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LED STUDIO USER'S MANUAL

LED CONTROLLER SOFTWARE

GVISION USA, INC
30398 Esperanza, Rancho Santa Margarita CA 92688 / 949.586.3338 / info@gvision-usa.com

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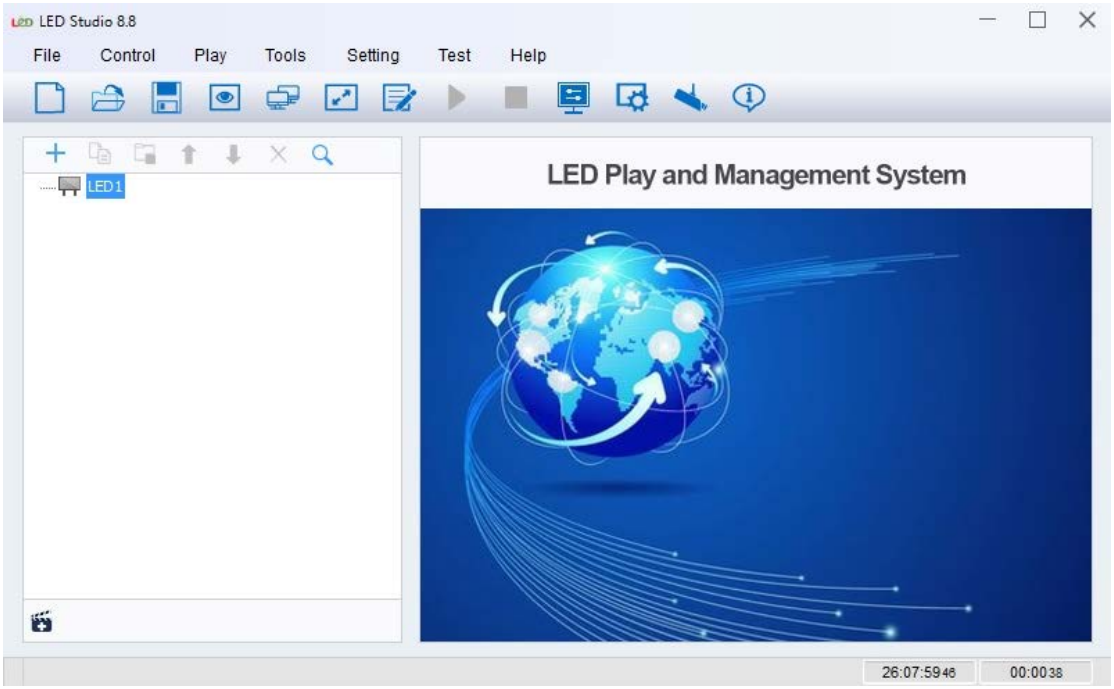
1. Introduction

LED STUDIO is the software used to control and design the LED display.



1.1 Overview

LED STUDIO is the fundamental software for controlling and designing LED displays. It comes with powerful features, high performance, an excellent user interface, and is simple to learn and use.

LED STUDIO offers support for playing various media file formats, including video, audio, images, text, Flash, and Gif. It also enables the display of office documents (such as Word, Excel, and PowerPoint), clocks, timing, internet pages, forms, database content, weather information, and can even play external video signals (TV, AV, S-Video, and Composite Video), environmental data, sports scores, and content specific to a designated area.

The software allows for multi-page, multi-layer, and multi-section program editing. It provides a wide range of video switching options and section effects, including 3D animations. This platform empowers users to unleash their creativity and showcase their content effectively on the display screen.

LED STUDIO facilitates manual calibration of large LED screens and is compatible with calibration data from other specialized calibration devices.

The current version of LED STUDIO supports various languages including Chinese (Simplified and Traditional), English, French, Japanese, Korean, Portuguese, Russian, Spanish, Swedish, and others.

1.2 Software Operating Environment

The software's operating environment is detailed in the table below. Users have the flexibility to customize device configurations based on specific requirements, primarily considering factors such as the total quantity of LED screen pixels, the complexity of the playback program, and whether HD video playback is involved.

