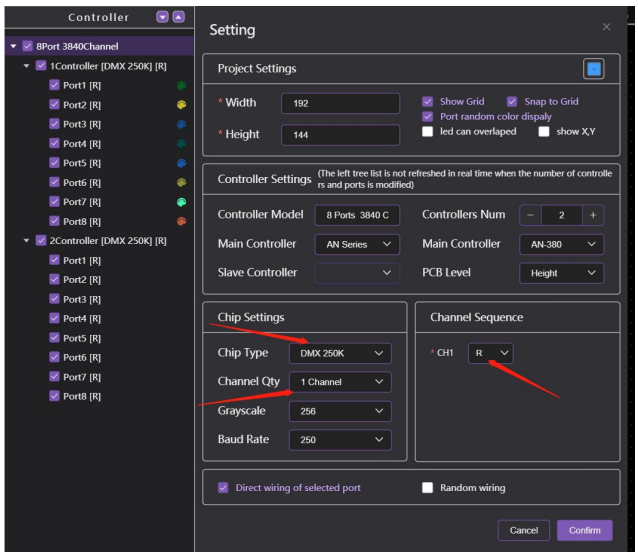
3.4.10. Record Console Effects

Record data from third-party stage lighting consoles, redraw to generate effect files, and call for playback directly.

The operation for recording stage lighting effects is as follows:

1. Create a project using the MAP4 wiring tool:

Hardware settings parameter selection: Set DMX512 fixtures according to standard DMX, 250K, and single-channel.

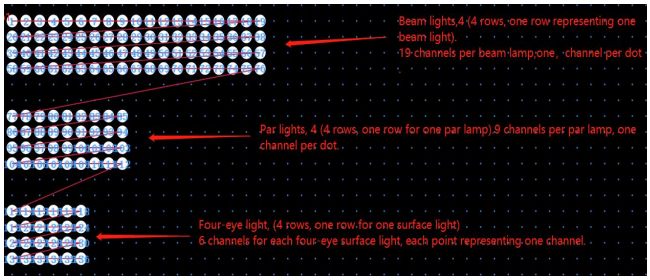


2. Start wiring:

Refer to the channel manual of the light fixture manufacturer, and place points according to the number of channels of the light fixture. In an N-type arrangement, place as many points as the number of channels for each light fixture, and increase equally when there is more than one light fixture.

Horizontal represents the number of channels of the light fixture;

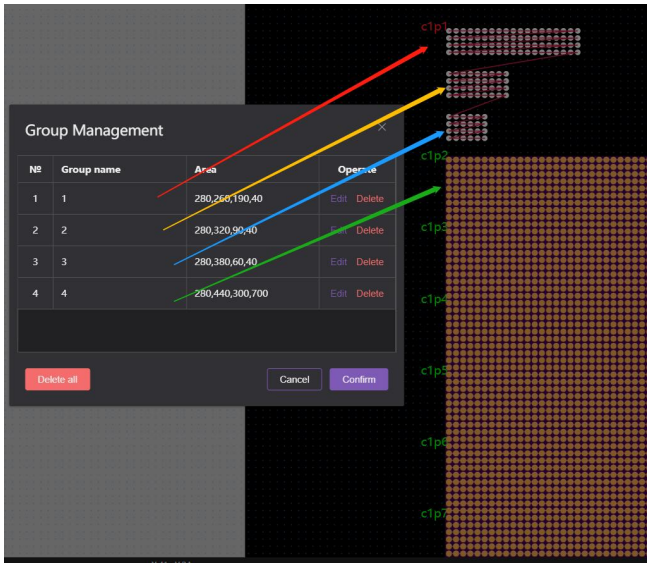
Vertical represents the number of light fixtures.



4、Manage light fixtures with sub-window management:

Set up a control window for each type of light fixture, defining the area for placing points.

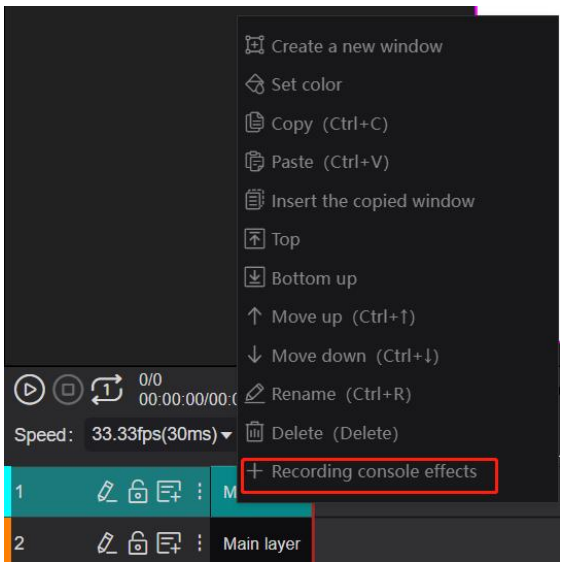
Method 1: Use the grouping function of MAP4 to group light fixtures by category after wiring is completed. Refer to '7.3.3 Grouping Function' for how to group. In the program list of the 'Effect Editing' interface, use the program that creates the wiring preset window; the newly created program will automatically include the preset windows set by group, making this method quicker for setup. Refer to '3.2.1 Edit Program' for an introduction to creating wiring preset windows.



Method 2: Directly create multiple windows in the program of the 'Effect Editing' interface.

4. Select the 'Recording Console Effects' function:

Select a window individually, right-click in the 'Main layer' position, and choose 'Recording Console effects'.



5. Record data and generate effect files:

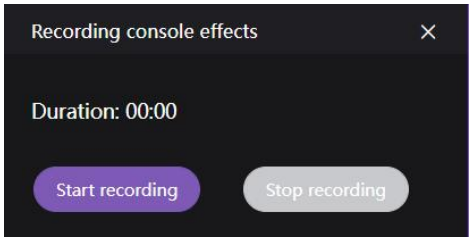
1) Select the appropriate communication network card, set the parameters for the third-party console, and ensure the number of channels for the fixtures is consistent.

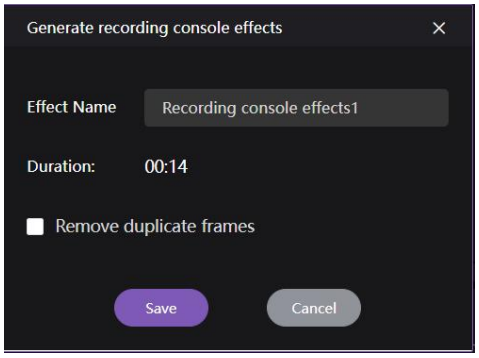
2) Click 【Start Recording】, adjust the channel values in real-time on the third-party console, and calculate the recording duration in real-time.

3) After the console effect has finished playing, click 【Stop Recording】, and a popup will prompt you to enter the name of the effect generated from this recording.

"Remove duplicate frames": When checked, it will automatically trim the useless repeated frames at the beginning and end of the effect.

3) Click【Save】to generate a .dmx suffix effect file in the main layer of this window; if you click 【Cancel】, it will clear this effect file, allowing you to continue recording again.

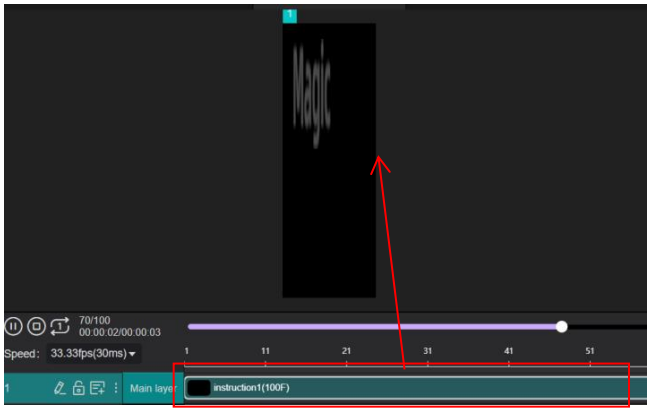




6. Preview Effect Playback:

Clicking play will preview the recorded effect; the preview playback screen will display a watermark, but the actual output to the controller will not have a watermark. You can freely adjust the order of effect files on the timeline, etc.

Double-click the material segment name to enter the other parameter settings for this effect.



3.5. Timeline Editing Panel

View and arrange all windows and material content within a program. The timeline is horizontal for materials and vertical for windows. Freely adjust the playback time position, overlay method, and editing operations for materials. During program playback, you can see the specific material corresponding to the current playback position.

Program's Timeline Editing Panel : Window -> Layers (Main Layer / Overlay) -> Materials

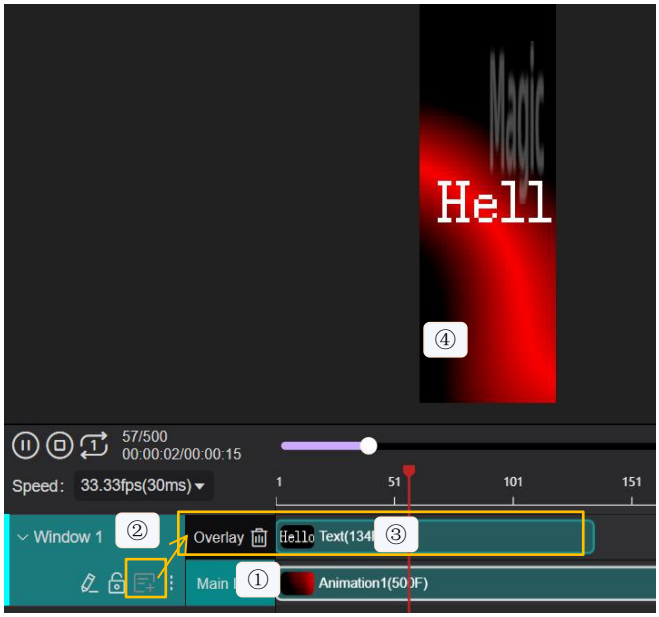
3.5.1. Usage of Main Layer and Overlay

Layers of the window : By default, there is only one main layer in the window. You can manually add an overlay layer. The main layer and overlay form an overlay relationship, with the main layer at the bottom and the overlay at the top. You can add multiple materials (up to 30) on the layers and play them in order. The ability to freely move the position of materials allows for overlapping parts between two layers, creating overlays. Combined with the 'overlay type' of the overlay layer, this enables the creation of rich and diverse overlay effects.

1) Main layer : The main layer serves as the main line for window materials, with materials closely connected, resulting in no overlaps or gaps between frames.

2) Overlay layer : This is the top layer of the window, where there can be gaps between materials, and the playback time can be changed by moving them freely, but materials cannot overlap.

Using the example of creating an overlay effect with text and a starry background to introduce the main layer and overlay layer:



① Add material to the main layer: Click on the 'Main Layer' in the window to add a background effect, then click the menu 【Import Video】 to add a star video, and you will see the video segment displayed in the main layer;

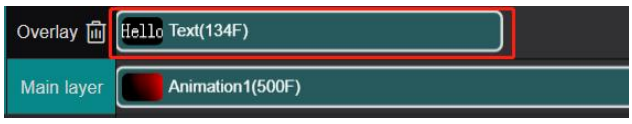
② Add a new overlay layer: Click on the 【】 in the window to add a new overlay layer, which will create an overlapping effect with the main layer;

③ Add material to the overlay layer: Click on 'Overlay Layer' to add upper layer materials, then click the menu 【Text】 to add a text material, and you will see the text segment displayed in the overlay layer. You can move the segment to adjust the position of the text; double-clicking the text material segment allows you to set the overlay mode.

④ **Preview Play:** See the overlapping parts of materials between the two layers forming an overlay effect, with text appearing on the star video.

Delete Overlay: Click 【】 to delete the material inside as well.

3.5.2. Material Editing (Material Attributes)



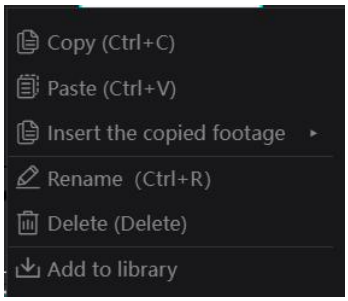
Material Segment : **Represents the added material** , the length of the segment is the frame count length of the material. The functional operations are as follows:

1) Move Position:

①Main Layer Move Material: Click on the material segment to move left or right, which can only swap

the position order with the materials before and after.

②Overlay Layer Move Material: Click on the material segment to freely move left or right on the timeline, allowing for blank delay frames, and move arbitrarily to change the playback time position.



2) Add to Material Library:

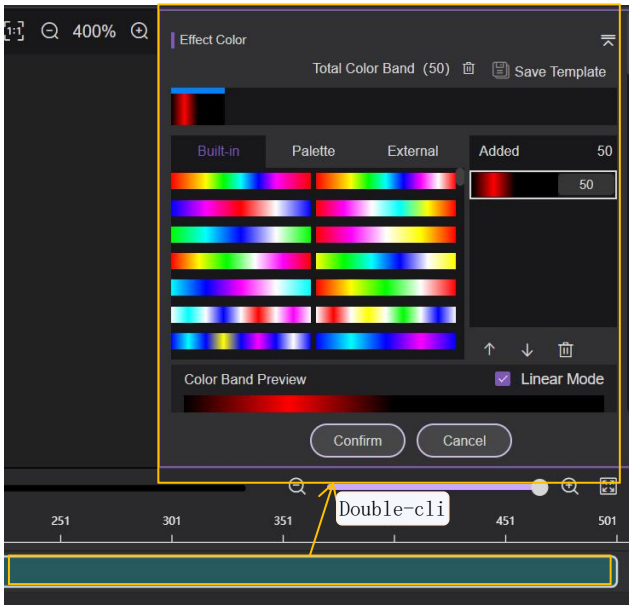
Convert the material to an swv effect file and add it to the material library for reuse in different projects.

3) More functional operations:

Right-click on the material segment to bring up a menu for operations such as 'Copy', 'Paste', 'Insert the Copied footage', 'Rename', 'Move Up/Move Down', 'Rename', 'Delete', etc.

4) Secondary modification of material attribute parameters:

Double-click on the material name segment that needs editing to enter the editing state of the current material. The 'Material Editing Panel' will appear in the upper right corner, displaying the parameter settings for the material, allowing for secondary modifications. As shown in the right image, after modifying the parameters, click save to update.



For detailed attribute parameters of 'Advanced Effects' and 'Text', please refer to the specific chapter on 'Adding Materials'.

Parameters for swv material files such as "Built-in effects", "Screen record", " Library", and "Import Video" are shown in the table below:

Property		Description
	Effect Name	Display and modify the name of the current material file.
Basic Properties	Fill Method	Set the method for the window to read the material file, providing options of "None", "Tile", "Center", "Stretch", "DIV", with the default being "Stretch".
	Playback Method	Set the playback method of the material. If "Play by Video Frame Count" is selected, the complete material will be played; If "Play by Video Duration/Custom Playback Duration/Custom Playback Speed" is selected, the playback of the material may experience slow or fast playback, with the default option being custom playback speed.
	Zoom Ratio	Set the scaling ratio for video dimensions.

Frame Count Clip	Start/End Frame Count	Display and set the start/end frames of the current material clip.
Size Crop	Position X/Position Y	Display and set the starting coordinates for the material file extraction.
	Width/Height	Display and set the width/height to be retained from the material file extraction.
	Visual Editing	Click to pop up the 'Crop Area Settings' dialog box to perform visual operations on the size settings of the material file, which are interlinked with the parameters related to size cropping above.
Overlay	Overlay Type	Provides 11 types of blend modes, affecting the color channel blending between the overlay file and the main layer material, defaulting to 'Black Transparent'. (Only supported for overlay layers)

The options for overlay blending types are described in the table below:

Options	Description	Channel Color	Example Demonstration
Black Transparency	Find color information within each color channel. When the channel color is 0 (i.e., pure black with RGB all at 0), the channel becomes transparent, allowing the underlying image to be displayed through the transparent area. The areas where the channel color is not 0 (i.e., where RGB is not all 0) will overlay the underlying image with their original color. (Default option)		
Overlay	It's like stacking two transparent images together on a glowing table. The result of multiplying the values of two colors and dividing by 255 gives the final color value. Typically, the color produced by this mode is darker than either of the original two colors. Any color combined with black in overlay mode will still result in black, while any color combined with white will retain its original color. Combining with other colors will produce an effect similar to being illuminated by that color in a dark room.		
Transparency Overlay	The 'Transparency Overlay' effect does not display when there is no data position (opacity is 0%), and it only displays when there is a data position (opacity ≠ 0%). It is commonly used for displaying text and images; when there is content in the text and image positions, it displays normally. PNG		

Options	Description	Channel Color	Example Demonstration
	format images with an opacity of 0% can also use this mode, where the transparent parts of the image become transparent. 'Transparency Overlay' and 'Black Transparency' have similar effects when displaying text and images. However, when the text font has pure black RGB values of 0,0,0, 'Transparency Overlay' will display normally, while 'Black Transparency' will not display black text.		
Screen	The result of the effect is exactly the opposite of 'Overlay'; it multiplies the values of the complementary colors of the two colors and then divides by 255 to obtain the final color value. Typically, the colors after applying the screen mode are lighter. Any color combined with black remains unaffected; any color combined with white results in white; while combining with other colors produces a bleaching effect.		
Darken	Find the color information within each color channel, and compare the base color and the drawing color pixel by pixel. The darker color is taken as the final color of the image, meaning the darker of the two colors is chosen as the final color. Colors that are lighter than the base color are replaced, while colors that are darker than the base color remain unchanged.		
Brighten	View the color information of each channel and compare two colors pixel by pixel to determine which is brighter; the brighter color will be used as the final color for that pixel, effectively taking the brighter of the two colors as the final color. Colors in the drawing that are brighter than the background color are retained, while colors that are darker than the background color are replaced.		
Overlay	A blend similar to 'Overlay' and 'Color Mode', it makes the bright parts brighter and the dark parts darker. On the basis of retaining the brightness variations of the background color, the drawing color is overlaid on the background color, while preserving the		

Options	Description	Channel Color	Example Demonstration
	highlights and shadows of the background. The color of the background is not replaced, but rather blended with the drawing color to reflect the highlights and shadows of the original image. Using this mode can enhance the saturation and contrast of the background image, making it appear more vibrant.		
Soft Light	The Soft Light mode can brighten or darken the image, depending on the brightness of the drawing color. If the drawing color is brighter than 50% gray, the background image will brighten. If the drawing color is darker than 50% gray, the background image will darken. If the drawing color is pure black or pure white, the final color will not be black or white, but will be slightly darker or lighter. If the background color is pure white or pure black, no effect will be produced.		
Strong Light	The strong light mode can brighten or darken the image, depending on the drawing color to determine whether to execute the 'Overlay' or 'Screen' mode. When the drawing color is brighter than 50% gray, the background color becomes lighter, executing the 'Screen' mode, which is very helpful for enhancing the highlights of the image; When the drawing color is darker than 50% gray, the background color becomes darker, executing the 'Overlay' mode, which can enhance the shadows of the image. When the drawing color is pure white or black, the result is pure white and black.		
Bright Light	Adjust the color by increasing or decreasing the 'Contrast' based on the drawing color, deepening or lightening the color. If the drawing color is brighter than 50% gray, the image is illuminated by reducing the contrast; if the drawing color is darker than 50% gray, the image darkens by increasing the contrast.		
Overlay	No blending processing, only displaying the layer itself		

3.5.3. Timeline Function

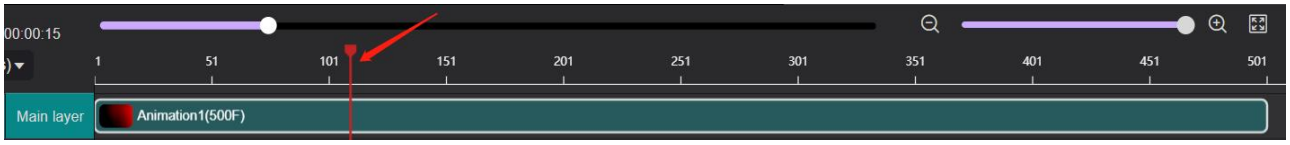
Frame Count Ruler : By zooming and moving the frame count ruler, you can change the display size of the material segments, allowing for more accurate positioning and manipulation of the frame count.

Icon	Property	Description
	Adjust Ruler	Sliding left shows smaller frame intervals on the frame count ruler, while sliding right shows larger frame intervals.
	Zoom In/Out Ratio	Shrink/expand the current frame count ruler by a certain ratio.
	Maximize Ratio	One-click to maximize the display of the ruler, showing all material segments.

Cursor : View the animation frame at a specific moment.

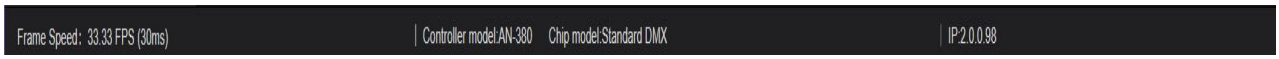
The operation is as follows:

In the program playback state, move the cursor left or right to locate a specific frame, the playback progress bar will pause immediately, and the frame image located by the cursor will appear in the 'Playback Window'. Click 【▷】 to start playback from this frame image.



3.6. Status Bar

Displays the project settings status information, including the actual frame rate of the project being played, hardware information such as the controller and chip, IP address, and other information.

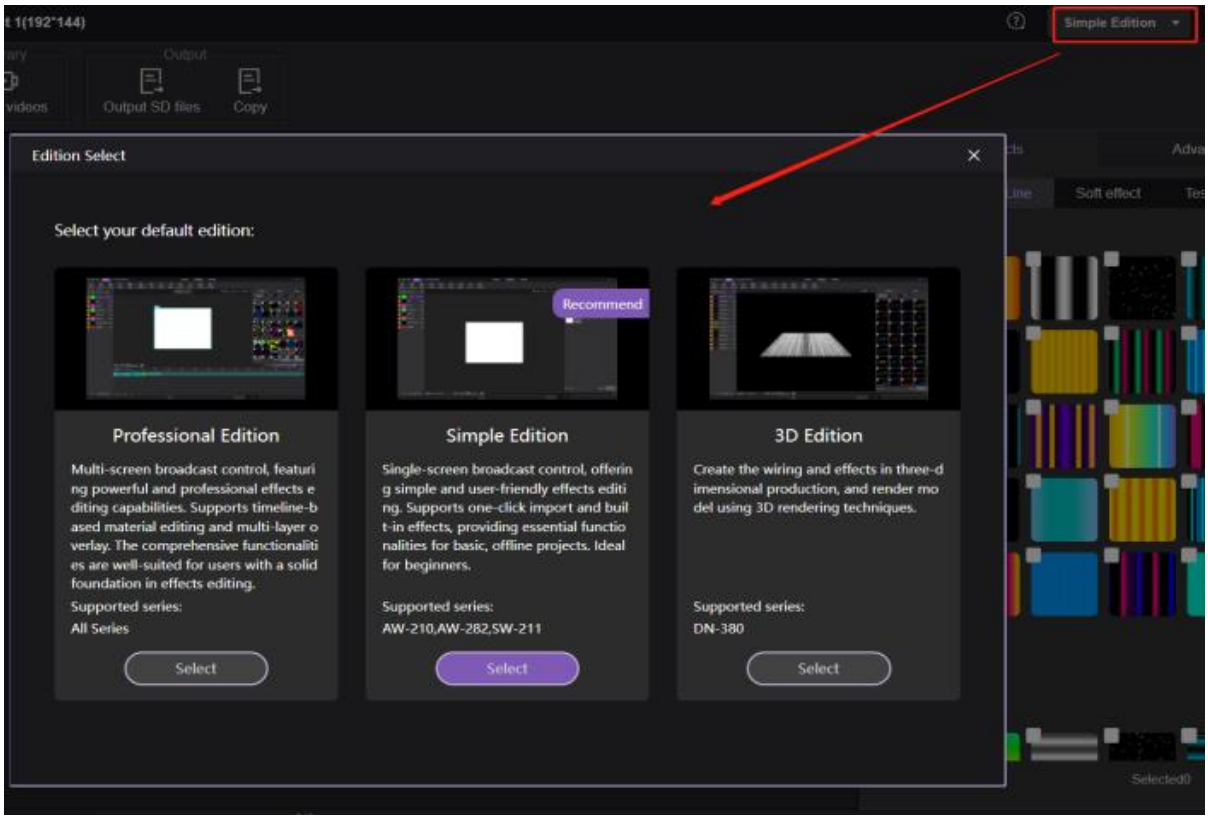


Property	Description
Frame Speed	Displays the current project frame rate, showing the frame per second unit and ms unit.
Hardware Information	Displays the model of the current project controller and chip model, corresponding to 【Hardware Information】.
IP address	Displays the IP address of the currently selected network card.

3.7. Switch broadcast interface version.

Magic Player supports three interface versions: Professional Player, Simple Player, and 3D Player, allowing for mutual switching. Click the upper right corner of the main interface; the popup will show the introduction of each player and the supported controller models. Click 【Select】 to open the interface.

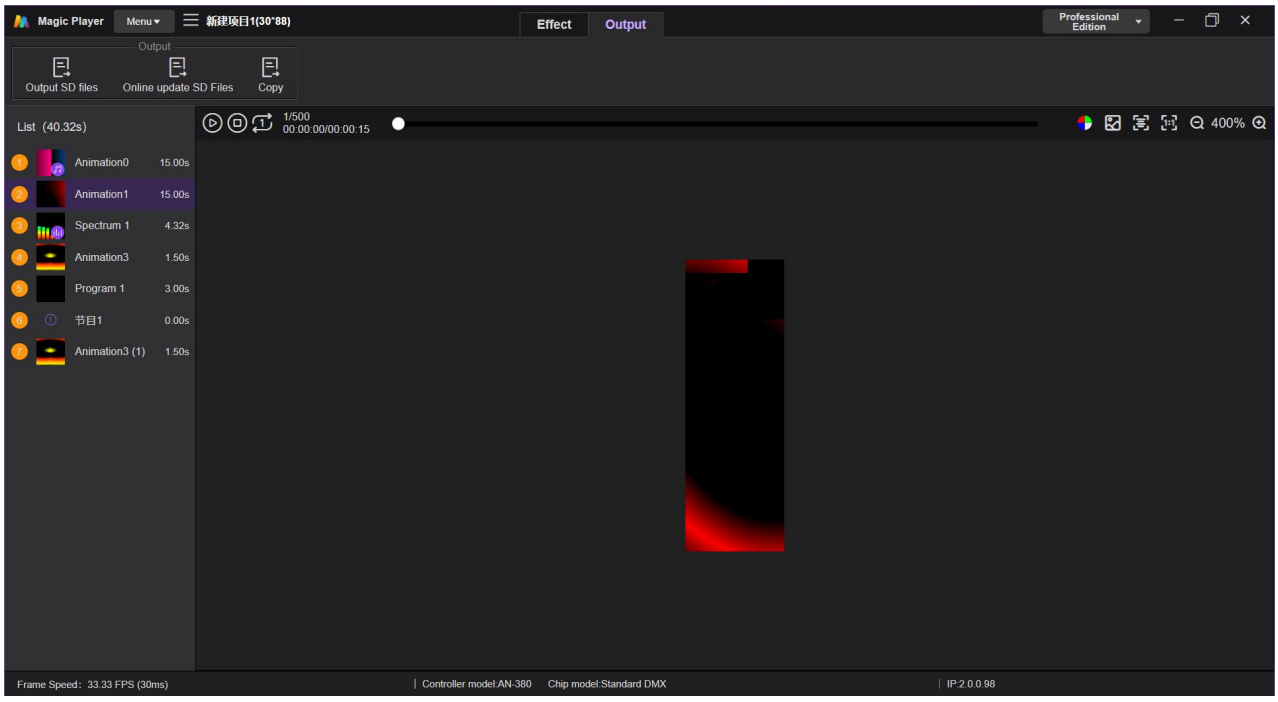
Note: If the hardware model of the current project does not support switching to other version interfaces, it will prompt to create a new project. Simple version projects can switch to Professional version.



4. Output playback page functions and basic operations.

Mainly focus on switching program playback and real-time control of output status. For detailed playback, see '3.3.2 Animation Preview Playback.'

Control the master switch for online time control: Enable this function to enter timed control mode, playing the program content triggered by the current time; otherwise, it is real-time control (offline projects do not have this setting). For editing the time control list, see '6.8 Time Control List Settings.'



5. Common menu functions

5.1. Project functions

Click 【☰】 to perform the following functions:

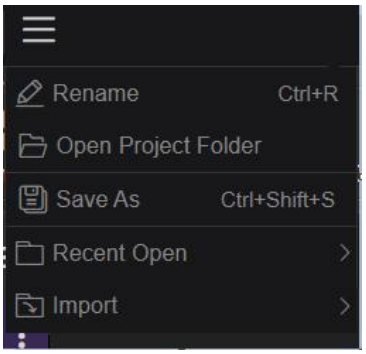
【Rename】: Modify the name of the current project.

【Open project folder】: Open the folder where the current project is located to view file information.

【Save as】: Create a copy of the current project.

【Recently open】: Display the recently opened projects; click to quickly open the recent project.

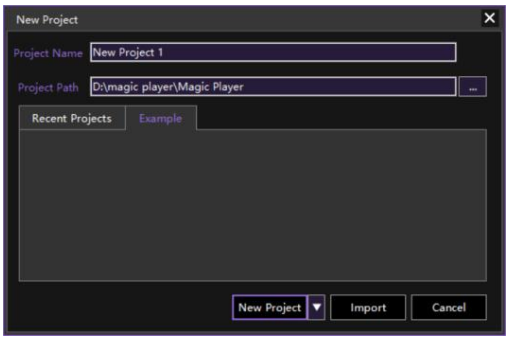
【Import】: Import an existing project file (.sproj) or a project folder containing the SET folder.



5.2. New project

By default, when the software is opened for the first time, a new project window will pop up,

or clicking on 【New Project】 under the Effect Editing page menu will also open it.



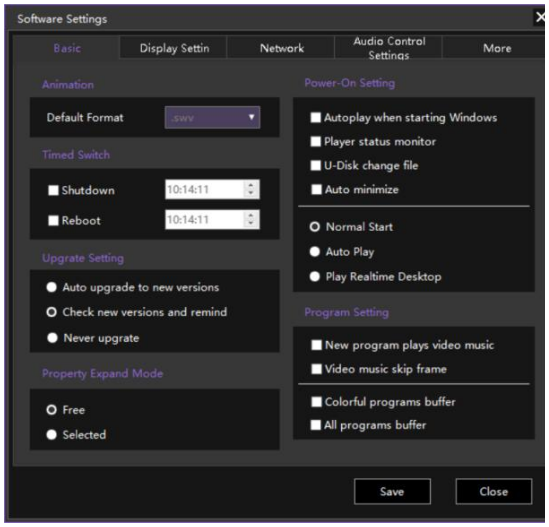
Project Name:	Set the name of the project, with a default project name.
Project Path:	The location of the project file.
Recent Projects:	Displays a list of recently opened project paths; click to switch and open.
Import Project:	To import another project, click the 【Import】 button.
Example:	Our company provides some built-in example projects, which users can refer to in order to understand how to create effects.
New project	That is, create a custom wiring project by freely wiring with the MapTool4 wiring tool, and set anisotropic wiring.
Create a new quick wiring project	Rule-based rectangular wiring provides 16 commonly used wiring methods in projects for quick wiring creation.

5.3. Software Settings

Set the software parameters for the project, including: Basic Settings, Display Setting, Network Settings, Audio Control Settings, More Settings, etc.

Click on the 【Setting】 page - Common Menu 【Software】 to open the interface.

5.3.1. Basic Settings



Basic settings of the player.

Timed Switch: Choose 'Shut down the computer' or 'Restart the computer' as needed, and the computer will shut down or restart at the specified time. Offline systems do not support this application. (Note that if both 'shutdown' and 'restart' are set, the PC will not automatically restart after shutting down.)

Auto upgrade to new versions: After clicking, the software will automatically update to the latest version by default when connected to the internet.

Check new versions and remind: After clicking, a popup will appear by default when connected to the internet to ask if you want to update to the latest version of the software.

Never upgrate: After clicking, the software will no longer check for version upgrades by default when connected to the internet.

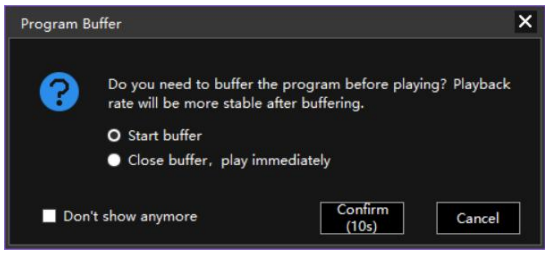
New programs plays video music: After checking, the imported video programs will default to enable 'Play Video Audio' in 'Program Attributes' to automatically

play the original video sound.

Video music skip frame: By default, all video original audio plays according to duration; after checking, the video original audio will play frame by frame according to the actual frame rate, but there may be popping sounds, use with caution.

Colorful programs buffer: Converts programs containing advanced effects into buffer files, which can significantly improve playback performance. After checking, when you click the 【Output】 play button, it will prompt whether to buffer the program. Selecting 'Wait for buffering, no other operations allowed' will start buffering. Wait for the √ to appear in the lower left corner of the program icon, indicating that the program has completed buffering. You must wait for all programs to finish buffering before playback starts automatically; selecting 'Do not buffer, play directly' will cancel buffering and play directly. You must select 'Program' or 'Project node' to play the program in 'Buffer' mode.

All programs buffer: Converts all programs into unique buffer files. After manually checking this option, when you click the 【Output】 play button, it will prompt whether to buffer the program. The functionality is consistent with the 'Advanced effects program background buffering' mentioned above.



*Note:

1. Due to changes in program content requiring re-buffering (only buffering modified programs), please try to output playback for buffering after the playlist is set.
2. Detected changes in material brightness, overall brightness changes, or channel order modifications, re-buffering is required.
3. If the project wiring is updated, re-buffering is required.
4. If effect files are replaced in the RGB folder, the player needs to be manually restarted for re-buffering.
5. When the remaining disk space of the project is less than 2G, buffering cannot be performed.

Autoplay when starting Windows: After checking, the computer will automatically open the software every time it starts, with a default startup delay of 10s (the StartupTime parameter in LED.ini can be modified to change the startup delay). (You need to set the computer's security settings to the lowest.)

Player status monitor: Check this box to periodically monitor whether the software is running normally.

Auto minimize: Check this box to automatically minimize the window when the software is opened.

5.3.2. Network Settings

When the computer directly outputs control to the Ethernet distribution controller, connect the computer to the distribution controller with a network cable, and follow the settings below to allocate the subnet for real-time project playback.

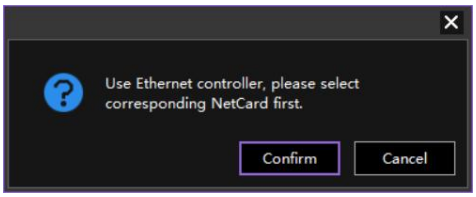
The operation is as follows:

1. Ensure that the computer has a network card with a network cable interface, and connect the computer to the controller with a network cable.

View network card: Computer (right-click) - Properties - Device Manager - Network Adapters.

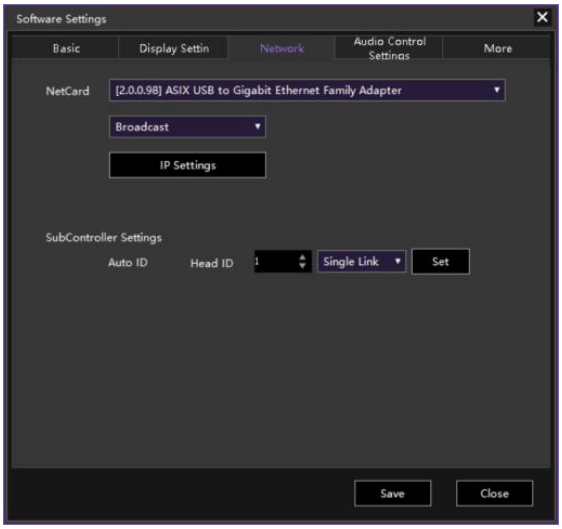
2. Select network card

① After creating a new project, a prompt will pop up to set the network card form, click 【Confirm】; You can also open 【Setting】 - Common Menu 【Software Settings】 - 【Network Settings】.



② Select the network card from the dropdown and click 【Save】.

If the network card has not been assigned an IP, please click 【IP Settings】 to set the IP address of the network card.

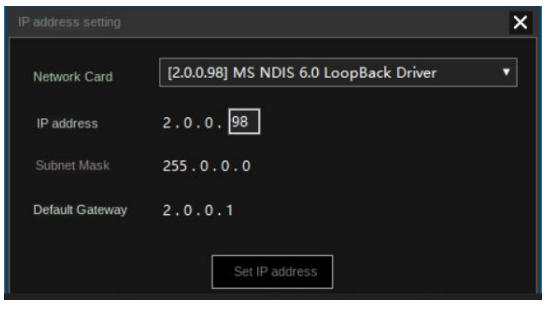


3. IP Address Settings

One-click to set the computer's IP address.

Click 【IP Settings】, in the pop-up window select the wired network card connected to the Ethernet controller, and click 【Set IP address】 to modify the computer's IP address with one click;

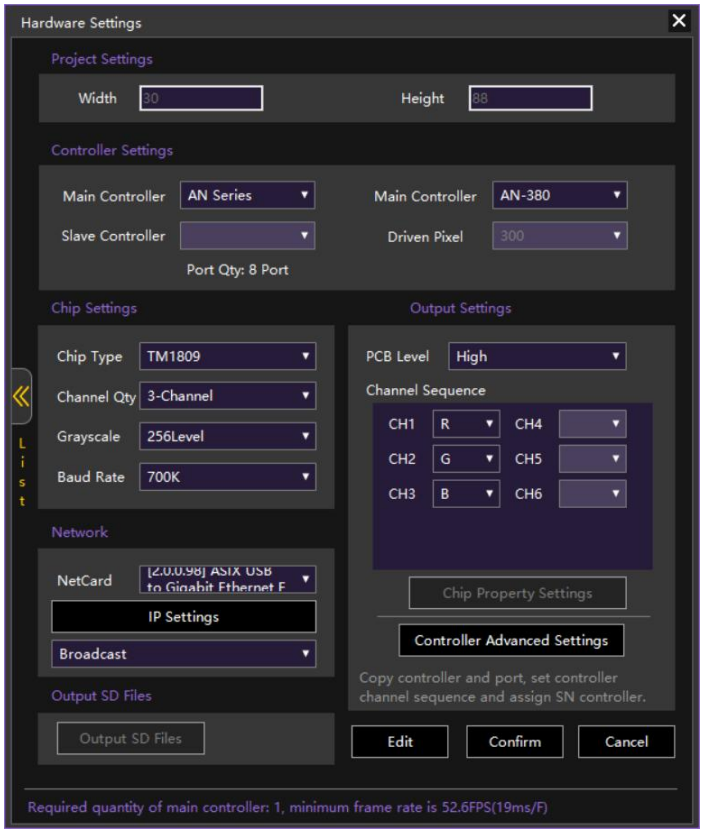
Due to the special nature of saving files on the computer, it is recommended to save the files and restart the computer to retain the newly set static IP.



5.4. Hardware Information

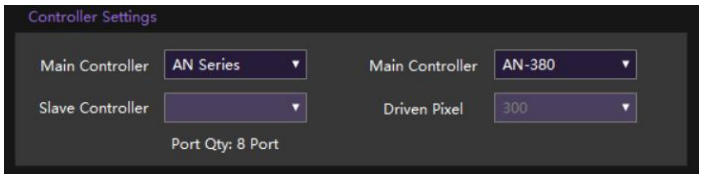
According to the actual project requirements, view and set parameters for controllers, chips, outputs, etc., including network settings and output SD file selections, making it convenient for users to set all information in one go. Additionally, different ID controllers can have their

chip types and channel sequences set separately, and multiple different channel counts and sequences can be configured for the same controller in online projects and SN projects.
Click on the 【Setting】 page - Common Menu 【Hardware】 to open the interface. (Supports multi-selection controller methods using shift key, ctrl key, etc.).
Note: If you are using a project with the MAP4 wiring tool, when modifying parameters in this interface, if the maximum channel number exceeds the limit, or if the number of ports is inconsistent when switching controllers, you need to enter the MAP4 interface to make modifications by clicking 【Edit】.



5.4.1. Controller Settings

View and set the controller type, model, and number of driver points.



Main control/sub-control type and model: Choose based on the actual situation of the project.
Number of driver points: Fill in the number of driver points for the output ports according to the actual needs of the project. If wiring has been done using the MAP wiring software, this section is read-only. To modify the number of driver points, enter the MAP software for modifications.
Supported Master and Slave Controller Types Overview:

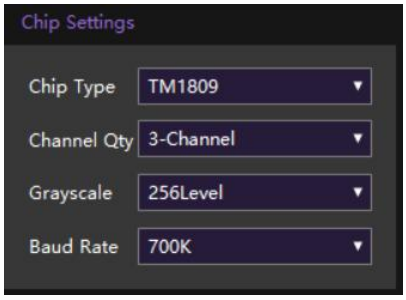
Master Controller Type	Master Controller	Slave Controller	Special Instructions
PC Series	PC	AN-280	
AN Series	AN-800	AN-280、AN-380	
	AN-380		

Master Controller Type	Master Controller	Slave Controller	Special Instructions
	AN-482		The last port is fixed to output DMX data
AW Series	AW-210		
	AW-212		
	AW-282		
	AW-242		Output file size cannot exceed 238M
SY Series	SY-328		
	SY-324		
SW Series	SW-211		
AP Series	AP-383		
DN Series	DN-380		

5.4.2. Chip Settings

Select the corresponding chip and baud rate according to the chip structure and requirements of different manufacturers used in the project.

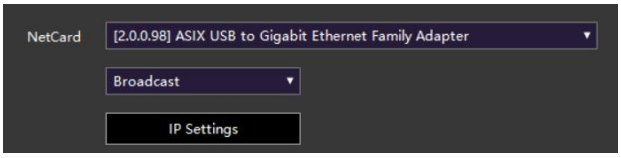
*Grayscale should be set according to the light fixture itself and project needs. Generally, the higher the grayscale, the more delicate the color, but the number of points that each channel of the master controller can handle decreases.



5.4.3. Network Settings

In online status, select the output network card. This function can also be set under 【Software Settings】 - 【Network Settings】.

See section 5.3.2 Network Settings for details.

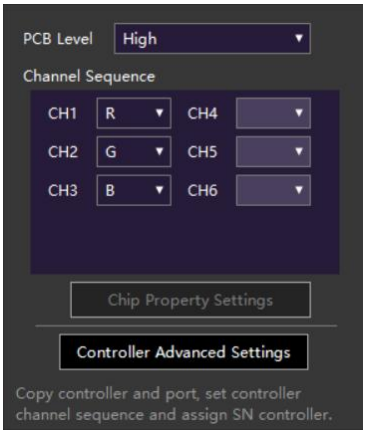


5.4.4. Output Settings

Set the effective level and channel order for output.

PCB Level: Set whether the low level or high level is effective when outputting; the default is high level, and it is not recommended for customers to adjust it themselves.

Channel Sequence: When the actual order of the light fixtures is not in red-green-blue order, it can be converted by setting their positions.



Controller Advanced Settings A quick button is provided to set: controller copy, port copy, controller channel order, AN series partition parameters; this function can also be set under 【Settings】 - 【Controller】.

Chip Characteristics Settings：If the selected TTL chip supports chip characteristics and allows modification of current gain, click the 【Chip Property Settings】 button on the 【Hardware】 interface to enter the interface and set the corresponding parameter output.

5.5. Light Fixture Addressing (Online)

5.5.1. Addressing Operation

In the online system, address DMX light fixtures. Click on 【Effect Editing】 - Common Menu 【Address】.

1. Hardware Information

Controller	The software automatically displays the number of controllers used in the project; 【Online】 indicates that this controller is properly connected; 【Offline】 indicates that this controller will not be able to address light fixtures; If the controller is grayed out, it means that the chip driven by this controller is not a DMX series chip. To modify, set it in【Settings】-【Hardware Settings】.
Chip displayed in gray	Chip address exceeds the actual wiring address range of the project; the exceeded chip will not be able to use the 'Illuminate Selected Chip' function.
Chip	Displays the number and address information of chips; a maximum of 960 chips can be connected to one port.
Online Debug	Click to quickly pop up the 'Online Debugging' interface for use.

2. Chip Address Data Settings

Chip Qty	Defaults to the number of driver points set in 'Hardware Settings'; you can input a quantity or manually modify it progressively.
Chip Type	Defaults to the chip set in 'Hardware Settings'.
Channel Qty	Defaults to the number of channels set in 'Hardware Settings'.
Address Mode	Two types: 'Regular Addressing' and 'Self-Channel Addressing'.
Address Mode	'Not Selected', 'Address Sequential', 'Use Same Address'; defaults to 'Address Sequential'; Not Selected: Indicates that when saving the current chip address parameters, the addresses of other chips will not be correspondingly changed. Address forwarding: Indicates that when saving the current chip address parameters, subsequent chips will automatically change according to the originally set channel values. Use the same address: Indicates that when saving the current chip address parameters, all chips will have the same address.
Address	Select a single chip to set its address. After filling in the address, the 'Chip List' will automatically update. (Note: Please do not enter a value that exceeds the 'Total Number of Chips' to avoid output anomalies.)
Segments	Select a single chip and click to set the number of segments/pixels driven by this chip. After selecting the number of segments, the 'Chip List' will automatically update.

3. Addressing and Writing

Quick Addressing	Quickly write addresses to all controllers, most commonly used.
Advanced Addressing	Provides more addressing methods.
Intelligent Addressing	Provides more addressing methods.

Applied Checked controller.	Click to save the address data of all ports of the selected controllers.
Address Current Port	Only the selected port can be used; after clicking, write the address of the light fixture connected to the selected port.
Address Current Controller	Only the selected controller can be used; after clicking, write the address of the light fixture connected to the selected controller.
Address Checked Controllers	Only the selected controllers can be used; after clicking, write the addresses of the light fixtures connected to the selected controllers.
Address All Controllers	Can be used at any time; after clicking, write the addresses of the light fixtures connected to all controllers (if the controller is offline, it cannot correctly receive software data).
Light selected chip	When this function is checked, selecting a chip will cause the software to calculate and light up the light fixture driven by the chip based on the chip address data in the chip list. Please ensure that the software data matches the actual light fixture addresses. If consistency cannot be guaranteed, it is recommended to write the light fixture addresses once before lighting them up (if the chip address data does not match the actual light fixture addresses, the lit lights will not match the requirements). You can change the color of the lit chip and the background color.

4. Send write address data

When writing the address, a progress bar window displaying 'Sending data to the controller' will pop up. Clicking 【Cancel】 will cancel the write address operation;

When the 【Address Complete】 window pops up, it indicates that the AN controller has received the address data and sent the corresponding data out to perform the light fixture addressing. It should be noted that this prompt does not indicate that the light fixture addressing was successful; whether the light fixture addressing was successful still needs to be determined based on the actual light color of the fixture.

5.5.2. Addressing Result Phenomenon

Light Fixture Chip	Power-On Self-Test Color	Address		Normal (Field + No Signal + Power-On)		Current Parameters		Self Channel Parameters	
		First Light	Remaining Lights	First Light	Remaining Lights	First Light	Remaining Lights	First Light	Remaining Lights
UCS512A	White	Blue	Blue	/	/	/	/	/	/
UCS512A1	White	Blue	Blue	/	/	/	/	/	/
UCS512A2	White	Blue	Blue	/	/	/	/	/	/
UCS512B3	White	Blue	Blue	/	/	/	/	/	/
UCS512C	Pin Selection	White	White	/	/	/	/	/	/
UCS512C0	/	White	White	/	/	/	/	/	/
UCS512C3	Custom	White_25%	White_25%	Red_25%	Red_25%	/	/	/	/
UCS512C4	Custom	White_25%	White_25%	Red_25%	Red_25%	/	/	/	/
UCS512CN	Custom	Yellow_22%	White_22%	Yellow_22%	Power On Color	/	/	/	/
UCS512D	Custom	Yellow_22%	White_22%	Yellow_22%	Power On Color	Yellow_22%	Red_22%	/	/
UCS512E0	Custom	Yellow_22%	White_22%	Yellow_22%	Power On Color	/	/	Yellow_22%	Green_22%
UCS512EH	Custom	Yellow_22%	White_22%	Yellow_22%	Power On Color	Yellow_22%	Red_22%	Yellow_22%	Green_22%

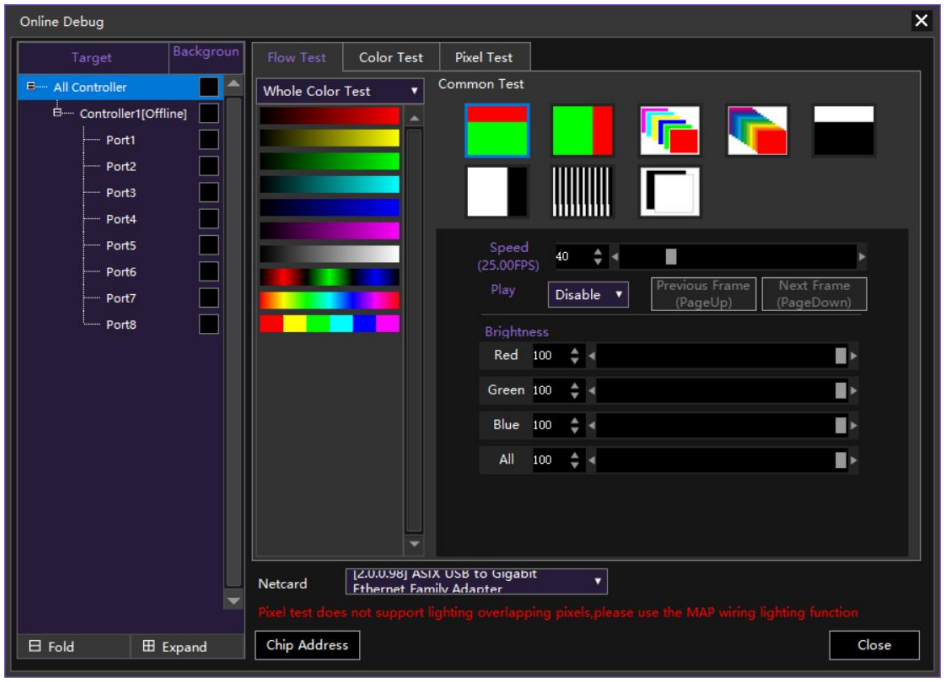
Light Fixture Chip	Power-On Self-Test Color	Address		Normal (Field + No Signal + Power-On)		Current Parameters		Self Channel Parameters	
		First Light	Remaining Lights	First Light	Remaining Lights	First Light	Remaining Lights	First Light	Remaining Lights
UCS512G4	Custom	Yellow_22%	White_22%	①White_22% ②Red_22% (Turn on automatic coding) ③Yellow_22% (Turn off automatic coding)	①White_22% ②Red_22% (Turn on automatic coding) ③Yellow_22% (Turn off automatic coding)	White_22%	White_22%	/	/
UCS512G6	Custom	①Yellow_22% ②Red_22% (Parallel write address 0) ③Green_22% (Parallel write address non-0)	①White_22% ②Red_22% (Parallel write address 0) ③Green_22% (Parallel write address non-0)	①White_22% ②Red_22% (Turn on automatic coding) ③Yellow_22% (Turn off automatic coding)	①White_22% ②Red_22% (Turn on automatic coding) ③Yellow_22% (Turn off automatic coding)	White_22%	White_22%	/	/
DMX512AP	/	White	White	/	/	/	/	/	/
SM16512	/	Green	Green	/	/	/	/	/	/
SM16511	/	Green	Green	/	/	/	/	/	/
SM16520	/	Green	Green	/	/	/	/	/	/
SM16500	Custom	Red	Green	Red	Power On Color	/	/	/	/
SM17500	Custom	Red	Green	Red	Power On Color	Red	Yellow	Red	Purple
SM17512	Custom	Red	Green	Blue	Blue	/	/	/	/
SM17522	/	Red	Green	Red	Blue	Red	Yellow	/	/
SM18522	/	Red	Green	Red	Blue	Red	Yellow	/	/
SM18522PH	/	Red	Green	Red	Blue	Red	Yellow	/	/
SW-D	/	Yellow	Green	/	/	/	/	/	/
Hi512A4	Custom	Red_25%	Green_25%	Red_25%	Green_25%	/	/	/	/
Hi512A6	Custom	Red_25%	Green_25%	Red_25%	Green_25%	/	/	/	/
Hi512A0	/	White	White	White	White	/	/	/	/
Hi512D	/	Red_25%	Green_25%	Green_25%	Green_25%	Green_25%	Green_25%	/	/
Hi512E	/	Red_25%	Green_25%	Green_25%	Green_25%	Green_25%	Green_25%	/	/
TM512AB3	White	Blue	Blue	/	/	/	/	/	/
TM512AL1	White	Blue	Blue	/	/	/	/	/	/
TM512AC0	/	White	White	/	/	/	/	/	/
TM512AC2	Pin Selection	White	White	/	/	/	/	/	/
TM512AC3	Blue	White	White	/	/	/	/	/	/
TM512AC4	Blue	White	White	/	/	/	/	/	/
TM512AD	Blue	Yellow	White	Yellow	Power On Color	Yellow	Red	/	/
GS8511	/	Red	Cyan	/	/	/	/	/	/
GS8512	Custom	Red	Cyan	/	/	/	/	/	/
GS8513	Main light red, auxiliary light cyan	Red	Cyan	/	/	/	/	/	/
GS8515	Main light	Red	Cyan	/	/	/	/	/	/

Light Fixture Chip	Power-On Self-Test Color	Address		Normal (Field + No Signal + Power-On)		Current Parameters		Self Channel Parameters	
		First Light	Remaining Lights	First Light	Remaining Lights	First Light	Remaining Lights	First Light	Remaining Lights
	red, auxiliary light cyan								

5.5.3. Project debugging

In the online system, debug the lighting setup on-site, and assess the connection and transmission status of the lights and signals.