	Minimum System Configuration	Recommended System Configuration
OS	Windows® xp/Windows® Server 2003/Windows® Server 2007/Windows® 7/Windows® 8/Windows® 10	Windows® 7/Windows® 10 (The latest version Service Pack)
CPU	Intel®Pentium™ E5300 or AMD® A4-5300	Intel® Core™ i5 or AMD® FX-6350 processor or more
Memory	2 GB RAM	4 GB RAM or more
Graphic Card	NVIDIA® GeForce® GT 460, ATI Radeon™ HD 4850, or Intel® Hdgraphics 4400	NVIDIA® GeForce® GT 730 or ATI Radeon™ HD 7730 or more
Ethernet Cable	Gigabit Ethernet, its transmission speed has reached 1Gbps(Gigabit Ethernet contains characters like Gigabit, GBE, 10/100/1000M, RTL8169)	

2. Installation and Un-installation

2.1 Software Installation

1) Download LED Studio from GVision's website. https://gvision-usa.com/touchscreen-drivers-software/
   Once downloaded, unzip and double click the **.exe file** to start installation.

Fig. 2-1 Select Language

2) Choose the destination folder *(as shown in Fig. 2-2)*.

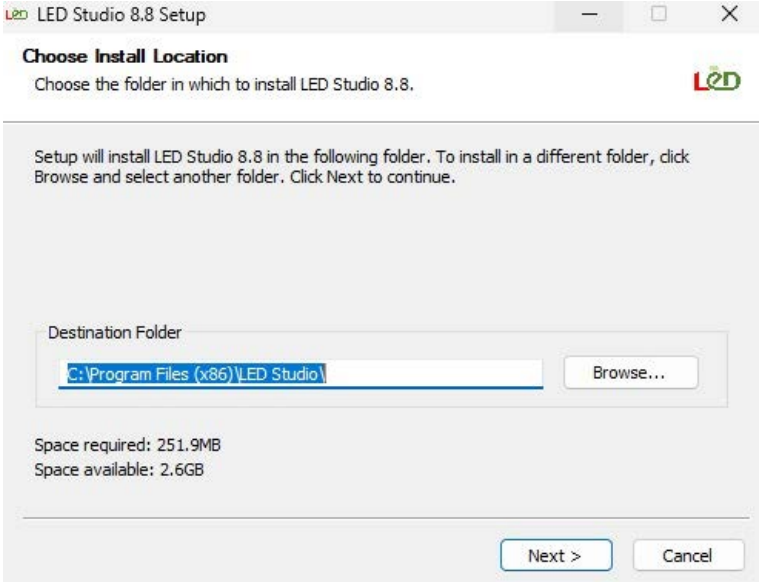


Fig. 2-2 Installation Wizard

3) Select the desired components and confirm the installation. Click "**Install**" *(as shown in fig.2-3)*.

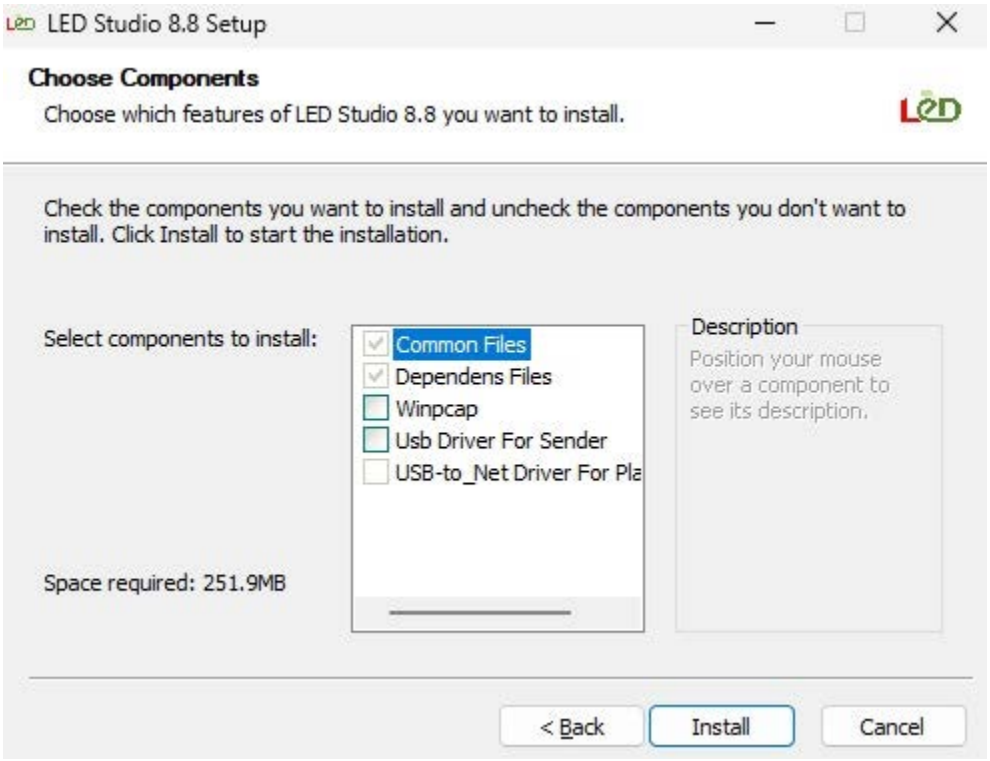


Fig. 2-3 Choose Components

4) Confirm that the installation is complete. Click "**Finish**"

5) A desktop shortcut will be generated automatically after the installation is complete. Double click “**LED Studio**” to open the software.

2.2 Software Uninstallation

LED Studio can be removed from the control panel, under the installed apps section.

3. Overview of LED STUDIO Software

3.1 LED Studio Interface

The software interface *(as shown in Fig. 3-1)* will show up after the software is started. It includes two parts: 1) the **play window** and 2) the **main interface.**