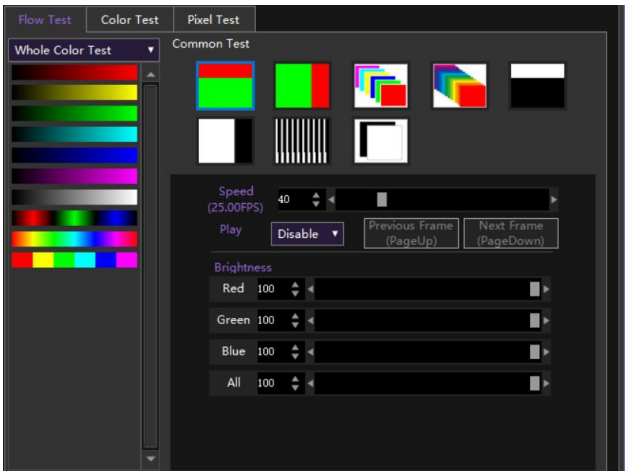
Click on the 【Effect Editing】 page - Common Menu 【Debugging】 to open the interface.

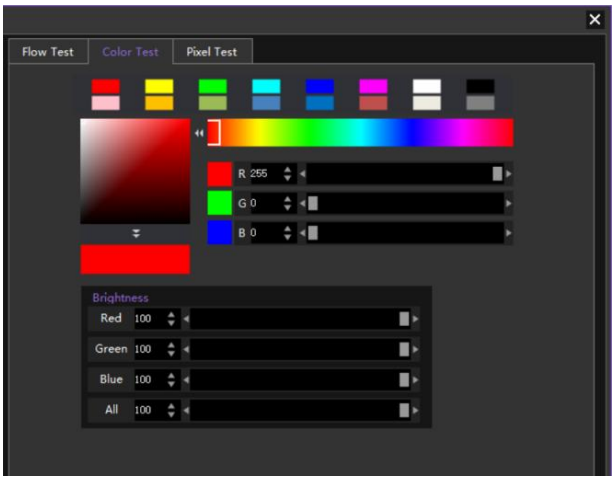
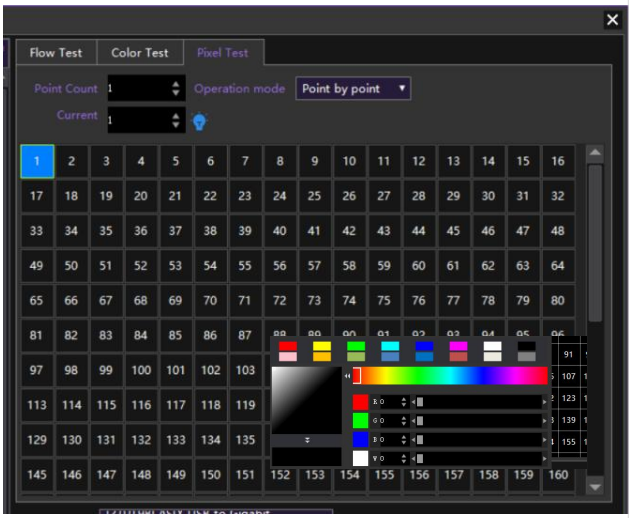


In the left-side 'Controller List', you can select the current controller and port for light debugging, set the background color of single-channel light fixtures, with the mouse focus representing the selected test content.

Click on 【Chip Address】 to quickly pop up the addressing interface, to be used in conjunction with 'Online Debugging'.

There are three testing modes: Flow Testing, Fixed Color Testing, and Light Point Testing.

Flow Test	Three types of color band tests and common test effects are provided to test the current controller and current port. Speed: The speed of the flow effect can be adjusted by dragging or pressing. Frame-by-Frame Playback: Enabling frame-by-frame playback allows the animation to pause at the current frame. Click 【Previous Frame】 to test the effect of the previous frame, and click 【Next Frame】 to test the effect of the next frame. Brightness: Drag to adjust the	

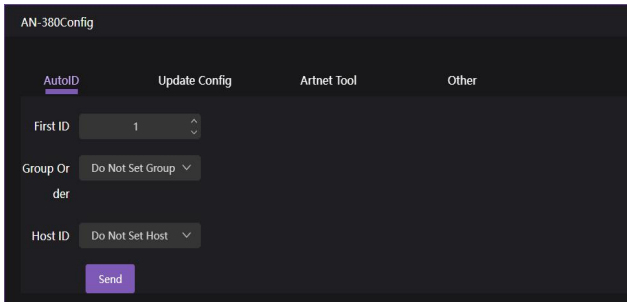
	brightness of 【Red】, 【Green】, 【Blue】, 【White】, and 【All】.	
Color Test	A specific solid color can be used to test the current controller and current port. Color Selection:  You can select a color for testing by selecting a specific color, clicking or dragging the color band  , or by dragging. Brightness: Drag to adjust the brightness of 【Red】, 【Green】, 【Blue】, 【White】, and 【All】.	
Pixel Test	Test whether the current controller/port's light points can be lit normally. Chip Segment Count: Set the number of segments/pixels driven by this chip. Current Light Point: The currently selected light point. Select the light point to be lit in the numeric table, with the maximum value being the number of drive points set during wiring. Verification Method: Options include 'Point-by-Point', 'Accumulation', 'Auto Point-by-Point', 'Auto Accumulation'. Point Color: Set the lit color of the current light point. Background Color: Set the background color for all light points on the current port. Overall Background Color: Set the background color for all controllers.	

5.6. AN-380/AN-482/AP-383 Configuration

5.6.1. Auto Generate ID

Click on the 【Effect Editing】 page - Common Menu 【AN-380Config】/【AN-482Config】 /【AP-383Config】 to open it.

In the 'AutoID' interface, set the first ID of the controller, click 【Send】, and wait.
If multiple devices are controlled by regions, you need to set:
Set group number: Set all controllers in the entire chain to the same group;
Set master control ID: Modify the master-slave status of controllers in the entire chain.
Note: Incorrect settings will affect the overall synchronization effect, please use with caution!
When configured successfully, the controller matching the 'Host ID' acts as the host, while all other controllers with different IDs are slaves, and all controllers in the same chain will automatically join the current 'group'.

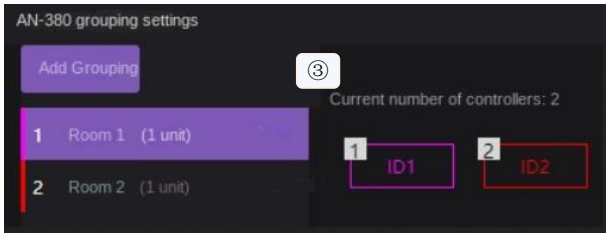


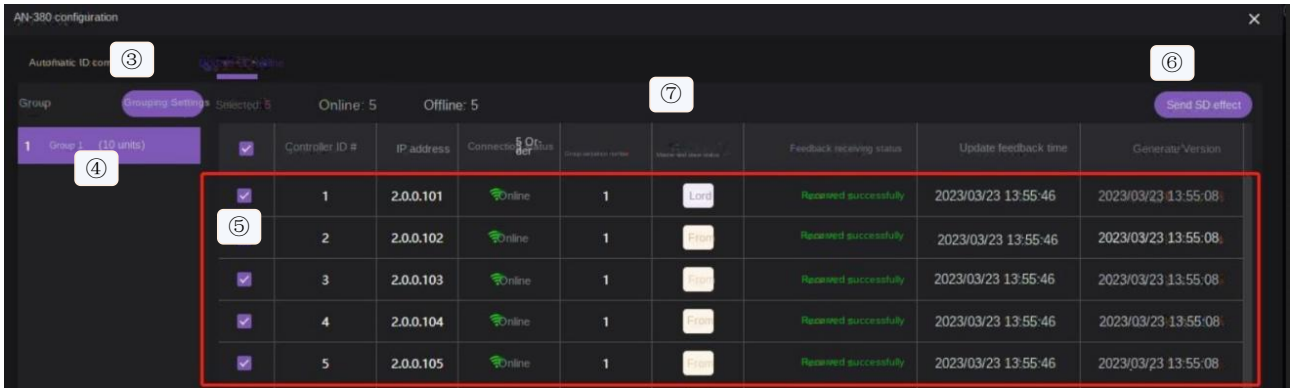
5.6.2. Online Update Settings

The player and the main controller are on the same local area network, allowing for online updates of SD effects and setting the DMX console starting address.
Click on the 【Effect Editing】 page - Common Menu 【AN-380Config】/【AN-482Config】 to open it.

5.6.2.1. Online Update SD Effects

Operation:
① Ensure that the project has generated SD files with effects, see '6.9 Output SD Files' for details;
② The computer should be properly connected to the AN-380 controller (the network card needs to be set to a fixed IP);
③ It is optional; if the hardware has set up link groups, it is recommended to use 【Group Settings】 for convenience. Set up groups in the software and assign device IDs, allowing for effect updates by group. For example, create a group for Room 1, assign Controller ID 1, create a group for Room 2, assign Controller ID 2, and then update effects in batches by room;
④ Select the group of controllers, and view the status information of the controllers in the group on the right list;
⑤ Only controllers with online status can be checked, multiple selections are supported;
⑥ Click 【Send SD Effect】 to send the updated effect file to the selected controllers;
⑦ Wait for the controller to feedback the status of the received file; if it shows reception failure, you can resend.

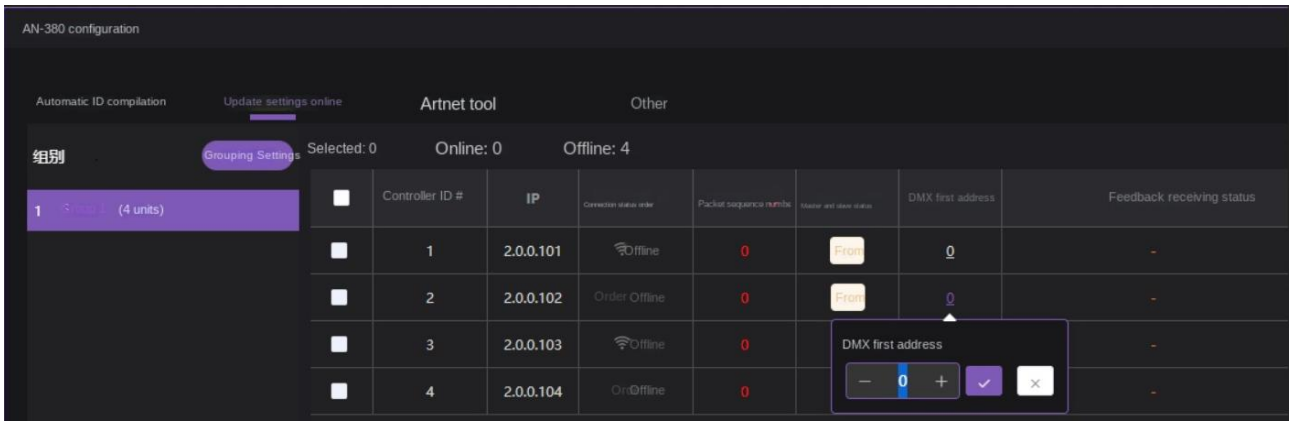




5.6.2.2. Set the starting address of the DMX console

Supports modifying the DMX starting address of the controller controlled by the DMX console offset channel value data.

When the device is online, the values reported by the hardware are displayed. After clicking on the DMX starting address cell, a pop-up will appear to modify the DMX starting address. Clicking '√' will confirm that this value is sent. After changing, retrieve the hardware reported display again.



5.6.3. Artnet Tool

Create a project through the software, automatically setting the controller parameters for the Artnet protocol.

Click on the 【Effect Editing】 page - Common Menu 【AN-380Config】 to open it.

In the 'Artnet Tool' interface, operate:

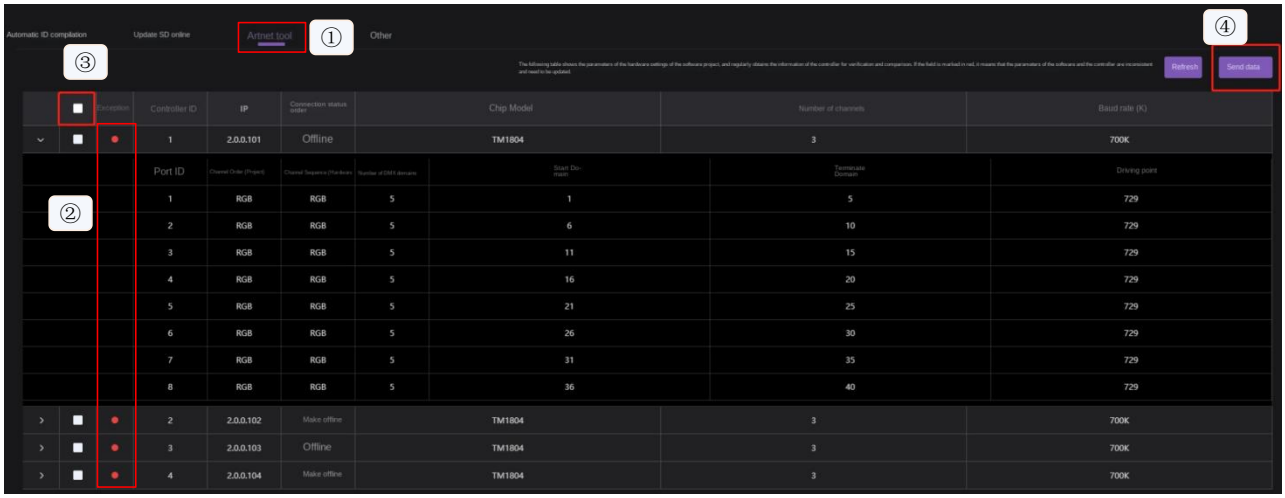
① After clicking the Artnet tool, the software automatically refreshes the data;

② After the data refresh, the software's parameters will be displayed, and a comparison will be made with the parameters obtained from the hardware at regular intervals. If the data does not match, a red status will be displayed;

③ Check the checkbox for the online status of the controller and click to send data;

④ Data will automatically refresh after successful sending, and a successful match will display a green status.

(Note: Ensure the controller's ID is correct before sending data, supports 1-4 channel light fixture operation sending.)



5.7. Color Adjustment

5.7.1. Program Color Adjustment

You can uniformly set the RGBW brightness gamma for the selected materials, making the effect files more aesthetically pleasing.

Adjusted materials will have their names displayed in blue, allowing you to view and reset them; to view the adjustment effects, click on the corresponding material in the 【Program List】.

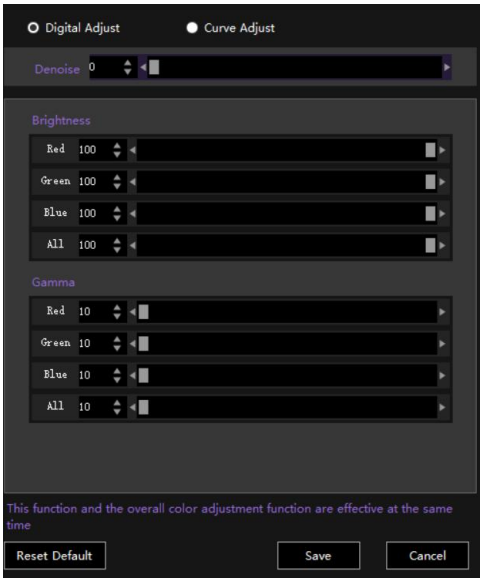
Click on the 【Effect Editing】 page - Common Menu 【Color Adjust】 to open it.

Noise reduction value: Setting this will filter out noise with pixel values below the set value, with a default noise reduction value of 0.

Digital Adjust

Brightness: Adjust the brightness of a specific color or the overall effect. By dragging 【 】, adjust the brightness of 【Red】【Green】【Blue】【White】 (four channels) 【All】 to change the color of the entire effect.

Gamma: Adjust the display gamma value of a specific color or the overall effect.



Curve Adjust

After clicking, you can make more advanced settings for the effect's colors, adjust the color of individual channels, and modify the grayscale curve relationship between input and output to better meet the desired requirements.

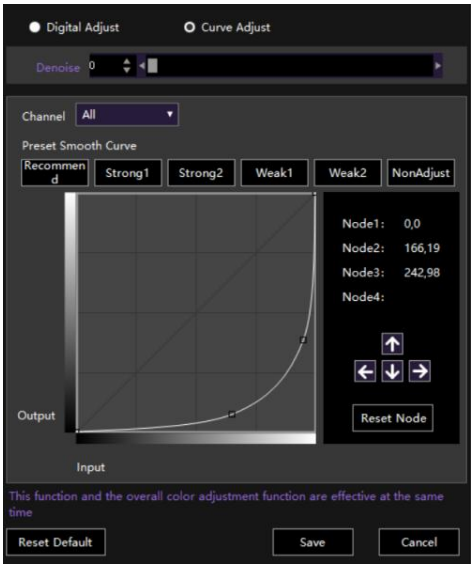
Preset Smooth Curves:

Built-in 5 commonly used curve values suitable for tail effects, namely Recommended/Strong 1/Strong 2/Weak 1/Weak 2, click to use. This preset curve ensures a reduction in high grayscale while trying to keep low grayscale from being 0.

Manual Curve Adjust:

There are four adjustable nodes for curve adjustment. You can click and drag the nodes in the graph, or use the【←】【↑】【→】【↓】keys for fine-tuning the node positions.

Click【Reset Default】to reset all nodes to their default parameters.

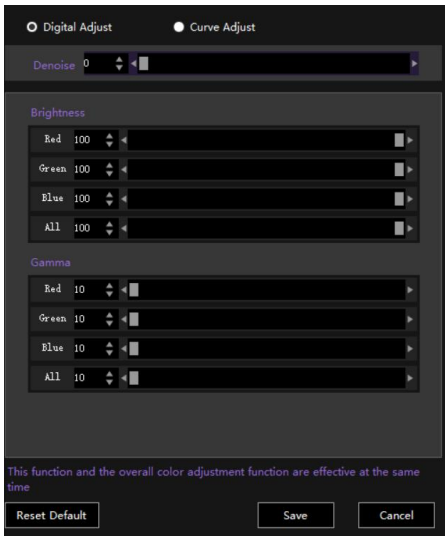


5.7.2. Overall Color Adjustment

You can adjust the brightness gamma of the entire project, which overlays the 'Program Color Adjustment' to make the effect file more visually appealing.

Click【Menu】-【Settings】-【Program Color Adjust】to open it.

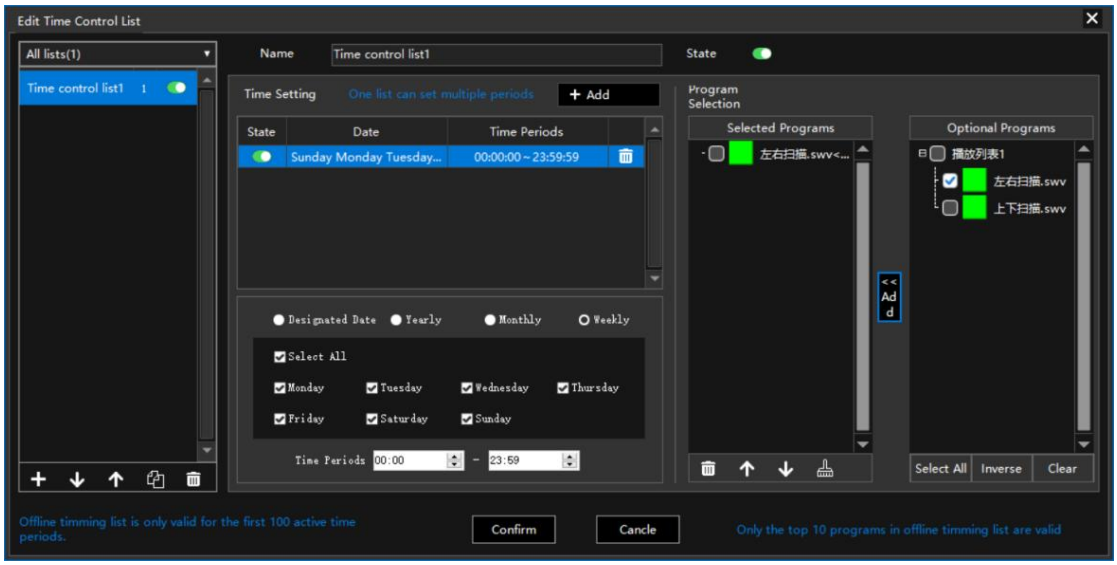
Customers can adjust brightness and GAMMA according to the actual situation of the light fixtures. The linked control system outputs in real-time, while the intelligent control system requires re-synthesis of SD.BIN and replacement of the SD card files. After setting the 'Program Color Adjustment' function, more advanced settings can be made for the effect colors to better meet the required specifications.



5.8. Time control list settings

Set the corresponding program to play within a specified time segment.

Click on【Output】- Common Menu【Time Control List】to open the edit time control list interface.



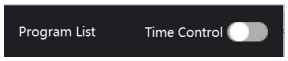
Time control list settings:

	Click to add a new time control list.
	Click to delete the selected time control list/program.
	Click to move the selected time control list/program down/up one position.
	Click to copy and paste the selected time control list information.
Time control list	Displays all time control lists for the project. *Note: The program order determines the time control list order; the higher the order, the higher the priority.
Time control list name	Editable to modify the time control list name.
Status	Can set the status of the time control list to 【Enabled】 or 【Disabled】.
Time settings	Set the effective time period as needed.
+Add	Click to add a new time period.
Designated date	You can specify any start and end date.
Yearly	Settings can be made according to holidays; the player provides options for national holidays and some common holidays.
Monthly	Settings can be made according to dates; set the start and end dates.
Weekly	Settings can be made according to the week; any day from Monday to Sunday can be selected.
Time periods	Set the time period for playing programs within a specific day. The online system can set cross-day controls, and at least two consecutive days must be set.
Program selection	Set the programs for this time control list.
Optional programs	Display the programs from all playlists of the current project.
Selected Programs	Displays the currently selected programs in the time control list. *Note: Programs in a disabled state will not play during the time control period.
Add	Add the selected effects from 'Optional Programs' to 'Selected Programs'; can be added repeatedly.
	Clear all selected programs.
Select All	Click to select all programs.

Inverse	Clicking will check the previously unchecked programs, while the originally checked programs will remain unchecked.
Clear	Uncheck all programs.
Confirm	After clicking this button, save the settings of the time control list.

Online system output time control effect operation :

After setting the time control list, on the 'Output Play' page at the top of the 'Program List', click the master switch to enable the time control function.



Offline system output time control effect operation:

After setting the time control list, you need to output the synthesized SD.bin file and copy it to the SD card. Then, enable the time control function of the controller to play the set program.

Time Control Priority:

The time set for the program has the highest priority; the earlier the time is set, the higher the playback priority.

If multiple programs are set to the same time, the priority will be determined by the playback order in the 'Time Control List'.