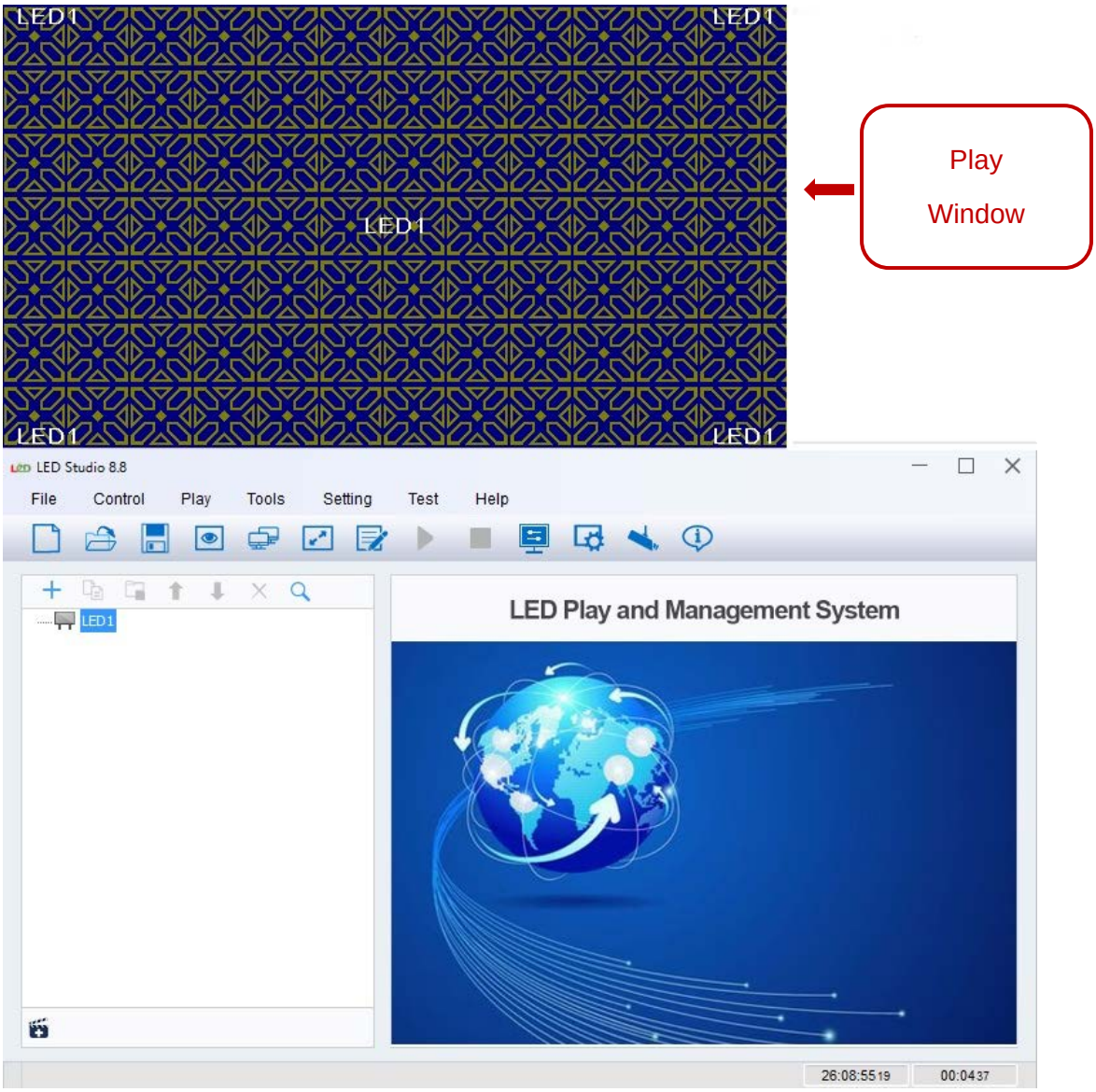


Fig. 3-1 LED Studio Main Interface

3.1.1 Play Window

The play window provides a preview of the LED and will display the current content that is playing on the LED display. It is recommended to set the play window to the same size as the actual LED screen.

(Indoor LED's single tile size in general is 610x343mm)

3.1.2 Main Interface

The main interface is composed of seven aspects:

1. Menu; 2. Main Tool Bar; 3. Program Editing Tool Bar; 4. Program Tree Area; 5. Program Properties Area; 6. Add files list; 7. Status Bar.

3.2 Menu and Toolbar Button

3.2.1 Menu

The menu includes **File**, **Control**, **Play**, **Tools**, **Setting**, **Test, Help**. *(as shown in Fig.3-2)*

Fig. 3-2 Menu Bar

3.2.2 File Menu

In the File menu, it mainly performs the basic operation of the program file (*.vsn file), such as **New**, **Open**, **Save**, **Pack Program and Open the Recent Files**. *(as shown in Fig.3-3)*.

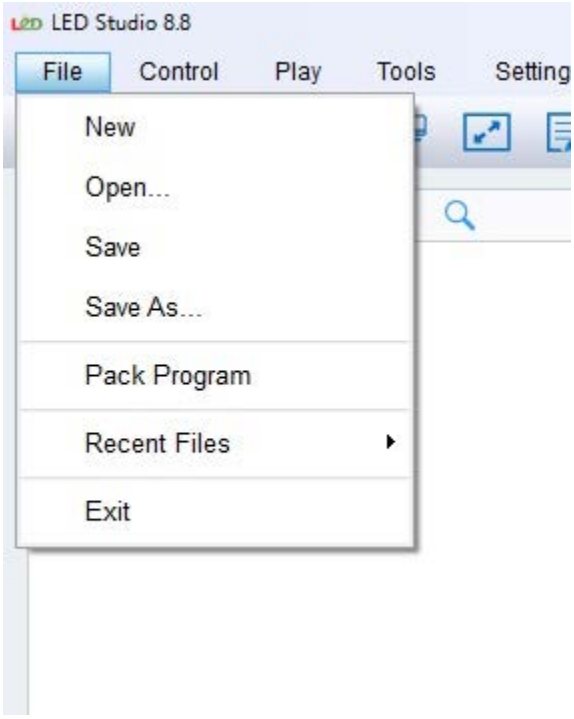


Fig. 3-3 File Menu

3.2.3 Control Menu

The display Control Menu is used for **led screen settings**, **device information**, **screen size and count settings**, **by point calibration, brightness adjustment**, **multi-function card setting**, **by point check**, **intelligent module info**, **timing command list**, **pre-save picture** *(as shown in Fig.3-4)*.

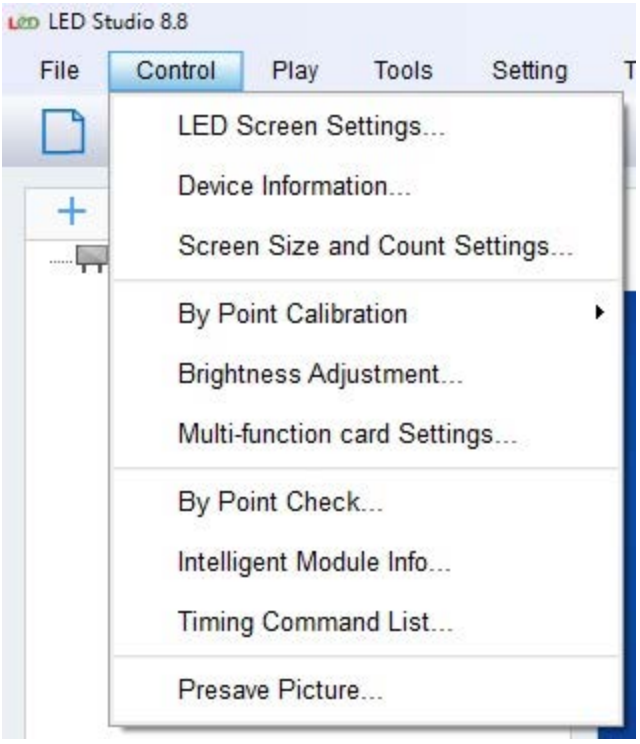


Fig. 3-4 Control Menu

- **Screen Size and Count Settings**: Set the number, location, size, and other relevant parameters of the LED display screen.
- **Device Information:** Device information is mainly used for detailed statistics of hardware connection. Hardware information does not support the upgrading of hardware programs. Upgrading old products requires LED STUDIO5.0 and lower version software. The upgrading of new products requires LED Upgrade software.
- **By Point Calibration:** For LED display, point by point calibration is detailed. See the eleventh chapter of the user manual.
- **Brightness Adjustment:** It can manually adjust the brightness and color temperature of the display and support the automatic brightness adjustment of the display. The automatic brightness adjustment of the display needs a multi-function card and brightness probe.

- **Multi-function Card Setting:** Display environment temperature and humidity monitoring information, and remote control on the brightness, temperature, and power switch of LED display by using the multi-function card.
- **Timing Command List:** Set the display time automatically such as play/pause program, turn on /off the large screen display, power on/off the large screen (it requires to cooperate with multi-function card), set the brightness of the screen, display/hide the play window, restart software, close software, reboot computer, close computer and so on.

3.2.4 Play Menu

Play menu is used for relevant operations with program playing, including **play**, **pause**, **stop**, **play a certain page**, **play previous page**, **play next page**, **play notification**, **subtitle management**, **sports scores adjustment and play PowerPoint,** you can also view the play logs to get detailed information about the playing program *(as shown in Fig.3-5)*.