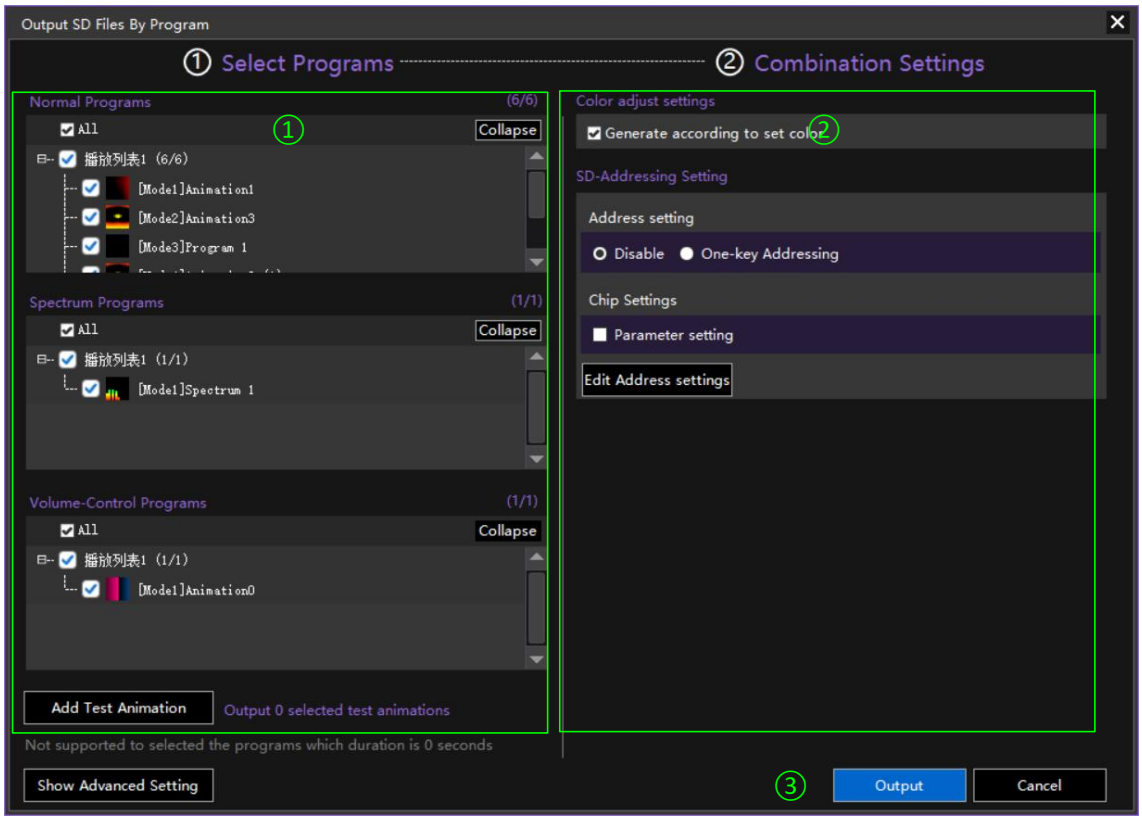
Quantity Limit:

In the offline system, only the first 100 activated time slots in the time control list are valid, and only the first 10 programs are valid.

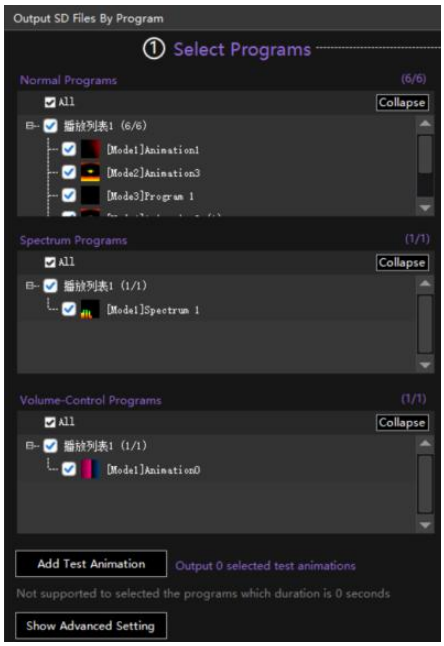
5.9. Output SD File

Compress and convert the selected program's image file into an SD.bin file that can be read by the offline controller (direct opening and modification are not supported).

Click on 【Output】 - Common Menu 【Output SD Files】 to open the interface;



Step ① Select Program:

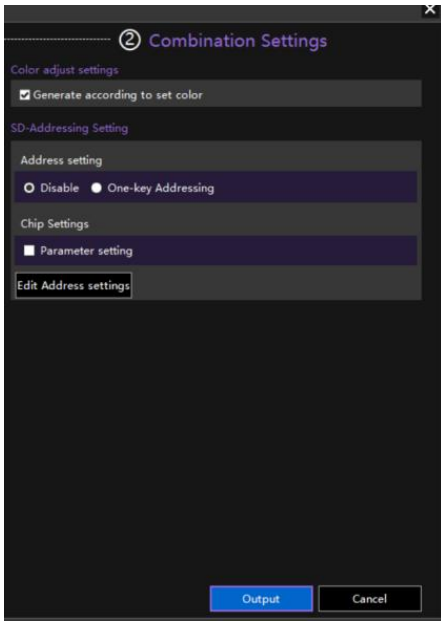


Check the regular program output: By default, programs in the 'Enabled' state are checked, disabled programs cannot be selected. You can select the programs to output as needed by checking the box in front of the program☑. Programs with a duration of 0 do not support output. Supports selecting all programs in the playlist; the number of combined programs must be less than 96.

Add Test Animation: Test effects for offline projects are added here. Click 【Add Test Animation】, select the test effect, and after clicking 【Output】, it will be automatically combined in the SD.Bin file (test effects are combined before the program list by default).

For details on test effect styles, see《7.1 Test Effect》.

Step ②: Set the synthesis parameters:



Generate according to set color:

Check☑ to output synthesis according to the parameters set in 【Settings】-【Color Adjust】, which affects the actual effect; checked by default.

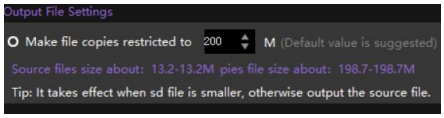
One-key Addressing - Address settings:

You can choose 'Disable', 'Regular Addressing', 'Self-channel Addressing', 'Junlue Verification'; this function is for advanced applications. For specific addressing operation and introduction, please refer to '10.5 One-click Coding'.

Chip Setting - parameter settings:

You can choose 'Parameter Settings'; this function is for advanced applications and will not be detailed here. If needed, please contact our technical personnel.

If you need to customize the backup value of the output file, click 【Show Advanced Settings】 to display:



Output file settings:

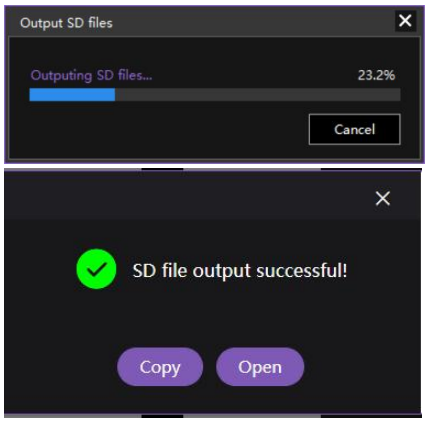
The program will automatically expand the file to fit within the suitable default size based on the current source file size, and will automatically copy multiple integer multiples of the file, but not exceeding this size. The default value is a suggested value and can be modified. If the source file is smaller than the value, it will be expanded by default; if it is larger than this value, the source file will be output by default. For example, if the automatic expansion file limit is 200M, and the source file is 80M, the actual expanded size will be 160M; if the source file is 210M, it will not be expanded.

(The suggested values may vary for different controller models.)

This function will read SD effect files in rotation for playback, achieving the purpose of extending usage time.

Note: The automatic expansion of multiple copies function is only applicable to models SY-328-M16, AN-380-C2, DN-380-C2 and above. For other models, please choose to output only the source file.

Step ③ Output SD file:



Click 【Output】. After the synthesis output is complete, you can choose 'Copy Card' or 'Online Update' for effect update operations. For detailed steps on copying the card, please refer to '6.10 Copy Card'. For online updates (only AN-380 supports this function), please refer to '6.6.2 Online Update SD Effects'.

Note:

1、SY and SW cannot modify the file name.

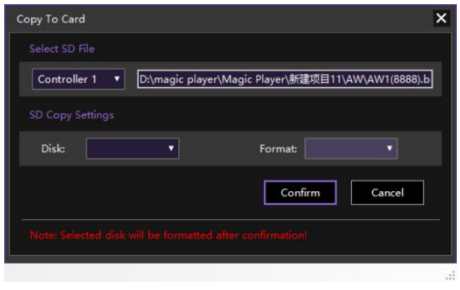
2、Do not output SD files for controllers without cloth light point control.

3、The above functions are subject to the actual controller model support. If the project does not have one-click coding or other functions set, the corresponding options will not be displayed.

5.10. Copy Card

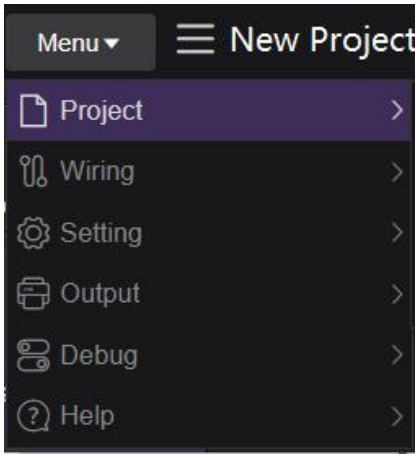
Copy the '*.bin' file into the SD card. When formatting, quick formatting is supported for all systems including Win7, Win8, Win10, and Win11.

Click on 【Output】 - Common Menu 【Copy】 to open the interface;



1. Insert the SD card;
2. Click Magic Player 【Output】 - 【Copy】 to open the copy card window;
3. Select the controller number to output (automatically read the corresponding file);
4. Click 【Confirm】.

6. Other menu functions



6.1. Project

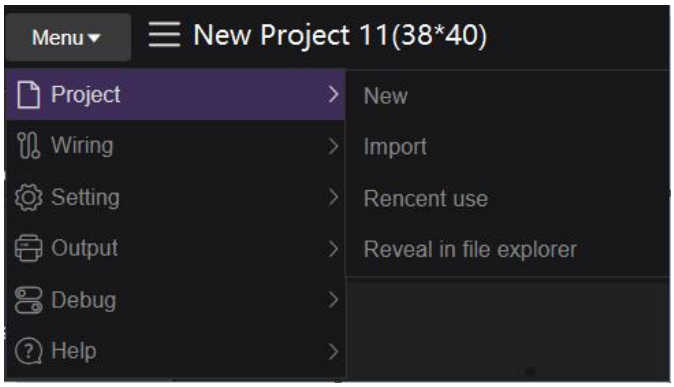
Click 【Menu】 - 【Project】 to operate:

【New】: Create a new project, see '5.2 New Project' for details.

【Import】: Import an existing project file (.sproj) or a project folder containing a SET folder.

【Recently use】: Display the recently opened projects; click to quickly open the recent project.

【Reveal in file explorer】: Open the folder where the current project is located to view file information.



6.2. Wiring

6.2.1. Create Wiring Diagram

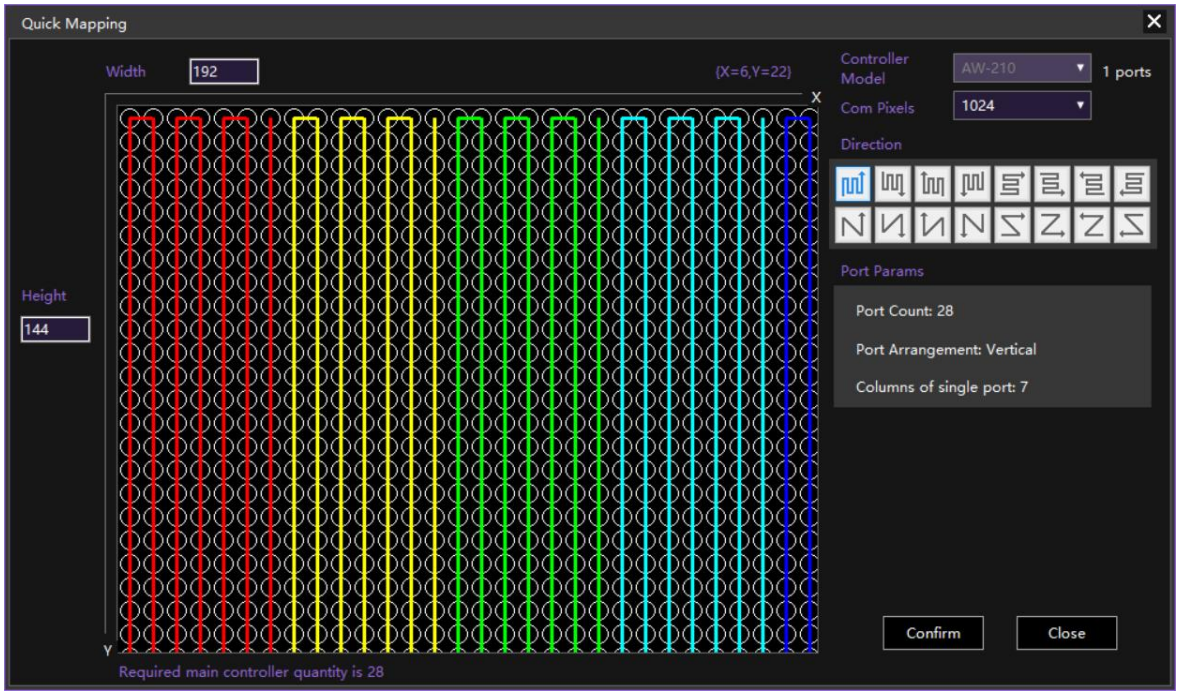
When a special wiring screen is needed, such as N-type wiring, colorful text, or cable-stayed bridges, you can use the create wiring function, draw the wiring diagram in MAP4 wiring software, and import it into the project. (For other detailed operations, please refer to Section 7 'MapTool4 Wiring Tool' of this manual);

Click the menu 【Wiring】 - 【New】 to jump to the MAP wiring software.

6.2.2. Quick Mapping

Rule-based rectangular wiring provides 16 commonly used wiring methods for quick wiring in projects;

Click 【Wiring】 - 【Quick Mapping】 to open the interface.



Set according to the actual screen size of the project:

Width/Height: Width/Height of the project (wiring).

Controller Model: This section only allows viewing the controller model. To modify it, click on 【Settings】 under 【Hardware】.

Com Pixels: Select the number of driving points for the output port based on actual needs.

Direction: You can choose from 16 conventional S and Z type wiring methods. As shown in the 'Wiring Method Description Overview Table' below. This method is only applicable to regular screens, where the number of points/segments in each row or column is the same.

Wiring Preview Image: Visually see the size, direction, and the number of driving points for each port.

Proportion adjustment: Set horizontal and vertical point spacing for zero insertion settings.

Port Parameters: You can view the total number of ports, port arrangement, and the number of single port columns.

Mouse Operation Hidden Functions:

Scroll up with the mouse wheel: Zoom in on the wiring preview image.

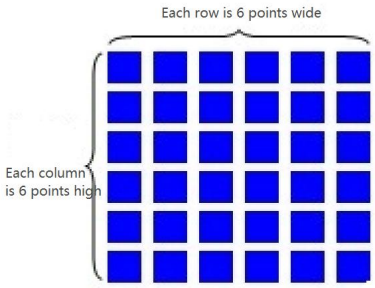
Scroll down the mouse wheel: Zoom out the wiring preview image.

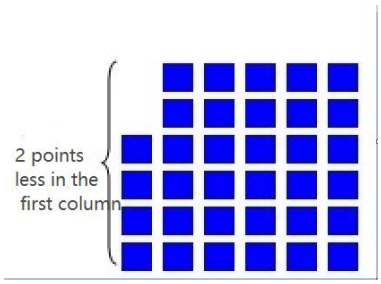
Right-click and hold: Move the position of the wiring preview image.

Wiring method description overview:

							
Left vertical down Towards S-shape	Left vertical up Towards S-shape	Right vertical down Towards S-shape	Right vertical up Towards S-shape	Left horizonta l down Towards S-shape	Left horizonta l up Towards S-shape	Right horizonta l down Towards S-shape	Right horizonta l up Towards S-shape
							

Left vertical down Towards N-shape	Left vertical up Towards N-shape	Right vertical down Towards N-shape	Right vertical up Towards N-shape	Left horizonta l down Towards Z-shape	Left horizonta l up Towards Z-shape	Right horizonta l down Towards Z-shape	Right horizonta l up Towards Z-shape





Applicable rule screen　　Not applicable screen

Engineering wiring examples:

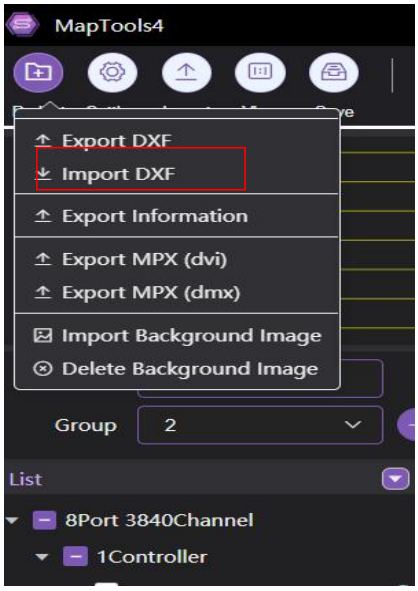
Engineering	Width and Height Input	Driver Points
10 one-meter light tubes, 6 segments per meter	Width: 60 points (6 segments * 10 tubes) Height: 1 point (1 light tube)	60 points
5 rows of light fixtures, each row has 6 one-meter 8-segment tubes	Width: 5 points (5 rows of light tubes) Height: 48 points (8 segments * 6 tubes)	240 points

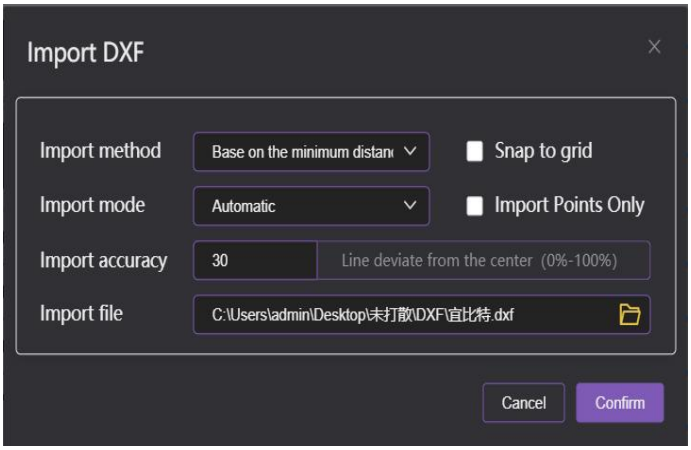
6.2.3. Import DXF

Read the DXF file, enter the MAP wiring software, and import and convert it into light points recognizable by Magic Player.

Click on 【Project】 - 【Import DXF】 to open the interface.

You need to set the DXF import conditions before importing.





6.2.4. Edit Wiring Diagram

Jump to the MAP wiring software to edit the current wiring.

Click on 【Wiring】 - 【Edit Map】 to jump to the MAP wiring software.
Regardless of whether the wiring was done using MAP software or Quick Wiring, you can enter MAP software to re-edit the wiring diagram.

6.2.5. Output CSV file

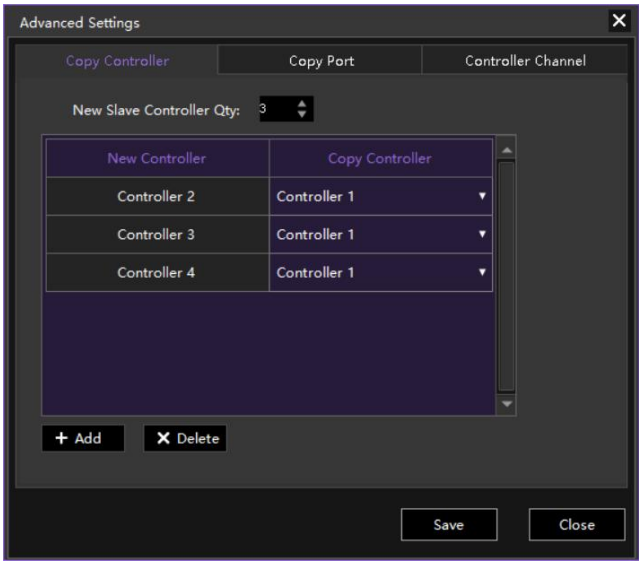
Generate the wiring of the current project into a .csv format Excel spreadsheet file and export it, then import it directly into Magic Player software.

6.3. Settings

6.3.1. Advanced Controller Settings

6.3.1.1. Controller Copy

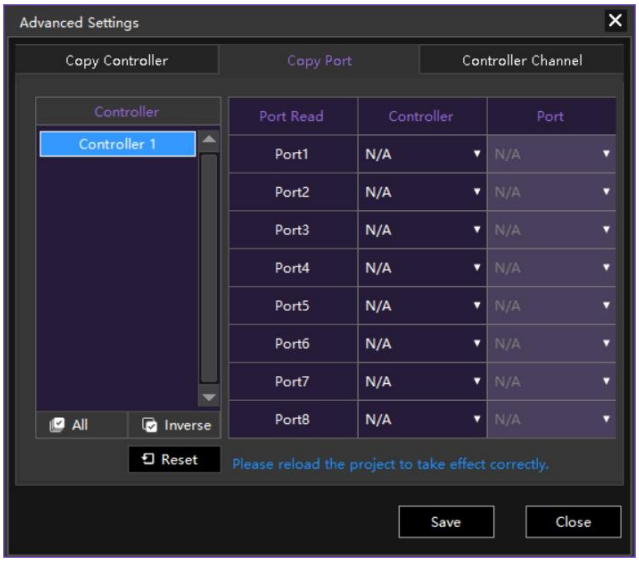
Add a virtual controller and copy output data without changing the wiring.
Click on 【Menu】 - 【Settings】 - 【Controller】 - 【 Copy Controller】 to open the interface.



【New Slave Controller Qty】: Set the number of controllers to be copied.
Operation:
① Click 【 + Add 】, or click the up triangle 【 △ 】, to increase the number of controllers to be copied;
Click【×Delete】, or click the downward triangle 【▽】 to reduce the number of controllers to be copied;
“Mew Controller”: Increment the maximum ID of the sub-controller used in the project wiring. For example, if 4 controllers are used in the wiring, the new controller ID will start from 5 by default.
“Copy Controller”: Can only copy the sub-controller IDs used in the wiring. For example, if 4 controllers are used, the controller IDs can only be copied within the range of 1 to 4.

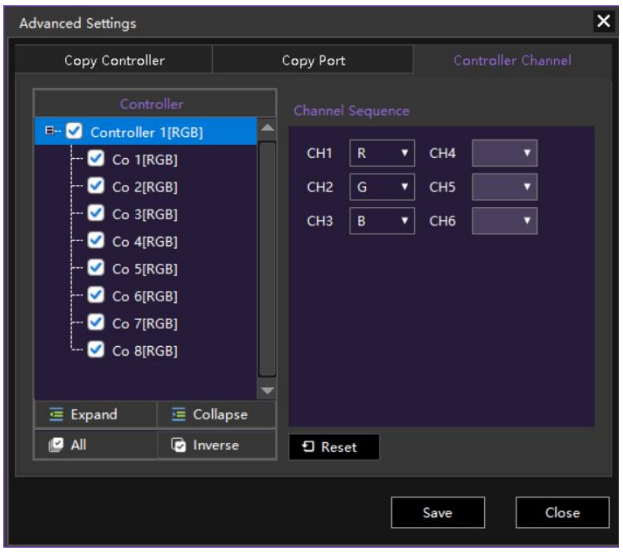
6.3.1.2. Copy Port

Copy any output port of the controller to replicate the signal of other output ports;
Click 【Menu】 - 【Settings】 - 【Controller】 - 【Copy Port】 to open the interface;
Usage Note: In online systems, click 【Save】 to effectively implement port copying (wiring lines that are not displayed will appear gray). In offline systems, you need to output the SD card effect file and replace the original SD card file in the controller for the port copying function to take effect.
Select the controller and set the corresponding port to copy from, for example, to copy from port 1 of controller 2 to port 1 of controller 1, the operation result is shown in the right image.



6.3.1.3. Controller Channel Order

When the actual order of the light fixtures is not in red-green-blue order, you can convert it by setting the position of the controller channels.
Click 【Menu】 - 【Settings】 - 【Controller】 - 【Controller Channels】 to open the interface.
You can set the channel order of the selected controller, configuring the RGBW order for each channel.



6.3.1.4. AN Controller Partition

In the AN series offline scheme, you can customize the number of EN slaves controlled by each AN offline master controller;
Click on【Menu】-【Settings】-【Controller】-【AN Controller Partition】to open the interface;

“Number of AN Master Controllers”：Set the number of AN master controllers needed to control EN slaves.

Operation:

① Click 【+Add】 or 【△】 to increase the number of AN masters;

② Click 【× Delete】 or 【▽】 to decrease the number of AN masters;

③ If you want the first SN to control the first sub-controller, select 【First】 and then click 【ID1】.

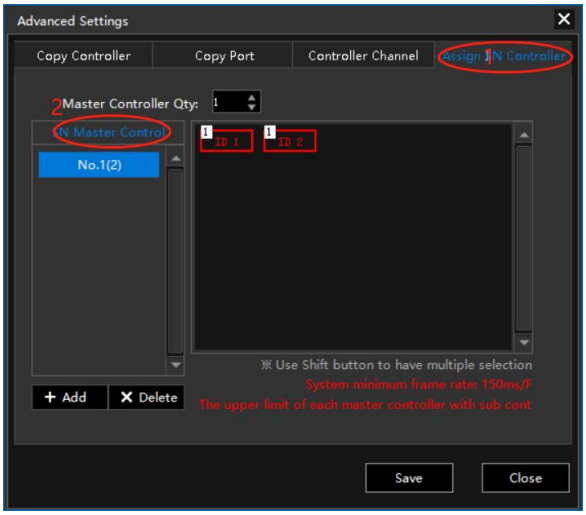
As shown in the figure on the right, the 'Total AN Control Consoles' is 3.

The 1st AN controls the 1st sub-control ID1.

The 2nd AN controls the 2nd sub-control ID2.

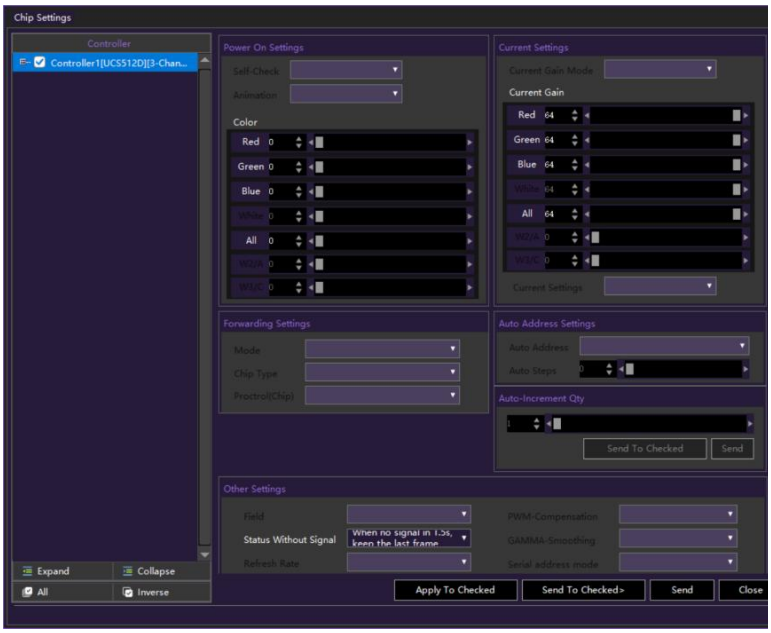
The 3rd AN controls the 3rd and 4th sub-controls ID3 and ID4.

The number of sub-controls is determined by engineering parameters, and here only the total control number can be increased.



6.3.2. Chip Parameter Settings

Some LED driver chips provided have built-in characteristic settings, allowing different chip parameters to be specified for the controller/port settings, so that the effects of the light fixtures can be seen during output. Some chips without characteristics do not support this parameter setting. Click on 【Menu】 - 【Settings】 - 【Chip】 to open the interface.



Different chips have different characteristic settings, including power-up, current, forwarding, automatic addressing parameters, etc. Therefore, white font in this interface indicates that it is configurable, while gray font indicates that it is not configurable.

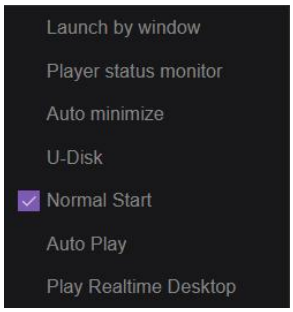
*Note: This is an advanced application feature, please do not set it casually to avoid abnormal project output; when

setting, you may consult the relevant administrator first.

6.3.3. Start Play

Select different modes to start the software.

Click 【Menu】 - 【Settings】 - 【Start Play】 to open it, and in the pop-up drop-down menu, check the desired way to run the software.



Startup Mode	Description
Launch by Windows	After checking, the computer will automatically open the software every time it starts up, with a default startup delay of 10 seconds. (You can set the StartupTime parameter in LED.ini to modify the boot delay duration.) You need to set the computer's security settings to the lowest level.
Player Status Monitor	Check this box to automatically monitor the player status when the software is opened.
U-Disk	After selecting the option, when running the software and inserting a USB flash drive (containing SET or RGB folders), Magic Player will pause playback upon reading SET or RGB and replace the SET or RGB folder on the USB flash drive with the corresponding item (the folder in the original item will be directly overwritten). The computer will automatically restart when the replacement is successful, and the Magic layer will read the new folder for playback; It is recommended that users first backup their original SET folder and RGB folder before using this option; Generally used in conjunction with "autoplay" and jointly applied in the control system of computers without external displays (convenient for changing engineering parameters and effect files); Note: If the cloud function is enabled and the SET is changed, you need to reapply for the device and log in.
Normal Start	Check this option, and the next time the software runs, it will not play effects and will be in a stopped state. (The system defaults to this option).
Auto Play	Check this option, and the next time the software runs, it will automatically loop through all programs in the 'Program List' in the playback area.
Play Realtime Desktop	Check this option, and the next time the software runs, it will automatically pop up a screenshot box, displaying the image at the location of the screenshot box in the playback area.

6.3.4. Language

Set the language of Magic Player, currently supporting 'Simplified Chinese', 'Traditional Chinese', and 'English'.

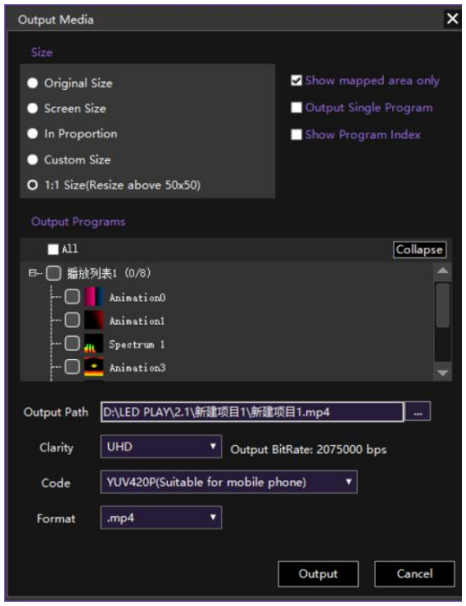
Click 【Menu】 - 【Settings】 - 【Language】, and check the desired language.

6.4. Output

6.4.1. Output Video File

Convert the effect files of the selected program into '.mp4' format files for easier viewing by clients;

Click on 【Menu】 - 【Output】 - 【Export Video】 to open the interface;



Output Video Size (Resolution)	By Original Project Size: Output at the actual resolution of the project; By Screen Display Size: Output at the screen resolution within the playback preview window; Automatically Scale: Automatically scale output according to the ratio of project size to resolution; Custom Size: Set the resolution for width and height separately; Insert Black Space Width/Height 1:1: Automatically insert black space at the edges until the aspect ratio is 1:1 (default selection when project width or height is less than 49).
Show mapped area only	Check this box to output video that only displays the animated areas with wiring.
Output Single Program	Check this box to generate multiple videos for the selected programs, with each program as a separate video.
Output Program	You can select the programs to output videos as needed, supporting single selection, multiple selections, and select all; just check the box before the program. ☑
Show Program Index	Check this box to synchronize the output program serial numbers.
Output Path	You can choose the save path for the output video files.
Clarity	You can choose the clarity of the output video: 'Smooth', 'Standard Definition', 'High Definition', 'Ultra High Definition'.
Code	Default is YUV420P. YUV420P: lower quality, suitable for mobile devices; YUV444P: higher quality, suitable for PC.
Format	Select the output video format: ".mp4".

6.4.2. Output wiring diagram or lighting diagram

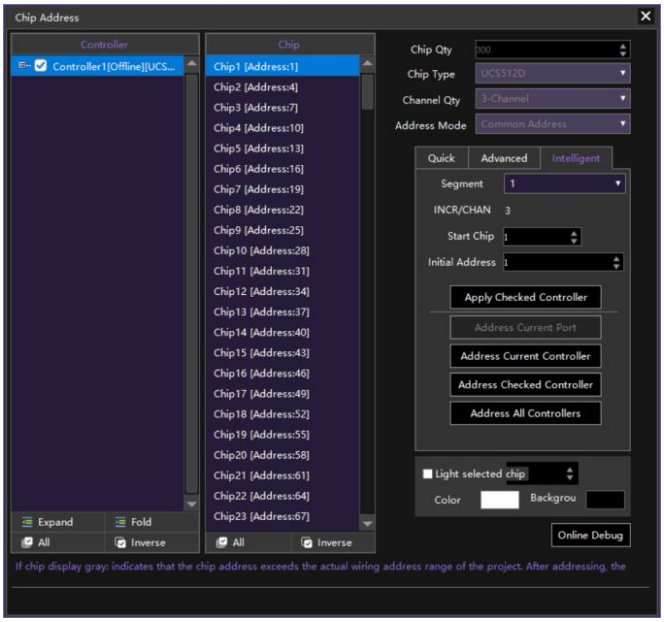
Export the project wiring diagram (image in .png format), which can conveniently guide the on-site wiring.

Click 【Menu】 - 【Output】 - 【Output Map】/【Output Light】, select the save path for the wiring diagram, and the project file will automatically open after output.

6.4.3. Output AN programming file

You can set the addressing parameters and output a programming file (optional to save as a local file/card copy).

Click 【Menu】 - 【Output】 - 【Output AN Programming File】 to open the interface.



6.5. Debugging

6.5.1. Status Detection

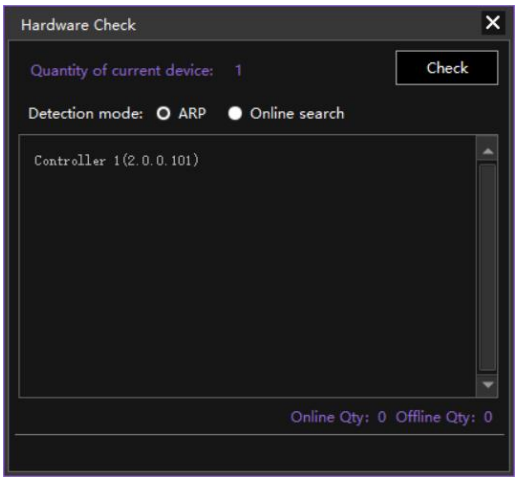
Check the connection status of the AN control box.

Click 【Menu】 - 【Debug】 - 【Check Status】 to open the interface.

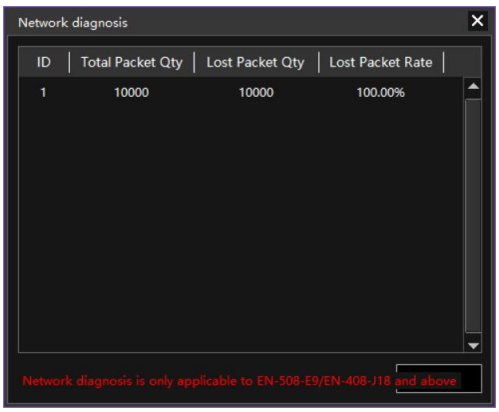
Selectable detection methods: 'APR', 'Online Search'

Click 【Check】 to automatically check the controller status. Normally connected hardware will display in green, and it will self-detect the computer's network card segment, prompting that an illegal segment requires setting the network card (for example, if the IP is not 2.0.0.1, it will prompt that the network card needs to be set to the correct IP address).

Note: Please ensure that the computer's IP is set to the static IP address '2.0.0.98'. To view and set the IP, click 【Software Settings】 - 【Network Settings】.



6.5.2. Network Diagnosis



Check the network status between the PC and the AN controller.

Click【Menu】-【Debug】-【Network Diagnostic】to open the interface.

Click 【Diagnosis】 to automatically check the communication network status; a lower packet loss rate indicates higher communication quality.

Note: Please ensure that the computer's IP is set to the static IP address '2.0.0.98'. To view and set the IP, click on【Software Settings】-【Network Settings】, see section '6.2.2 Network Settings' for details.

6.5.3. One-Click Coding

In the offline system Magic Player, perform addressing operations on DMX light fixtures, then output the SD file for use.

Click 【Menu】 - 【Debug】 - 【SD Addressing】, or in the common menu 【Output SD File】 click 【Edit Addressing setting】 to open the interface.

Hardware Information

Controller	Automatically displays the number of controllers used in the project.

Chip Address Data Settings

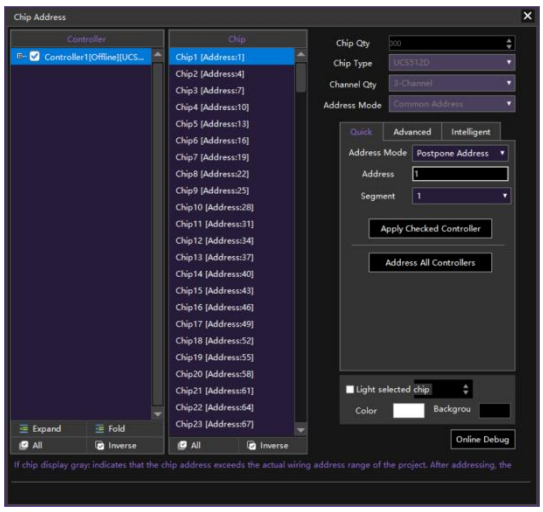
Chip Qty	Defaults to the number of driver points set in 'Hardware Settings'.
Chip Type	Defaults to the chip set in 'Hardware Settings'.
Channel Qty	Defaults to the number of channels set in 'Hardware Settings'.
Address Mode	Two types: 'Regular Addressing' and 'Self-Channel Addressing'.
Address Mode	Defaults to 'Address Continuation', indicating that when saving the current chip address parameters, subsequent chips will automatically correspond to changes based on the originally set channel values;
Initial Address	Set the starting chip address.
Segment	Set the number of segments/pixels driven by this chip.

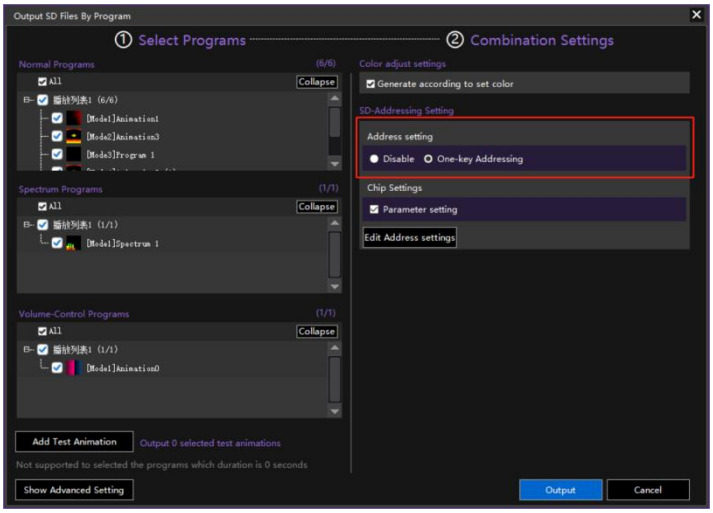
Shortcut operations:

Apply Checked controllers	Click to save the checked controller's chip address data.
Reset all controllers	Click to reset all controller chip parameters to their initial values.

Click【x】to prompt whether to save the addressing parameters; click【Yes】to save the addressing parameters.

Click the common menu 【Output SD file】, select 'General Addressing'/'Self-Channel Addressing' as needed for the project, and click 【Output】 to synthesize the addressing data into the corresponding effect file.





6.6. External control

6.6.1. UDP control

Through the UDP protocol, the online scheme can achieve control of any device to output animations and speeds.

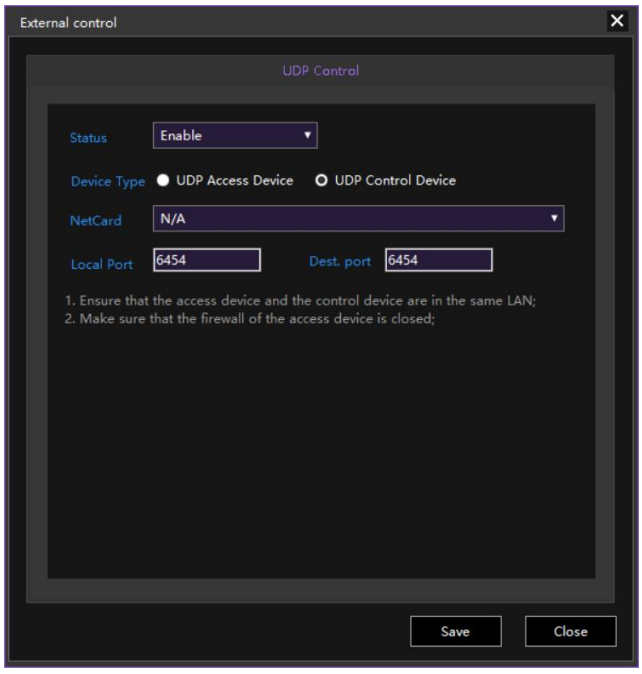
Usage Requirements:

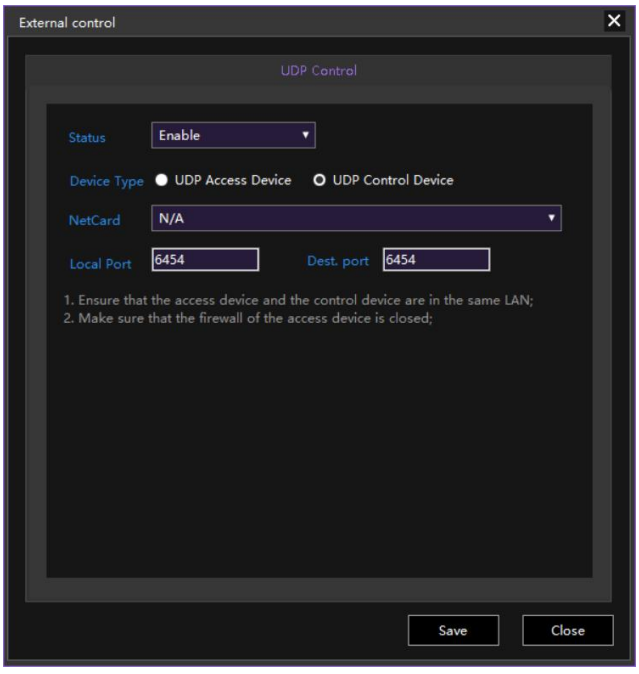
① All devices must be on the same local area network;

② Only one host can be set in the same local area network;

③ A single device can only have two LED Players open at the same time;

④ The frame count of the effects and the number of files need to be consistent.





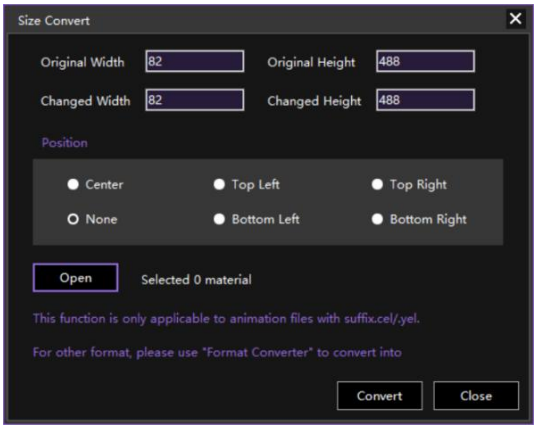
6.7. Tools

6.7.1. Size Conversion

Convert material effect files to other different sizes for convenience without re-recording the effects;

Click on 【Menu】 - 【Tools】 - 【Size Converter】 to open the interface.

Note: Only applicable to '.cel/.yel/.mel' files; '*.bin/.yin/.min' will result in garbled effects after conversion,
If the effect in '*.bin/.yin/.min' format needs to be resized, it must first be converted to '*.cel/.yel/.mel' format through the player before performing the size conversion.



Original width/height: The width/height of the original effect file.

Changed width/height: Set the width/height of the new effect file.

Position: The position of the effect offset after conversion,
If the size of the video file changes from small to large, regardless of the selected position, the converted effect will be the same.

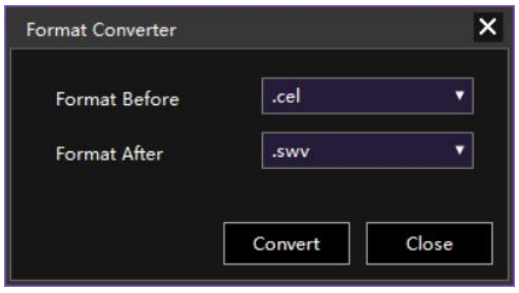
Open: Click 【Open】, select the effects to be converted in the open folder (multiple selections allowed), click 【Convert】, and the converted effects will automatically be saved with the current name RGB, with successful conversions named CTC**.cel.

Note: When converting a 32*32 effect in a 64*64 player, you need to change the 'New width' and 'New height' to 32 respectively. After conversion, copy the effect with the first letters 'CTC***.cel' from the 64*64 player RGB to the 32*32 player RGB, and open the player to see the converted effect.

6.7.2. Format Conversion

Used for format conversion between effect files, it can convert video files with extensions bin, cel, kel, tel, swv, msvw into the required bin, swv, msvw file formats.

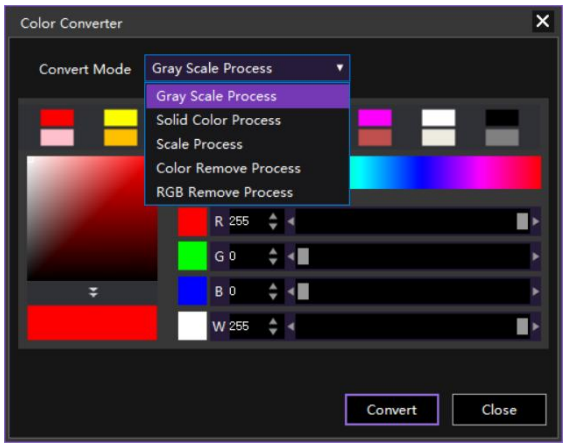
Click on 【Menu】 - 【Tools】 - 【Format Converter】 to open the interface.



☆ What occasions are suitable for conversion?

".cel" video file attributes: can be used universally for normal playback in players with the same screen width and height, regardless of wiring method or light fixtures. If the project wiring or light fixture structure has changed but the screen width and height remain the same, the old player can be used to convert all video files to have the suffix ".cel." Generally, the default video file format is ".cel," with special cases being ".bin."

6.7.3. Color Conversion

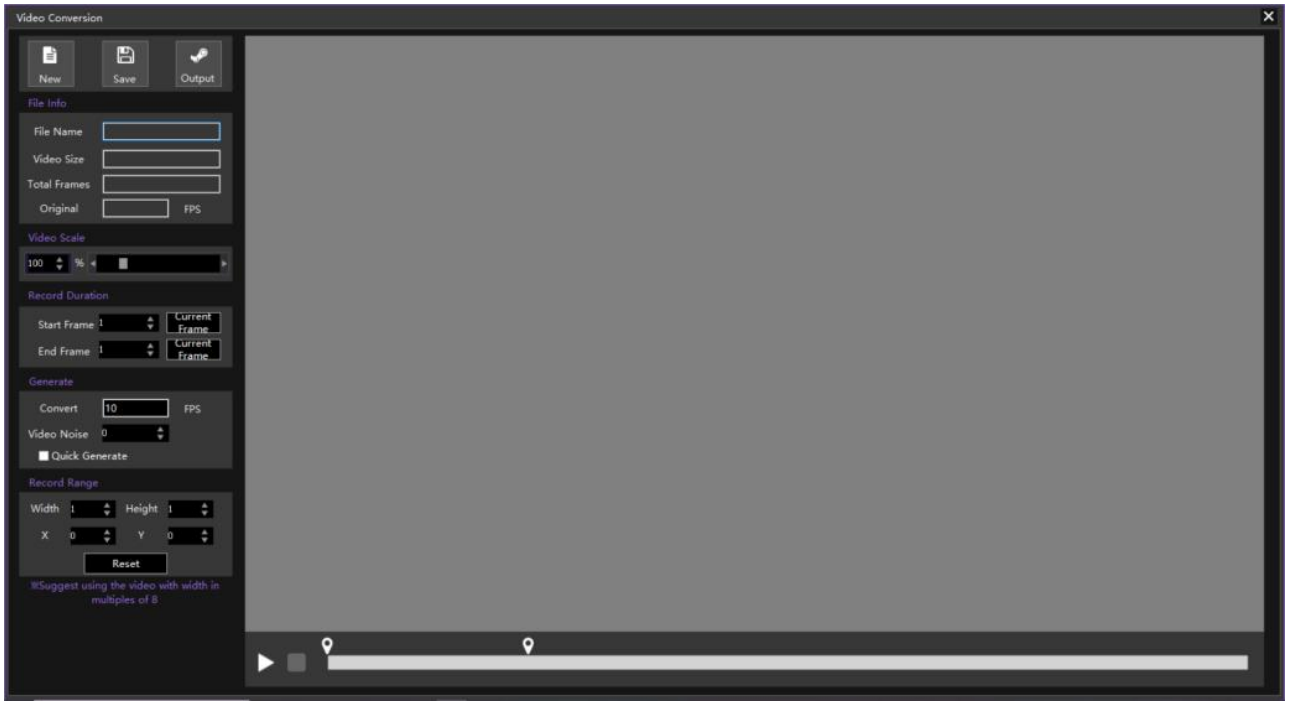


Convert or remove a specified color from the effect;
Click on 【Menu】 - 【Tools】 - 【Color Converter】 to open the interface.
The operation is as follows:
① Conversion Methods: There are five conversion processing methods, as shown in the table below. Different conversion methods yield different color processing results.
② Select Color: You can select a color to test by selecting a specific color, clicking on the color band, or dragging.
③ Conversion: Click on 【Convert】, select the effect files that need to be color changed (multiple selections allowed), and click 'Convert'. The new effect will be automatically renamed and saved in the project folder RGB.
Overview of Conversion Methods:

Conversion Method	Description
Gray scale Process	The color of the converted effect will change to the corresponding single color's grayscale based on the percentage of the original effect color.
Solid Color Process	Except for pure black, all colors are converted to 100% of other colors.
Scale Process	Except for pure black, all colors are converted to other colors proportionally.
Color Removal Process	If you need to remove a certain color from the original effect, you can use this function.
RGB Remove Process	Can only remove any color from the corresponding (Red, Green, Blue) primary colors of the light fixture.

6.7.4. Video Conversion

Read and convert recorded videos to the software's inherent format and store them in the specified RGB folder;
Click on 【Menu】 - 【Tools】 - 【Video Conversion】 to open the interface.
*Note:
The video encoding formats only support MJPEG, MPEG4, XVID, H264, and please try to use lossless video for reading and conversion.
Effect files only support RGB three channels and do not support transparency channels.



Function	Description	
New	Open the effect file that needs to be edited, and the 'Play Preview Area' will automatically play the video file while reading.	
Save	Click to generate the effect in a proprietary format and store it in the specified RGB folder.	
File Info	File Name	Displays the name of the currently reading effect file.
	Video Size	Displays the size of the currently reading effect.
	Total Frames	The total frame count length of the video.
	Original	Automatically read the playback speed of the video.
Video Scale	Scale the size of the video proportionally.	
Record Duration	Start/End Frame	Set the start/end position for the video conversion, or adjust the coordinates on the progress bar below.
	Current Frame	Click to set the currently playing frame as the 'Start Frame' or 'End Frame.'
Generate	Convert	Change the value to speed up or slow down the converted effect.
	Video Noise	Filter out excess video noise, default denoise value is 10.
	Quick Generate	When selected, the 'Playback Preview Area' will not display the image when saving the video.
Recording Range	Width/Height	Width/Height of the recording editing box.
	X/Y	Reads the starting coordinates X/Y of the upper left corner of the recording editing box, and you can also adjust the recording editing box by moving the mouse.
	Reset	Clicking will restore the 'Recording Area' to its initial state (the data will also be restored when reopening the effect).
Screenshot Window	You can freely stretch the screenshot window; holding down the 【Ctrl】 key while stretching the screenshot window will achieve proportional stretching.	

After the video conversion is successful, a popup will prompt: 'Video conversion completed, do you want to add it as a program?'

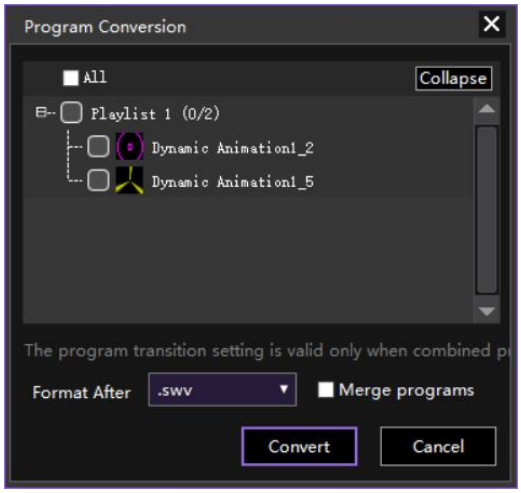
Select 'Yes': The generated file will be stored in the RGB folder, and at the same time, using

the 'Import Multiple Materials' method, it will automatically import and generate the corresponding number of programs based on the number of generated test effects. Select 'No': Only the file will be generated in the RGB folder.

6.7.5. Program Conversion

Outputs the program in the project to the software's inherent format and stores it in the specified RGB folder;

Click on 【Menu】 - 【Tools】 - 【Program Conversion】 to open the interface.



The operation is as follows:

①Select Program: Choose and check the programs that need to be converted;

②Converted Format: This function supports conversion to file formats of "*.bin/*.cel/*.swv/*.mswv";

Select the desired format to convert to;

③Start Conversion: Click 【Convert】 to begin the conversion; the generated files will be stored in the project folder RGB;

④Merge Programs: After checking, the selected programs will be merged into one file (transition effects can be preserved).

6.8. Help

6.8.1. About Magic Player

Display the software version number of Magic Player. Click on 【Menu】 - 【Help】 - 【About】 to open the interface.

6.8.2. Software Upgrade

Detect the current software version and provide update services.

Click on 【Menu】 - 【Help】 - 【Check for Upgrades】 to open the interface.

6.8.3. Shortcut Key Instructions

Click on 【Menu】 - 【Help】 - 【Keyboard Shortcut 】 to open the interface.

All supported shortcut keys of the software are as follows.

Function	Shortcut keys
Copy	Ctrl+C

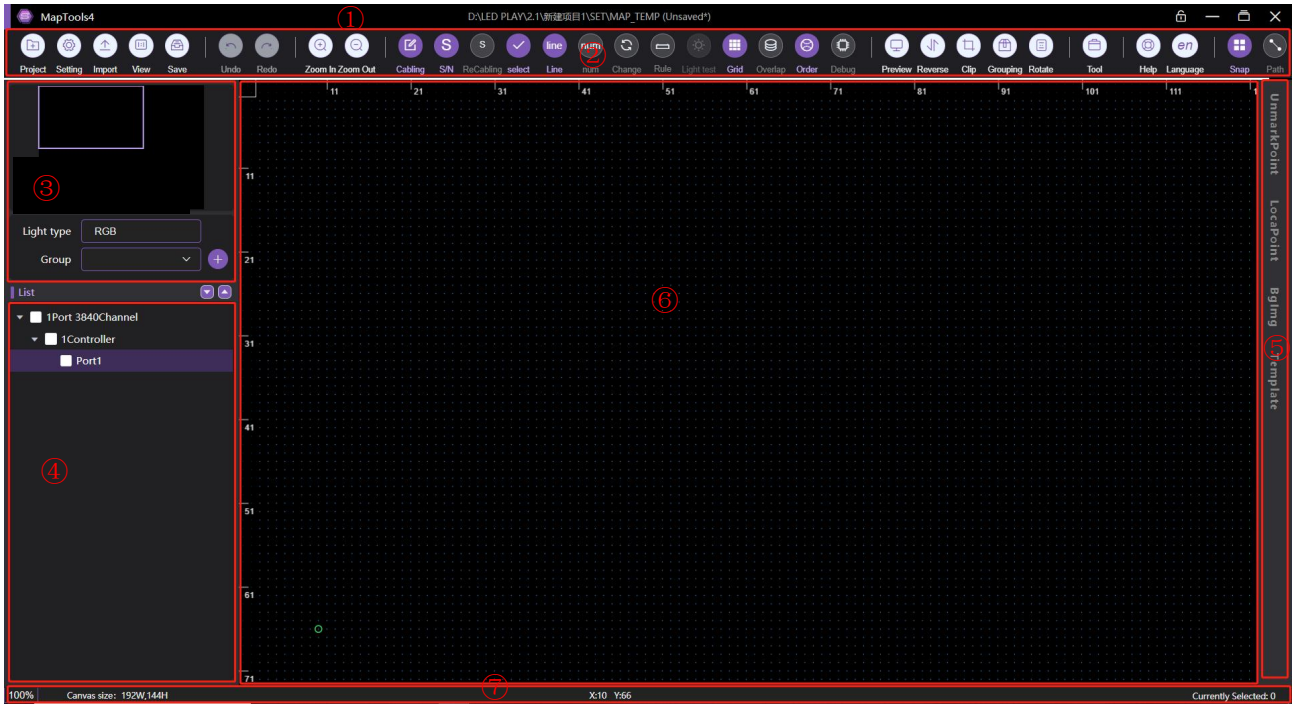
Function	Shortcut keys
Paste	Ctrl+V
Delete	Delete
Rename	Ctrl+R
Insert the copied item before the specified position	Ctrl+I
Insert the copied item after the specified position	Ctrl+T
Move up	Ctrl+↑
Move down	Ctrl+↓
Select all	Ctrl+A
New project	Ctrl+N
Import Project	Ctrl+O
Save As Copy	Ctrl+Shift+S
Play/Stop	Space (Space Key)
Switch to Previous Program	↑
Switch to Previous Program	↓
Online Point Count	↑ ↓ ← →

7. MapTool4 Wiring Tool

7.1. Introduction to the Working Interface

Current version has Simplified Chinese and English environments .

The working interface consists of 7 main functional areas: title bar, menu bar, wiring preview window, controller/port list, template list, wiring area, and information status bar.



① Title Bar: Displays the software name and project path.

② Menu Bar: Provides 32 functional interface icon buttons:

Project	New Project/Save/Import DXF File/Import Background, etc.
Settings	Set the number of controllers, project size, chip model specifications, and load capacity.
Operation Class	Save, undo/redo wiring operations, zoom in/out on the wiring area, wiring design operations, light point display, measure dimensions, annotations and management, etc.

③ Overall Preview Window: Displays the current wiring effect, composed of wiring points and connections. Different port controllers are marked, and you can right-click to select functions to adjust the wiring effect.

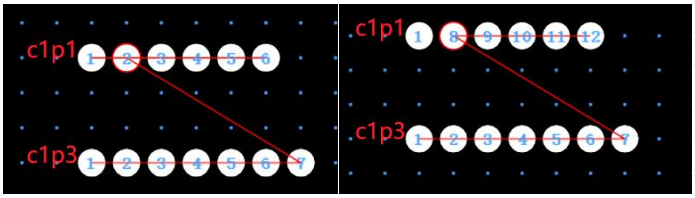
④ Controller List: The entire wiring effect preview window, which allows for quick navigation to the desired port light point location through the preview window.

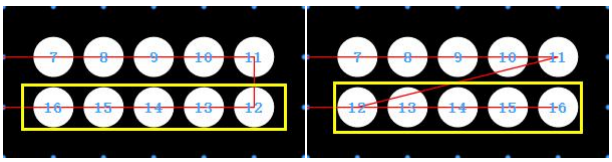
⑤ Template List: Displays and sets the current controllers and ports for wiring, supporting quick select all, deselect all, quick expand/collapse for port operations, and you can right-click to select functions to adjust the wiring effect.

⑥ Wiring Area: Displays and sets the template for the current project. Double-click to use the template directly, and manage templates by adding, deleting, or querying.

⑦ Information Status Bar: Displays the zoom percentage of the wiring, canvas size, number of selected light points, type of light fixture set for the light points, and brightness.

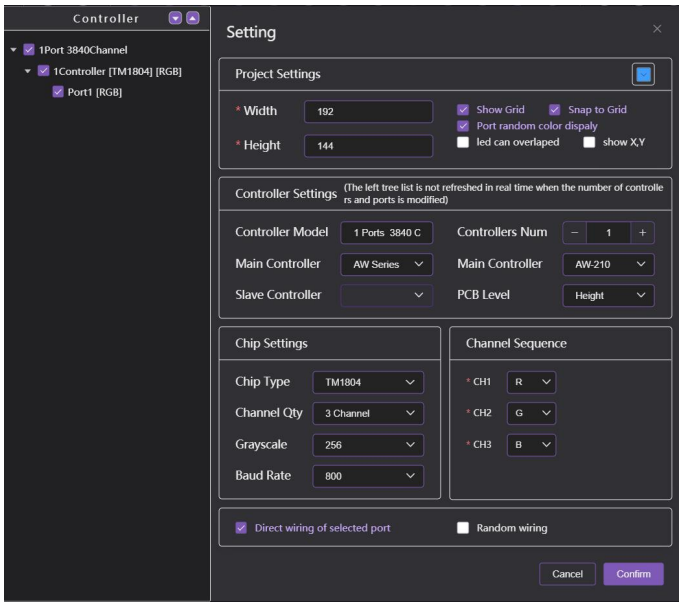
7.1.1. Menu Bar

Button	Description	Function
	Project	New Project/Save/Import DXF File/Import Background, etc.
	Settings	Set the number of controllers, project size, chip model specifications, and load.
	Save	Save wiring data, shortcut key <Ctrl>+<S>.
	Undo	Revert operation data one step, shortcut key <Ctrl>+<Z>.
	Redo	Restore operation data one step.
	Zoom In	Zoom in on the display ratio of the wiring area.
	Zoom Out	Zoom out on the display ratio of the wiring area.
	Cabling	In selected state, you can wire the selected port; clicking again will cancel the wiring state (pressing <Esc> will also cancel).
N	N type	In selected state, the wiring routing changes from S type to N type; clicking again will cancel the selection.
单	ReCabling	Used to reset the connection between points to follow the specified routing method. Can choose single segment/S type vertical/S type horizontal/N type vertical/N type horizontal.
	Select	**Selecting a port will default to wiring mode.** In selected state, you can wire the selected port; clicking again will cancel the wiring state (pressing <Esc> will also cancel).
line	Line	The connection display button between light points; select to show connections.
num	num	The serial number display button for light points; select to show light numbers.
	Change	Merge wiring. After selection, you can use the mouse to merge the wiring of two groups of light points into the same port. Operation: After clicking on port C1P3 in the control list, click the 【Adapter】 button, then click light 2 of port 1 again; all lights following the original light 2 will change to C1P3 and continue from the original number of lights. 
	Rule	Measure the distance between points. After clicking the 【Size】 button, click on the two light points you

Button	Description	Function
		want to measure in sequence, and a pop-up will display the X and Y distances between these two points.
	Light test	Click to enable the function of wiring while illuminating the light fixtures. After clicking the button, you need to set the network card, brightness, and other fields in the controller list to effectively use this function.
	Overlap	Click to allow multiple light points to exist on one grid.
	Preview	Click to zoom the canvas to match the size of the content displayed in the total preview window.
	Reverse	Set the wiring direction. After selecting two light points, click the 【Reverse】 button to swap the direction of the two light points.  If the entire port is selected for operation, the endpoint will become the starting point.
	Clip	Click to crop the excess blank area around the current wiring content.
	Positioning	Add X and Y axis coordinates for positioning.
	Annotation	Annotations can be added for wiring points. Click and then select the corresponding wiring point, and then maintain the annotation name.
	Management	Display annotations for blurred ports imported from DXF. Annotations can be deleted and added.
	Language	Default to obtain the Magic Player language, or directly switch the language to Simplified Chinese or English.

7.1.2. Settings

The settings page that pops up when creating a new project is the same as the hardware settings page opened by the original player. When using Map Tools4, hardware settings need to be configured within the wiring software, and the hardware settings on the player side are for viewing only and not for editing.



Options	Settings	Description
Project Settings	Width/Height	Set the dimensions of the canvas.
	Show Grid	When checked, the wiring area will display grid points.
	Snap to Grid	When checked, all wiring points will snap to the grid; when unchecked, points can be displayed smoothly as floating points.
	Port Random color display	Set the color for port wiring.
	Led can Overlaped	Whether to allow multiple light points on a grid. Check to allow.
	Show X,Y	Check to display the x and y coordinates of the grid where the mouse hovers in the information status.
Controller Settings	Controller Model	Only prompts the current number of ports for the sub-controller and the maximum load capacity of channels.
	Controllers Number	Set the number of controllers.
	Main Controller	Users should choose based on actual conditions. If the controller model is modified after lighting, various merging situations may occur, see the explanation after the table.
	PCB Level	The effective level of the driver chip, special setting. Default is high level.
Chip Settings		Set the type of light fixture chip, channel, and other parameters based on actual conditions.
Channel Sequence		Set the channel color order of the light fixtures based on actual conditions. If the channels are modified after the lights are set, various merging situations may occur; see the explanation in the table below.

Modify Control Model

Situation 1: Changing from an 8-port controller to a 2-port controller.

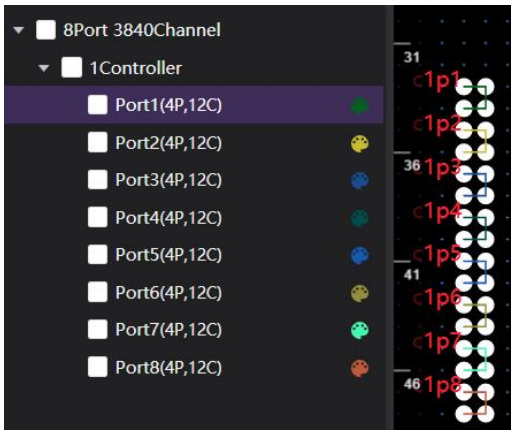
If all original ports have data, copy the distributed light fixture data to each port;

If some original ports have no data, you need to choose to keep the original empty ports and increase the number of controllers (the 【Multi-open】 option), or directly ignore the empty

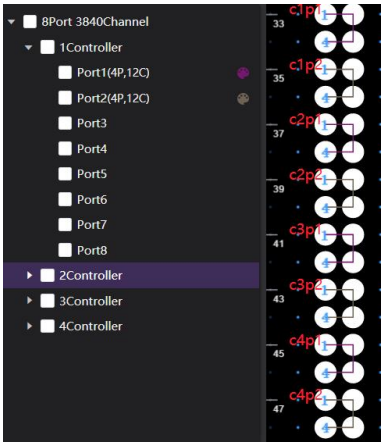
ports and overwrite them (the 【Sequential】 option).

Example 1: Copy distributed light fixture data to each port

Before modification: 1 controller with 8 ports all wired.

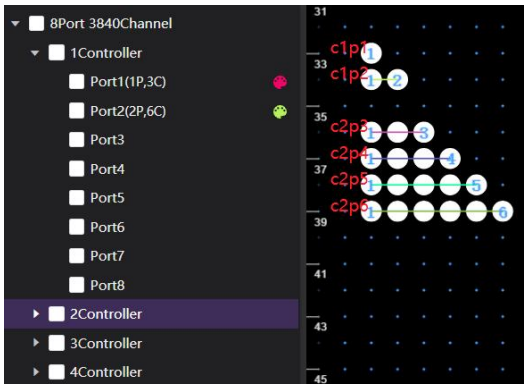


Modified: 4 controllers and 2 ports are all wired.

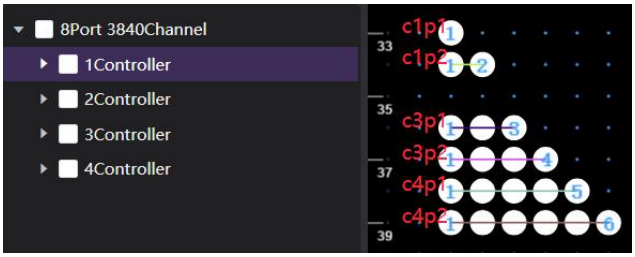


Example 2: Retain original unused data ports and increase the number of controllers (【Multi-Open】)

Before modification: Wiring from C1P1 to C1P2, C2P3 to C2P6

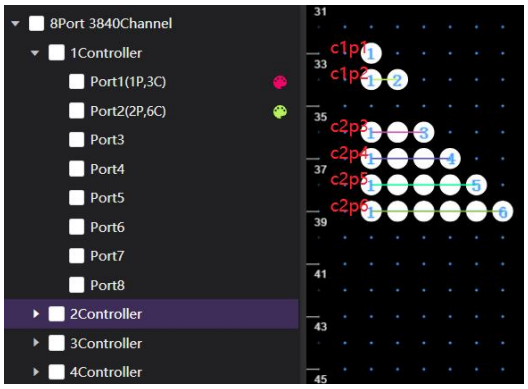


After modification: The original ports from C2P3 to C2P6 are allocated to C3P1, C3P2, C4P1, and C4P2.

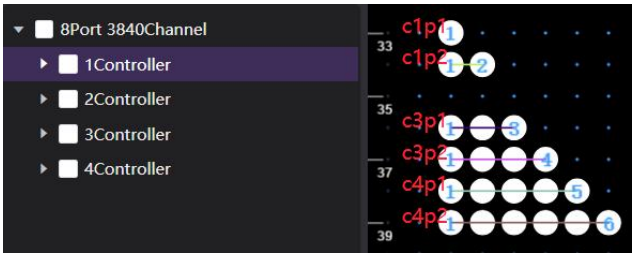


Example 3: Directly ignore unused data port coverage (【Carry Over】)

Before modification: Wiring from C1P1 to C1P2, C2P3 to C2P6



After modification: The original ports from C2P3 to C2P6 are allocated to C3P1, C3P2, C4P1, and C4P2.



Modify the number of channels (the maximum channel limit for each port is 3084) :

When the channel value is changed from large to small, if the total number of channels for the original port does not exceed the limit, it is directly effective without the need for secondary selection processing.

When the channel value is changed from small to large, the original lighting * modified channel

value will exceed the channel limit, and the number of lights exceeding the channel will be allocated to additional controllers.

8-Port Controller	Before Modification		After Modification	
	Controller Pixel Count	Driver Light Fixture Channel Value	Controller Pixel Count	Driver Light Fixture Channel Value
C1P1	1280	3	960	4
C1P2	1024	3	720	4
C2P1	1280	3	1280	3
C2P2	720	3	720	3
C3P1	None	None	320 (Original C1P1's 961-1280 lights)	4
C3P2	None	None	64 (Original C1P2's 961-1024 lights)	4

7.1.3. Controller List

In the controller list Right-click Different positions will pop up corresponding functional options.

Operation	Description	Function
x Port 3084 Channel	Add Controller	Clicking will add 1 controller and corresponding port number below the currently existing controllers.
	Set Number of Controllers	Based on the set number of new controllers, add controllers below the currently existing controllers.
	Save Project as Template	Use the entire project's wiring settings as a template.
	Reverse Light Fixture	Set the wiring direction. Click to swap the wiring direction of all controllers; the starting point becomes the endpoint.
	Clear All Wiring Clear Wiring Spacing Specify Clear Wiring	Clear all/specified wiring data; after clearing, all numbers will automatically shift.
Controller No. x	Insert	Insert a new controller in front of the current controller.
	Set Color	Set the wiring color for all ports of the current controller.
	Save as Template	Use the wiring settings of all ports of the current controller as a template.
	Copy	Copy.
	Overlay Paste	Add the copied wiring data to this controller, while clearing the existing wiring data.
	Append Paste	Start accumulating the copied wiring data from the endpoints of all wiring on this controller.
	Cross Paste	The copied wiring data is inserted as even points and pasted onto all ports of the current controller.
	Reverse Light	Set the wiring direction.

Operation	Description	Function
	Fixture	Click to swap the wiring direction of all ports, changing the starting point to the endpoint.
	Delete	Delete the current controller and all its wiring.
	Clear All Wiring Clear Wiring Spacing Specify Clear Wiring	Clear all/specified wiring data; after clearing, all numbers will automatically shift.
Port x	Wiring	For details, please refer to the 'Wiring' chapter.
	Save as Template	Set the current port wiring as a template for use.
	Copy	Copy.
	Overlay Paste	Add the copied wiring data to this port, while the existing wiring data will be cleared.
	Append Paste	Start accumulating the copied wiring data from the endpoints of all wiring on this port.
	Cross Paste	The copied wiring data is inserted as even points and pasted onto this port.
	Hide/Show Light Points	Hide/Show selected light points.
	Reverse Light Fixture	Set the wiring direction. Click to swap the wiring direction of the current port, changing the starting point to the endpoint.
	Clear Wiring Clear Wiring Spacing Specify Clear Wiring	Clear all/specified wiring data; after clearing, all numbers will automatically shift.
	Insert Port	Insert a new port in front of the current controller, and the wiring of subsequent ports will follow to the next port.
	Delete Port	Delete the current port, and all ports under the currently selected port will move up.
	Swap Ports	Swap the data of two ports.
	Rename	Modify port name.

7.1.4. Wiring area

Right-click in the wiring area to bring up multiple functional options for convenient lighting.

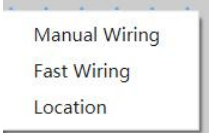
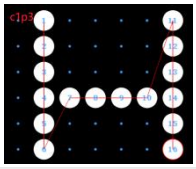
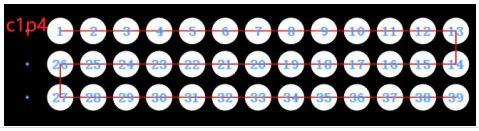
Description	Function
Delete	Delete the selected light point (shortcut key <Ctrl>+<D> or <Delete>).
Insert	Insert a light point before the selected light point.
Overlap Wiring Points	Set the selected light point as multiple overlapping light points.
Copy CAD Coordinates	Copy the coordinates of the selected light points; this function is particularly convenient for importing DXF files for troubleshooting.
Copy	Copy the selected light points (shortcut key <Ctrl>+<C>).

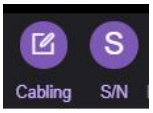
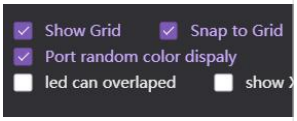
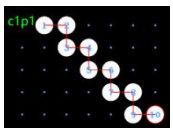
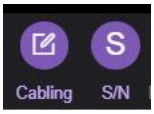
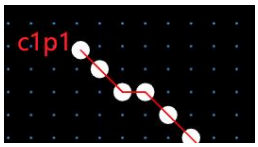
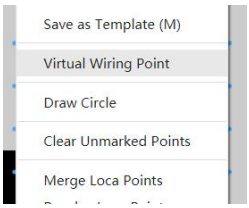
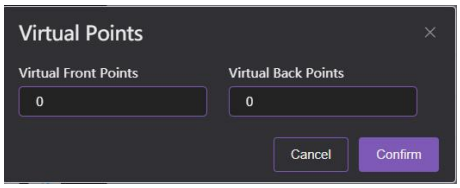
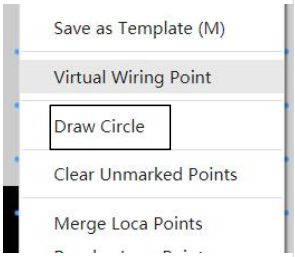
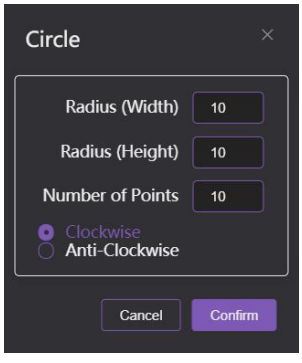
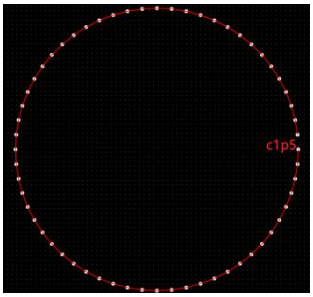
Description	Function
Cut	Copy the selected light points (shortcut key <Ctrl>+<X>).
Save as Template	Save the selected light points as a template for easy reuse later. The created template will be in the template list.
Measure	Quickly find X and Y coordinates.
Location	Measure the distance between points. After clicking the 【Rule】 button, click on the two light points you want to measure in sequence, and a pop-up will display the X and Y distances between these two points.
Change Lamp Type	Set the channel and brightness for the selected light points.
Hide/Show Lamp Points	Hide/Show selected light points.
Select Odd/Even Points	Among the selected light points, select only odd/even points again.
Equalize Wiring interval	Equidistantly stretch the selected light points.
Wiring interval	Set the distance of spacing before each light point during wiring. Click 【Cancel Wiring interval】 if no spacing is needed.
Random Color	Set the color of the line between light points.
Rotation (Clockwise/Counterclockwise/180° /Custom) Horizontal/Vertical Flip	Set the rotation angle, flip, etc. for the selected light points.
Complete	Complete (Confirm) the selected function.

7.2. Wiring

7.2.1. Manual Wiring

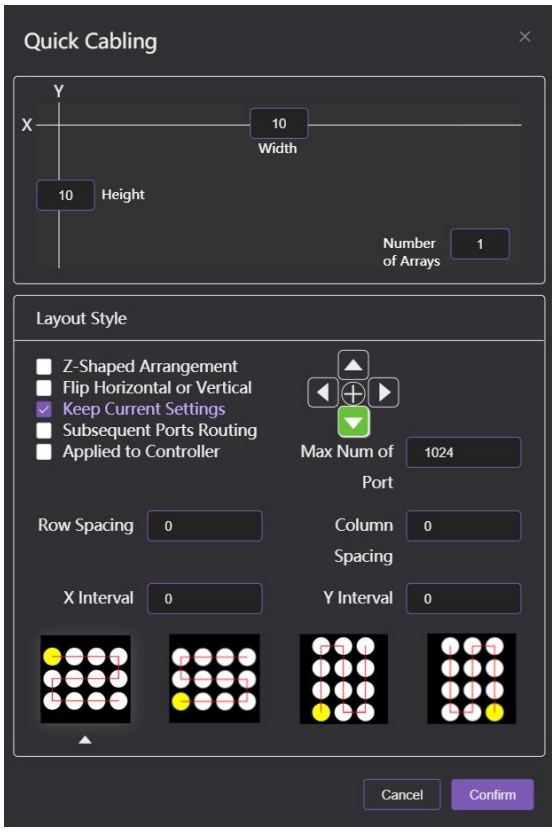
Set the position of light points and wiring for the project (the starting position of the mouse is the entry point for the light fixture wiring).

Operation	Operation Example		
Manual Wiring	① Right-click on the Controller List 【Port】 - 【Wiring】 - 【Manual Wiring】 	② Move the mouse to any blank grid and click, then move the mouse to the grid where you want to place a point and click to place the point. 	③ Once completed, you can right-click to select 【Finish】 or use the keyboard shortcut <Esc>.
Wiring	① Click 【Wiring】 in the menu bar (shortcut key <D>)	② Move the mouse to any blank grid, then click + drag. 	③ Once completed, you can click the 【Wiring】 button, right-click to select 【Finish】, or use the keyboard

Operation	Operation Example		
			shortcut <Esc>.
Manual Wiring Point Placement Mode	① Click 【Settings】 in the menu bar and check【Manual Wiring Point Placement Mode】 	② Click the mouse to move on the wiring grid point count to place points. The point placement process requires holding down the mouse. 	③ To cancel, you need to enter 【Settings】 twice and uncheck 【Manual Wiring Point Mode】
Arbitrary Wiring	① Click 【Wiring】 in the menu bar (shortcut key <D>) 	② You need to first place a point, then hold down the Ctrl key on the keyboard and drag the mouse to wire. Once the point is placed, click the mouse once. 	③ Once completed, you can click the 【Wiring】 button, right-click to select 【Finish】, or use the keyboard shortcut <Esc>.
Virtual point	① Select a point or right-click to choose 【Virtual Wiring Point】 during the wiring process. 	② Enter the number of virtual points before or after according to the actual situation. 	③ Click OK to view the virtual wiring data. You can save the wiring with virtual points as a template for use. 
Circle Drawing Tool	① Right-click in the canvas area to select the Draw Circle . 	② Set the width, height, point count, and direction of the circle, then click OK. 	③ Quickly draw circular wiring shapes based on the set parameters. 

7.2.2. Quick wiring

Provides various commonly used S-shaped/Z-shaped wiring methods for quick wiring in projects.



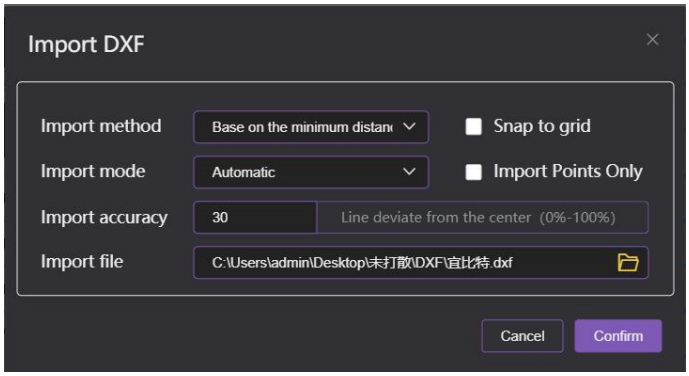
Right-click on the controller list 【Port】 - 【Wiring】 - 【Fast Wiring】 to open the interface.

Options	Description
Width/Height	Set the size of the light cloth.
Number of Array	Set the quantity of light cloths based on the specified size.
Z-Shaped Arrangement	Defaults to S-type routing; checking this option changes it to 'Z' type for selection.
Flip Horizontal or Vertical	Set the entry position and routing trend for the wiring.
Keep Current Settings	Check to retain the same settings for the next call.
Subsequent Ports Routing	If checked, all subsequent ports of the current controller will be wired according to this setting.
Applied to controller	If checked, all subsequent controllers will be wired according to this setting.
Max Num of Port	Set the maximum number of lights allowed per port.
X/Y Direction Spacing	Set the spacing between light points.
Port X/Y Direction Interval	Set the spacing between ports.
	Set the wiring direction queue for subsequent ports.

7.2.3. Import DXF

You can read DXF files and import them accordingly, converting them into light points recognizable by the software.

Click 【New】 - 【Import DXF】 to open the interface. After selecting the file, you need to set the DXF import conditions before importing.



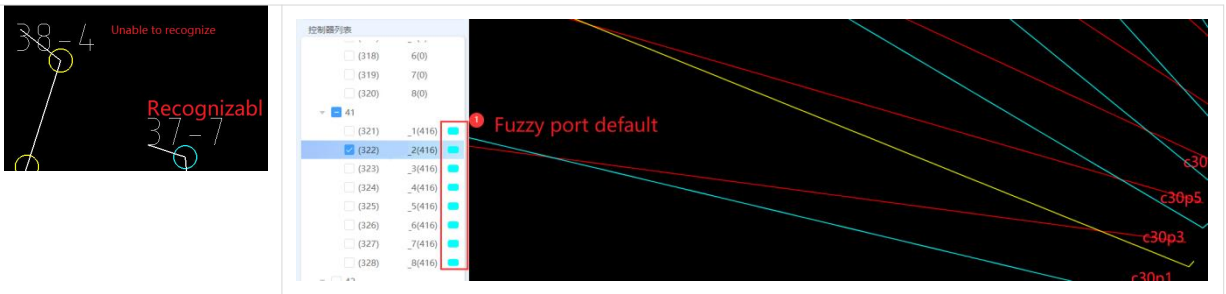
【Project Width】The size of the DXF wiring file imported when reading the DXF file can be manually set to input the width of the light points or use the default adaptive setting. If the image is too small or too large, it is recommended to choose a fixed canvas size as the basis for manual setting.

DXF Image	Description	Select Function	Notes
	Read the entire wiring diagram and use the radius of the largest circle as the basis for import. After import, the distance between points is based on this largest circle as the point interval.	Based on the radius of the largest circle	Based on the radius of the circle, allow the endpoints of the line segments to deviate from the center of the circle, and it is recommended that the percentage value does not exceed 50% to prevent misjudgment of intersecting circles.
	Read the entire wiring diagram and use the radius of the smallest circle as the basis for import. After import, the point distance uses this smallest circle as the point interval.	Based on the radius of the smallest circle	
	Directly use the radius of the first circle in the top-left corner as the basis for import. After import, the point distance uses this circle as the point interval.	Based on the radius of the first point circle	
	Read the entire wiring diagram and use the minimum distance between two circles as the basis for import. After import, the point distances are distributed proportionally according to this interval for all light points.	Based on the minimum distance between points	

	Read the entire wiring diagram and use the average distance of all circles as the basis for import. After import, the point distances are distributed proportionally according to this interval for all light points.	Based on the average distance between points	
	Fixed import size	Based on a fixed canvas size	Need to know the actual size of the wiring canvas.
	Points imported will align to the grid	Check 【Snap to Grid】	
	After import, the entire file consists of wireless points, and the reconnect function can be used to reset the connections between points.	Check 【Import Points Only】	

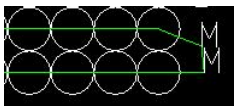
Suggestion:

1. If the drawing is correct, it is recommended to import based on 【Base on Minimum distance between points】, as the project size, controller, number of ports, and total number of points will match performance best.
2. If the project width and height are known, import based on 【Base on a fixed canvas size】 to ensure the project size is consistent with the actual dimensions.
3. Remember that the actual size of the dxf must not differ significantly from the fixed canvas size; otherwise, the MAP may not compress to the specified canvas size, which could lead to data loss (and may not be displayed in the software).
4. The dxf must comply with the rules; otherwise, the accuracy and compatibility of the import will be poor.
5. Rules: A. The center must be directly connected to the line segment and there must be no duplicate lines;
   B. The port format needs to follow the rules;
   C. The port needs to be connected to the extension line of the first circle).
6. Lines with non-standard port identification or without port identification will be automatically configured as fuzzy ports for import. The default color for fuzzy ports is identifiable; checking the fuzzy port color will also change it to yellow.



7. Virtual points can be represented by 'Single Line Text M', line segments must pass through,

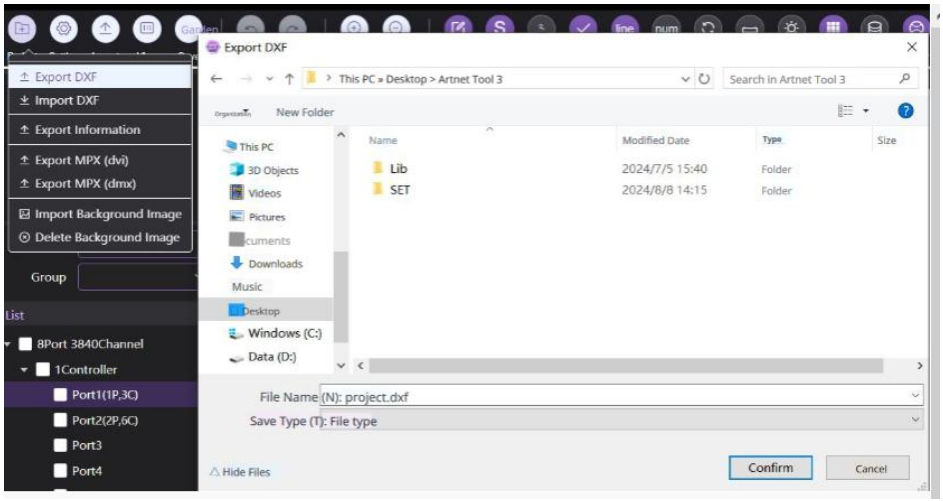
and line segments passing through 'Single Line Text M' cannot intersect.



7.2.4. Export DXF

Quickly export the project wiring diagram (DXF format) for easy on-site viewing and installation. When exporting the DXF wiring file, virtual points (Text Mx identifiers) will be output simultaneously;

The export file path can be modified through the 【File Name】 settings.

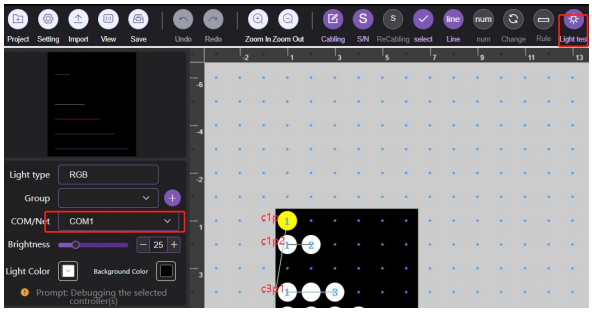


7.3. Other Functions

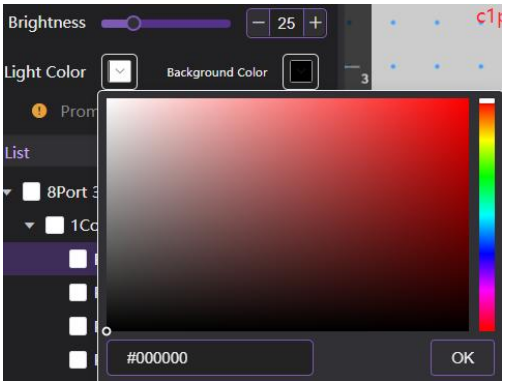
7.3.1. Activate Debugging Function

① Connect the network card properly and ensure hardware connections are correct. Select the corresponding controller chip on the map settings page.

② Click the activate function; select the network card to send the activation command.



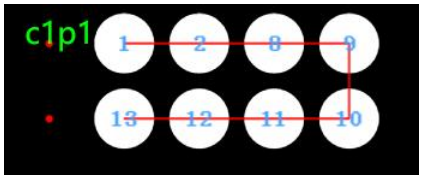
③ Perform debugging on the ports with the activate switch checked, adjusting the brightness of the lights, the color of the lights, and the background color. Different controls can set different activation colors.



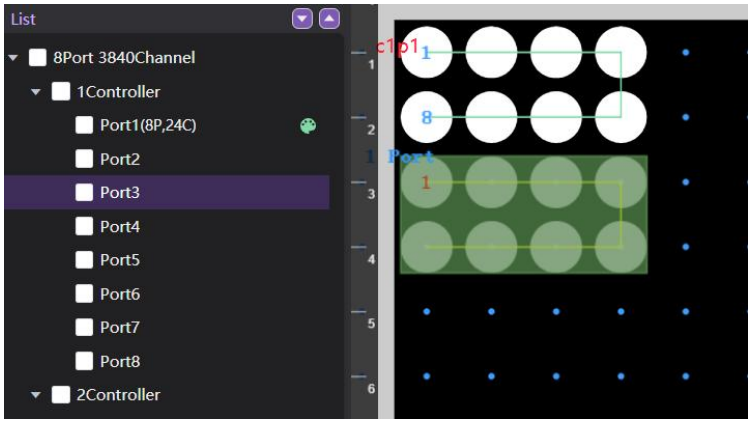
7.3.2. Template

Conveniently and quickly call special wiring or dimensions repeatedly; the set template only applies to the current project.

1. Select the light point, right-click to set the wiring as a template.



2. Select the port, double-click the template in the template list, and the wiring will be loaded by default in the upper left corner of the page. After moving the template to the desired position, you can directly click paste, or right-click on the port to choose options like 【Overwrite/Append/Cross Paste】, etc. (Shortcut key <Ctrl>+<V>)

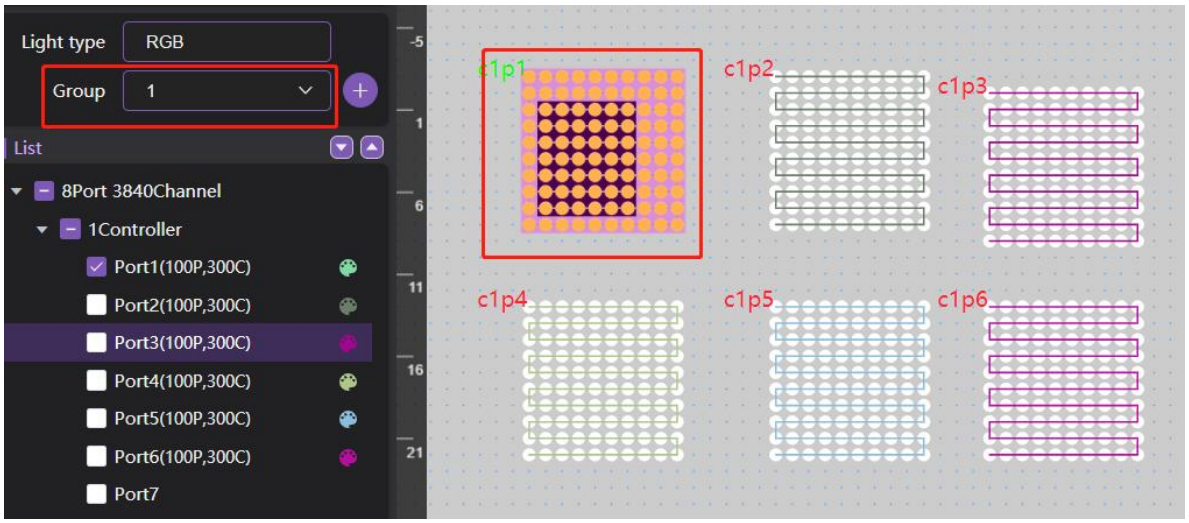


3. Double-click the template, right-click 【Complete】, or press <ESC> on the keyboard to cancel the call.

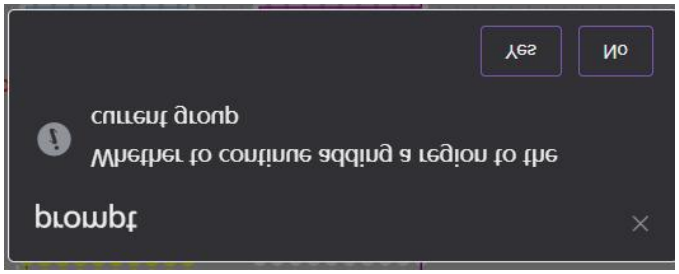
7.3.3. Grouping function

Divide the wiring light points into areas and create effects for the grouped areas.

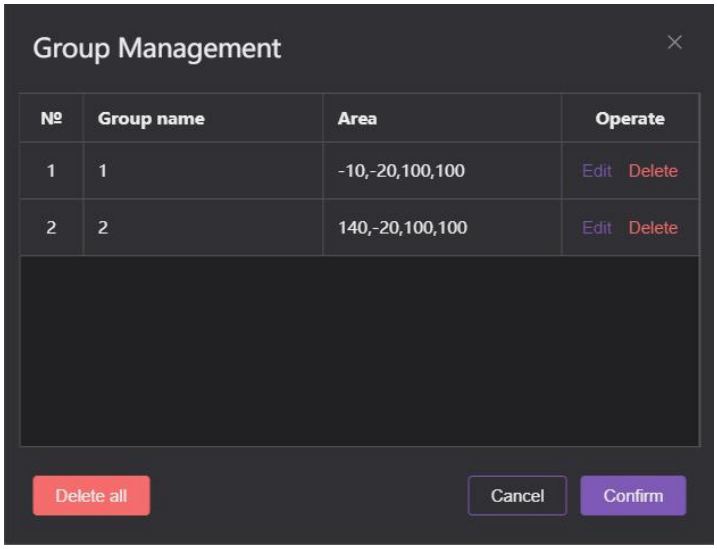
1. Click the Add Group button to automatically crop the current canvas. If you need to insert zeros, you can do so now by selecting the group area with the mouse.



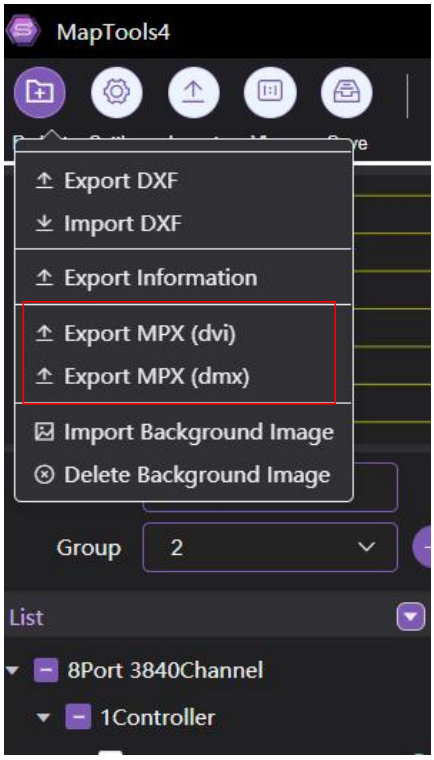
2. When adding, you can continuously select areas to set groups. Each selected area corresponds to one group; select 'No' below. One group can correspond to multiple areas; select 'Yes' below.



3. Click on the 【Grouping】 in the menu bar to manage groups.



4. Export MPX files based on the grouped areas. (Regular delete)



7.3.4. Shortcut keys

Click 【Menu】 - 【Help】 - 【Shortcut Key】 to view the current shortcut key table.

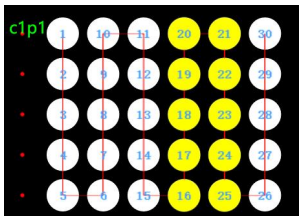
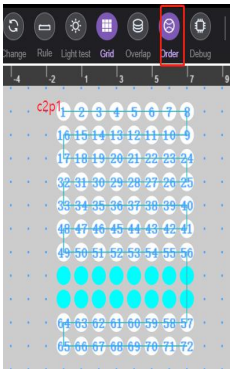
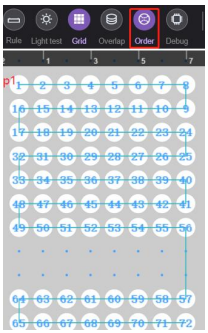
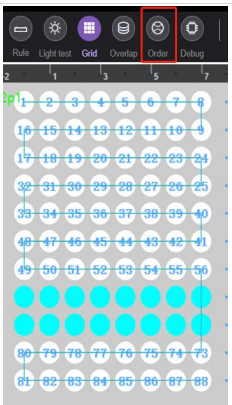
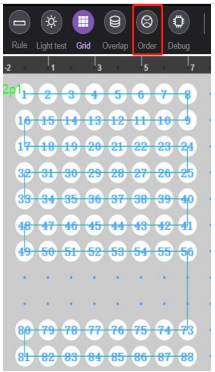
Function	Shortcut keys
Swap ports	P

Function	Shortcut keys
Hardware Settings	S
Adapter	G
Import DXF	F
Output DXF	Ctrl+F
Save	Ctrl+S
Save as Template	M
Overlapping points (single point)	R
Allow pixel points to repeat (entire wiring)	Ctrl+R
Rotate clockwise 90°	A
Enable Wiring	D
Quick wiring	K
Virtual Point	X
Arrow Key Wiring	↑ ↓ ←→

7.3.5. Delete

Includes 【Delete Point】, 【Delete Connection】.

Default 【Order】, non-sequential numbering is generally used for special fixture virtual data.

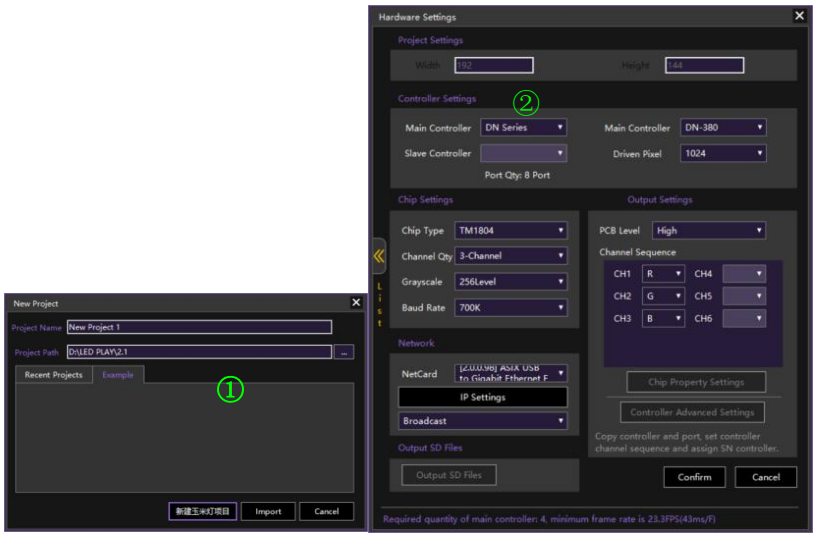
Select Point	Delete Connection		Delete Point	
		Continuous numbering, right-click 【Clear Point Connection】, in this example, the original number of the light point 26 changes to 16.		Continuous numbering, press the keyboard delete key, in this example, the original number of the light point 26 changes to 16.
		Non-continuous numbering, right-click 【Clear Point Connection】, in this example, the number of the light point remains unchanged.		Non-continuous numbering, press the keyboard delete key, in this example, the number of the light point remains unchanged.

8. 3D Modeling Function and Operation

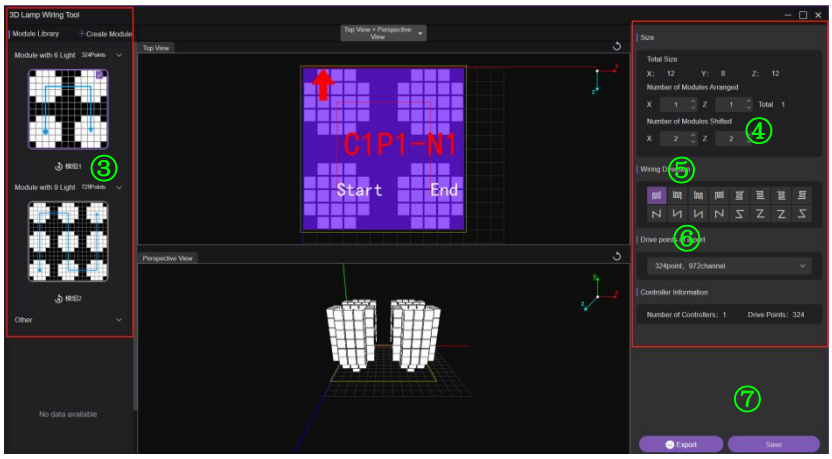
8.1. Create New Corn Light Project

The operation is as follows:

1. Click on【New Project】to open the interface. Click the dropdown list under New Project and select 'New Corn Light Project';
2. In the 'Hardware Settings' interface, select the DN-380 controller model, and choose the chip and number of channels according to the actual situation;



3. Based on the actual application of the corn light panel (composed of 4 or 9 light columns), select the corresponding module on the left panel;
4. According to the wiring situation of the actual scene, set the overall wiring between modules, and set the size, number arrangement, and offset of the corn light modules on the right panel;
5. Select the wiring direction;
6. Select the number of driving points for each channel;
7. Save and exit to complete the new project, and you can add the 3D effect of the corn lamp.

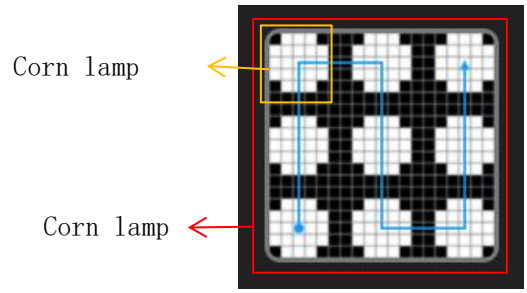


8.2. Corn lamp wiring shape

Since the corn lamp is a special shape, first select the appropriate module lamp board for the actual project, and then perform overall regular wiring between multiple module lamp boards.

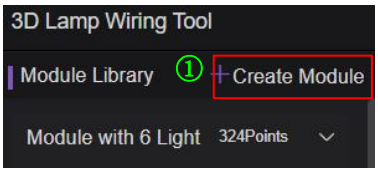
8.2.1. New module

The corn lamp module is composed of multiple luminous columns resembling corn, forming a 3D matrix wiring to construct a three-dimensional matrix lamp board (commonly available lamp boards on the market consist of 4 or 9 corn lamp luminous columns), facilitating the use of overall wiring. Module data can be shared across different projects.

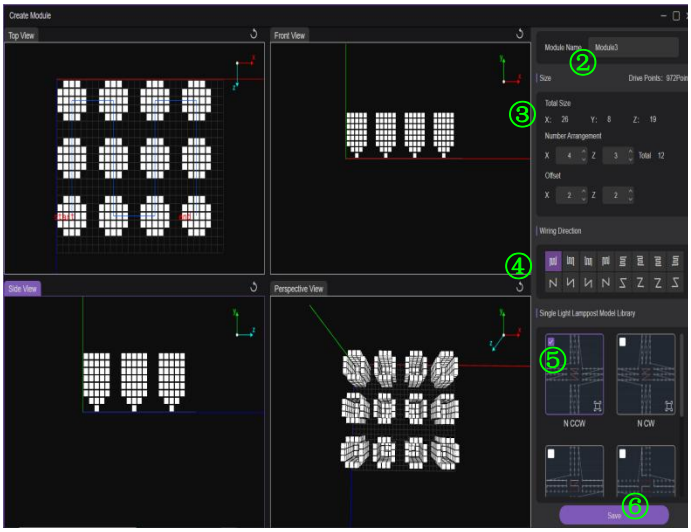


The operation is as follows:

1. In the wiring main interface, click on 【Create Module】 to open the interface;



2. Modify the module name;
3. Set the dimensions of the module: X is length, Y is height, Z is depth. Choose the arrangement quantity based on the individual module situation (e.g., 2x2, 3x3, 3x4, etc.), and set the offset distance between individual corn lamp light columns;
4. Select the routing direction between the corn lamp light columns;

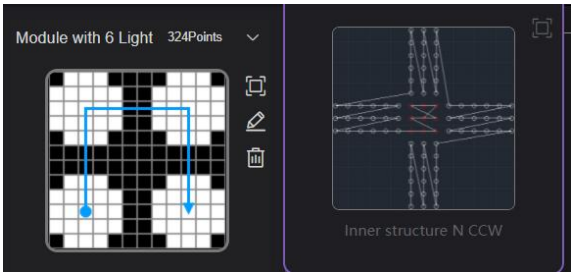


You can view the routing situation in the 'Top View' preview window on the left, where Start indicates the entry point and End indicates the exit point;

5. Choose the routing method for the internal structure of the individual corn lamp light column;
6. On the right side, you can preview a three-dimensional wiring model composed of multiple glowing columns. Click 【Save】 to create a new module.

Note: The glowing columns in the actual module must have consistent wiring directions; otherwise, the data will be inconsistent.

7. After successfully creating, you can preview the module's data on the main wiring interface. When selecting or hovering over the module's preview image, a toolbar will appear with the following functions:

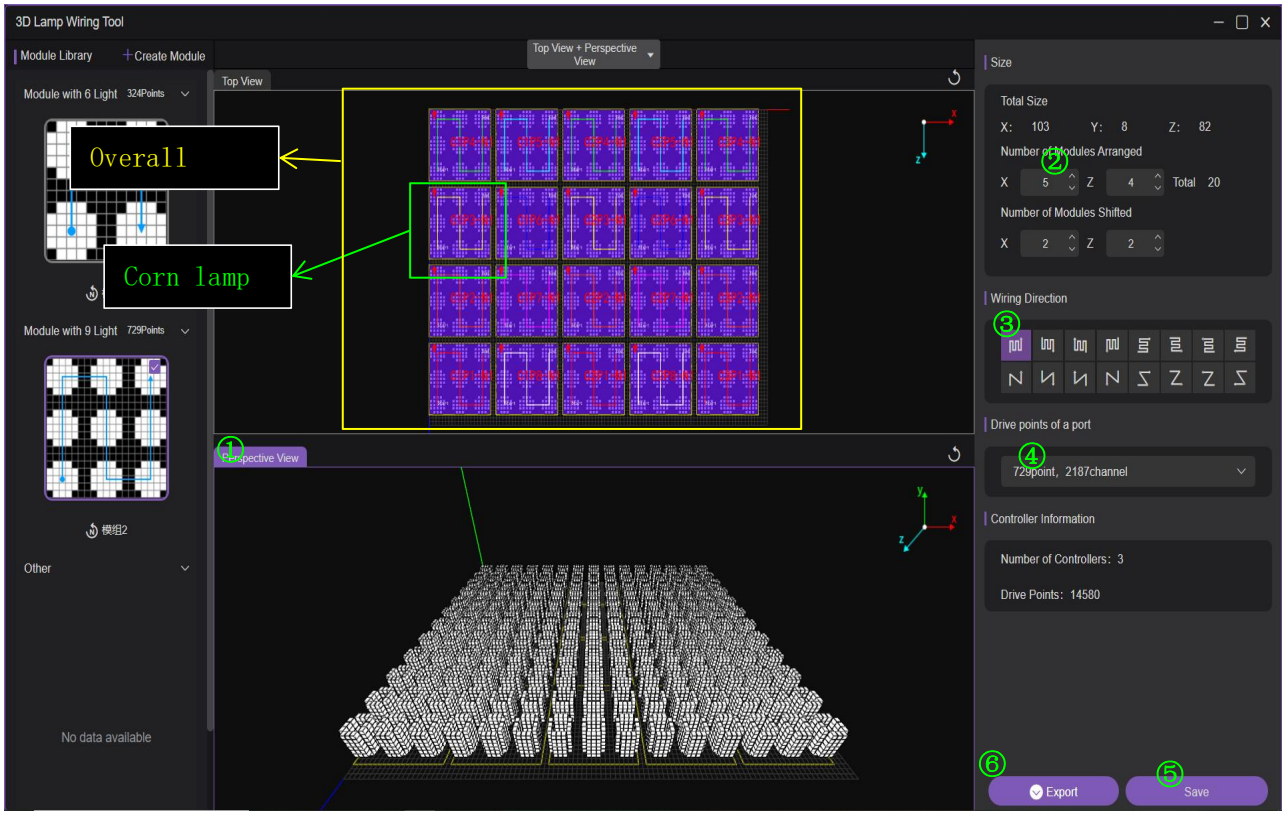


Icon	Function Description
	Zoom in on the current module's wiring preview image.
	Modify the wiring data of the current module.
	Delete the current module.

8.2.2. Overall Wiring Shape

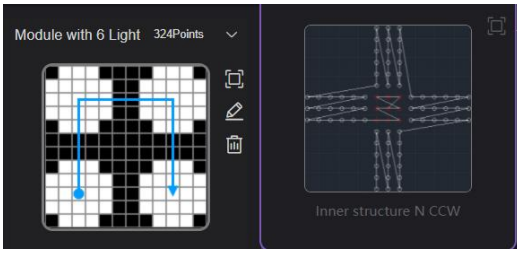
8.2.2.1. Regular Wiring Shape

The overall wiring of the project requires setting up regular wiring between multiple modules.

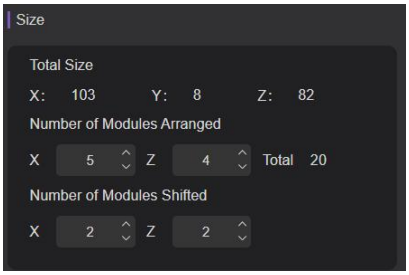


The operation is as follows:

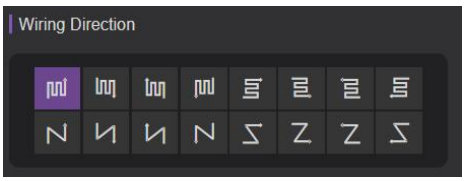
1. Select the corn lamp module based on the application of the light board; click to select. If there are no suitable modules, you can click on 【Create Module】 to create one, see section 8.2.1 for details.



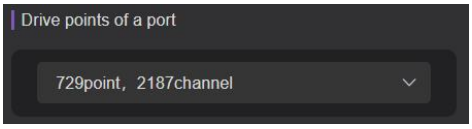
2. Based on the actual module situation, set the number of modules, and enter the number of modules arranged on the X-axis (length) and Z-axis (depth). Also, set the spacing offset between the modules.



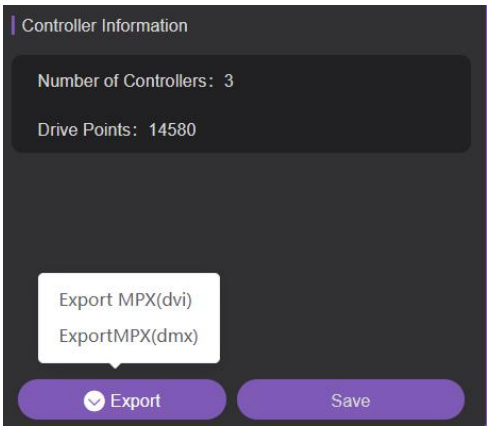
3. Click to set the wiring method between the modules, providing a total of 16 directional options including S-shape and N-shape. You can view the wiring situation in the preview window on the left side labeled 'Top View', where the red arrows represent the direction of the modules.



4. Based on the size of the modules, you can set the maximum number of driving points for each path to ensure that the ports drive a complete integer multiple of the module points.



5. Displays the number of controllers and total driving points; click 【Save】 to exit the wiring operation.



Preview window on the right:

Top view：Displays a 2D wiring diagram between the X-axis and Z-axis, showing the wiring direction between modules, as well as the applied hardware information. C represents the controller, P represents the port, and N represents the sequence number of the port, for example, the sequence text format; C2P3-N1 means the hardware is the 2nd controller, 3rd port, and the 1st module. The color of the numbers for the same controller is consistent.

Perspective view：Displays a 3D wiring diagram between the X, Y, and Z axes.

6. **Export MPX wiring file**：If you need to operate the Magic Player software, output the corresponding MPX Magic Player map file according to actual needs.

8.2.2.2. Irregular Wiring Shape

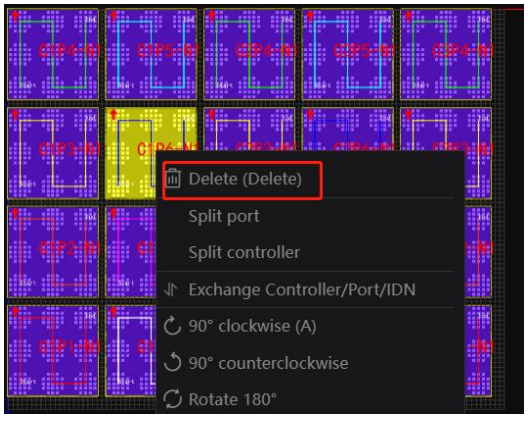
Based on the rules of wiring, perform functions such as deleting modules, swapping controllers/ports/serial numbers, splitting controllers, splitting ports, and rotating directions.

Select the module **right-click**, and the following functions can be operated:

Delete Module:

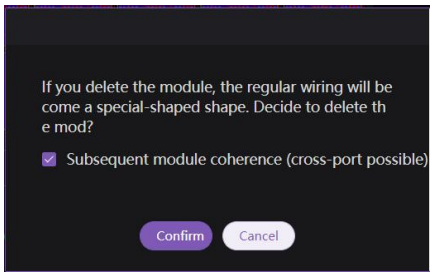
Hollow out the module according to the actual situation, and click 【Delete】 to remove the current module.

When deleting a module, choose whether the subsequent port number is continuous.



When a module is deleted for the first time from the rule-based wiring, a popup will prompt that it has become an irregular shape, and subsequent modules can choose whether to enable continuity. For example, if the deleted module is C2P6-N1, if continuity is checked, the first subsequent module will become C2P6-N1, and subsequent module serial

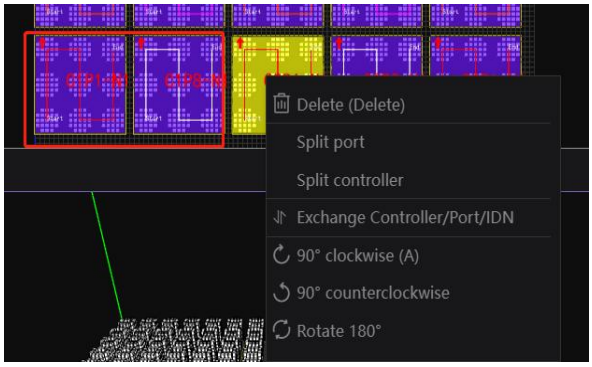
numbers will decrease by 1. If continuity is not checked, a serial number C2P6-N1 will be left empty, and the first subsequent module will still be C2P7-N1, while other module serial numbers remain unchanged.



Continue to delete other modules; modify the checkbox at the top to determine whether the deletion of modules is continuous.

Port Splitting:

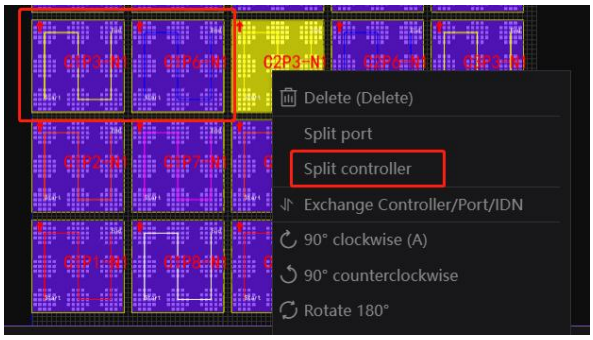
When two or more modules share a port, split the module ports according to the actual situation.



As shown in the figure, the two modules in the red box were originally C1P2-N1 and C1P2-N2. Right-click on C1P2-N2 and select 【Split Port】, which will create a new port starting from C1P2-N2, changing it to C1P3-N1. This also affects the numbering of the subsequent modules in the wiring, which will increment and shift accordingly, recalculating the number of ports based on the number of points carried by the line.

Controller Split:

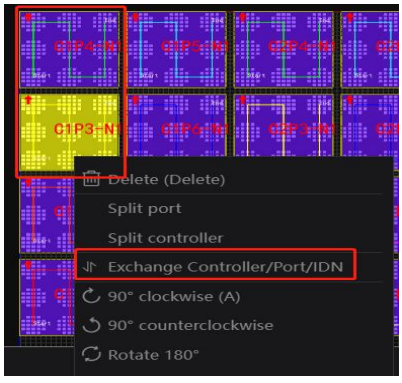
When the project controller does not use all 8 ports, it can be split to the next controller based on actual usage.



As shown in the figure, the two modules in the red box were originally C1P6-N1 and C1P7-N1. By right-clicking on C1P7-N1 and selecting 【Split Controller】, a new controller is created from C1P7-N1, changing it to C2P7-N1. This also affects the serial numbers of the subsequent modules, which will increment and change accordingly. The number of controllers and ports will be recalculated based on the number of points carried by each line.

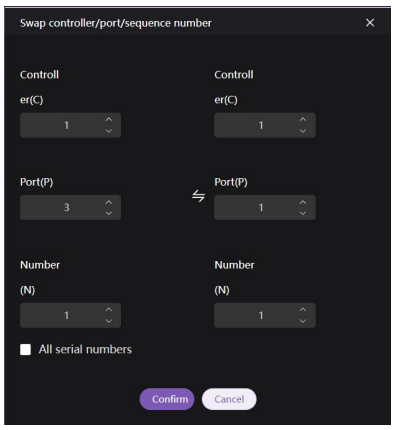
Swap Controller/Port/Serial Number:

When the wiring direction of the module's ports does not match the actual situation on site, the ports of the module should be swapped according to the actual conditions. Swap the controllers, ports, and numbers between the current module and the target.



As shown in the figure, the two modules in the red box were originally C1P1-N1 and C2P8-N1.

Right-click on C1P1-N1 and select 【Exchange Controller/Port/IDN 】. In the popup interface, set the controller to 2, port to 8, and number to 1, changing it to C2P8-N1, while the original C2P8-N1 becomes C1P1-N1, with other modules remaining unchanged.

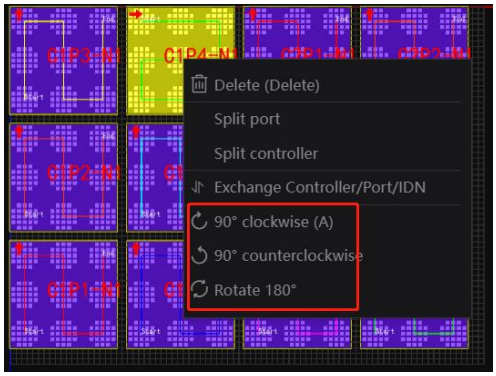


Rotate Module:

When the installation direction of the modules on site is inconsistent, modify the corresponding data by rotating the modules.

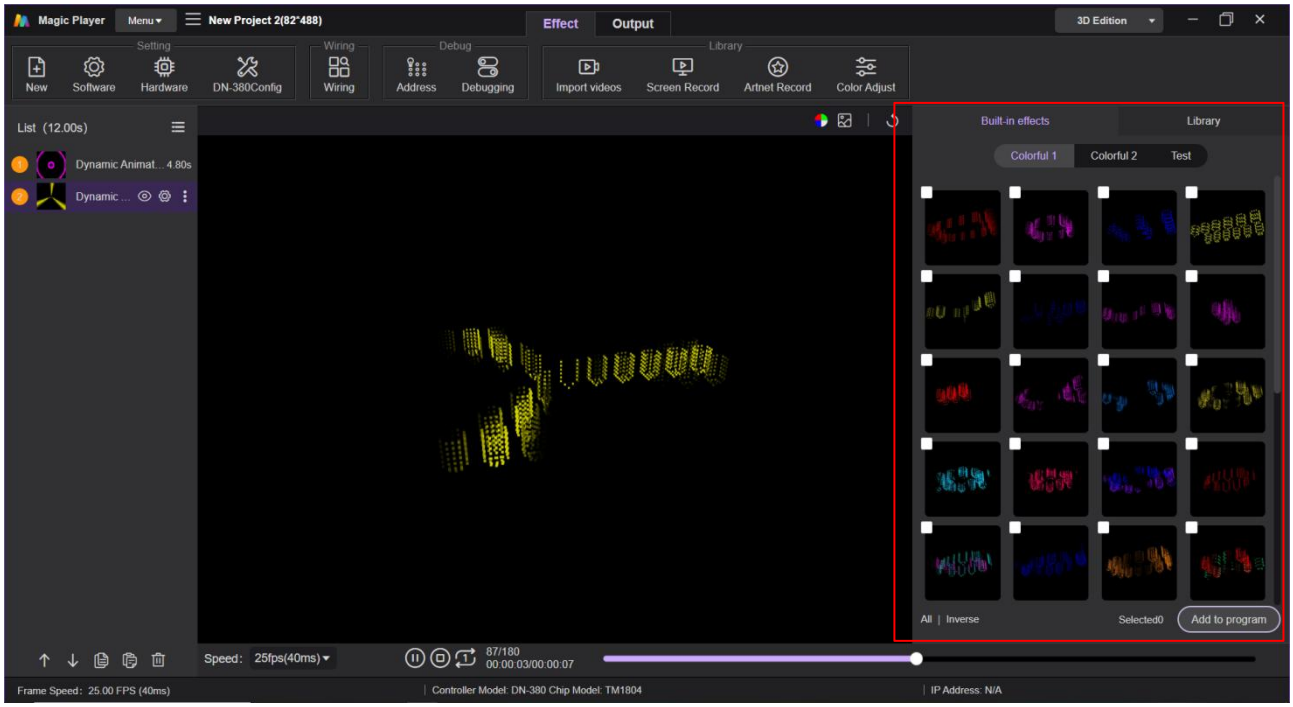
The currently selected module rotates a certain angle around its center point, providing clockwise 90° (shortcut key A), counterclockwise 90°, and 180° rotation. After selection, the preview window will display a real-time preview of the rotating effect, and the red arrow icon will change direction.

If the module referenced by the project is rectangular, it can only be rotated 180 degrees.



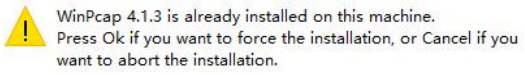
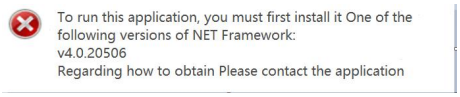
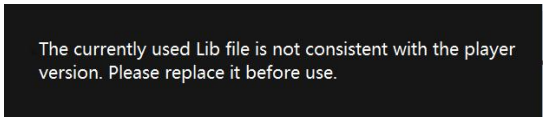
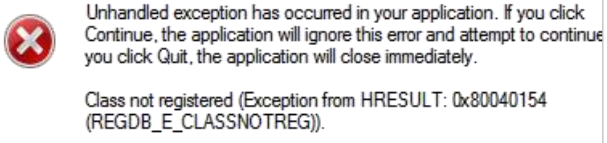
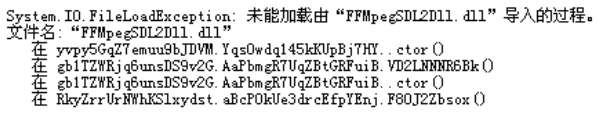
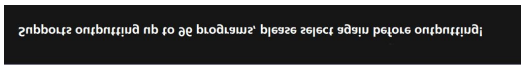
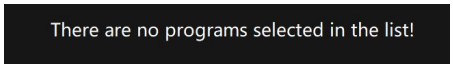
8.3. Add Corn Lamp 3D Effect

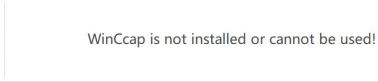
On the right side of the 'Effect Editing' interface, built-in effects can be imported with one click for multiple sets of 'colorful 1', 'colorful 2', and 'Test'. Check the effect preview image, click 【Add to Program】, and you will see the added 3D effects on the left side. Click play to preview the program in 3D.



In addition, the Corn Lamp supports effect creation:
1. Screen Recording (DVI): Capture the 3D animation effects of the Magic Player software. For details, see '3.4.4 Screen Recording'. Note: Record in 8 layers according to the Y height of the corn light; the X length of the corn light must not exceed the computer screen resolution/8.
2. Artnet Recording (DMX): Real-time acquisition of Majesty software's 3D animation data to generate effect files.
3. Import Video: Supports flat video import for playback; the video must be set to 2D dimensions. Adjust the size of the 2D video according to the wiring's 2D dimensions for 3D mapping. Video formats supported are 'avi, mp4, mov'.
In the preview window, the corn light model can be operated:
Adjust the preview angle of the model: Long press the left mouse button to rotate and freely adjust the angle up to 360 degrees.
Zoom in/out of the model: Scroll the mouse wheel up/down.
Move model: Long press the right mouse button to drag.

9. Problems and Solutions

ID.	Problem	Solution
1.	An error message box pops up during installation. 	The computer has WinPcap installed; click 【OK】 to exit.
2.	An error message box pops up when running Magic Player. 	Click 【OK】 to close the message box. Magic Player runs on the '.NET Framework'; click to install '.NET Framework' until completion, then reopen Magic Player.
3.	An error message box pops up when running Magic Player. 	Click 【OK】 to close the message box. Lib and Magic Player are released simultaneously; ensure both are stored in the same directory path. If the above two conditions are met and the error still occurs, please delete the original lib folder and copy the latest lib again. Note: The controls in the Lib folder must not be deleted; none can be missing.
4.	Click on 【Import】, an error message box will pop up. 	Click【Quit】to close the message box, then install the 'Adobe Flash Player for IE' software.
5.	When opening Magic Player, an error message box pops up. 	Click 【OK】 to close the message box. Since the computer is running XP, some features of Magic Player are no longer supported; Please copy the entire software to another computer with WIN7 or above for normal use.
6.	Click on 【Output】 - 【SD File】, a prompt box will pop up. 	Click 【OK】 to close the message box, then remove some effects ☑ (ensure that the selected files are less than 96), and click again.
7.	Click on 【Output】 - 【SD File】, an error message box will pop up. 	Click 【OK】 to close the message box, Then, check the relevant effects ☑ (ensure that the selected files are less than 96), and click again.
8.	Click on 【Output】 - 【Copy】, and an error message box will pop up. 	Click 【OK】 to close the message box, Then, first output the SD file (ensure that the selected files are less than 96), and click again.
9.	In the player's file directory, there are already synthesized SD files, but clicking on 【Output】 - 【Copy】 will still pop up an error message box.	Click 【OK】 to close the message box; Because Magic Player only recognizes specific file names, if the customer has renamed the files based on the project name, they need to rename them back for copying;

ID.	Problem	Solution
		alternatively, manual copying can be used (see the specifications of the control box for details).
10.	An error message pops up when opening Magic Player. 	Click 【OK】 to close the information box; install the driver WinPcap_4_1_3_32_64.exe and then reopen Magic Player.