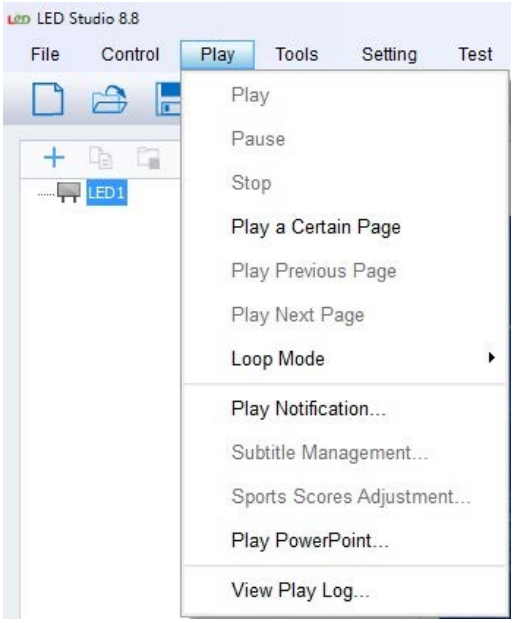


Fig. 3-5 Play Menu

3.2.5 Tools Menu

Calling system software such as **Word**, **Excel**, **PowerPoint**, **Paint**, **WordPad**, **Calculator**. *(as shown in Fig.3-6)*. The software is only available for Word, Excel, PowerPoint so far. If there is no Microsoft Office on your computer, the software can't call Word, Excel or PowerPoint.

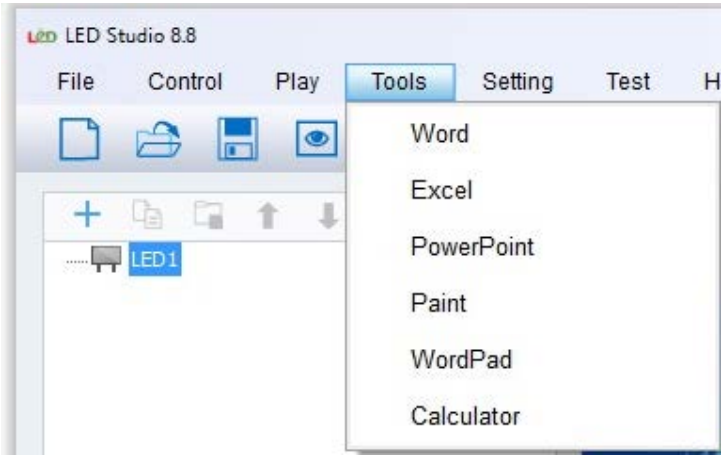


Fig. 3-6 Tools Menu

3.2.6 Setting Menu

Setting menu is used for relevant settings on software and hardware, including **software setting**, **language**, **and user management** *(as shown in Fig.3-7)*.

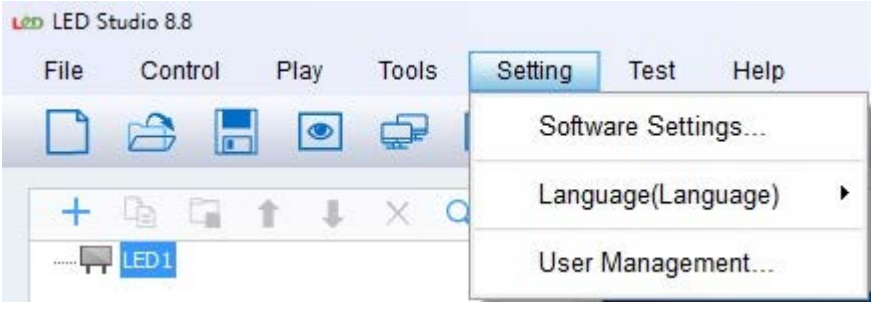


Fig. 3-7 Setting Menu

- **Software setting:** Including mode setting, startup settings, LED play screen, play settings, timer setting, net settings, shortcut settings and other settings.

- **Language:** Choosing corresponding interface language according to customer's need. The software supports Chinese simplified, Traditional Chinese, English and other 10 kinds of languages.
- **User Management:** User management is used for setting user permissions, supports three permissions including administrators, ordinary users, restricted users.

3.2.7 Test Menu

This menu provides various display modes for production test and installation debug, including **gray test**, **grid test**, **color band test**, **lattice**, **point test**, **aging test**, **stop test**, **view position**, **view color** *(as shown in Fig.3-8)*.

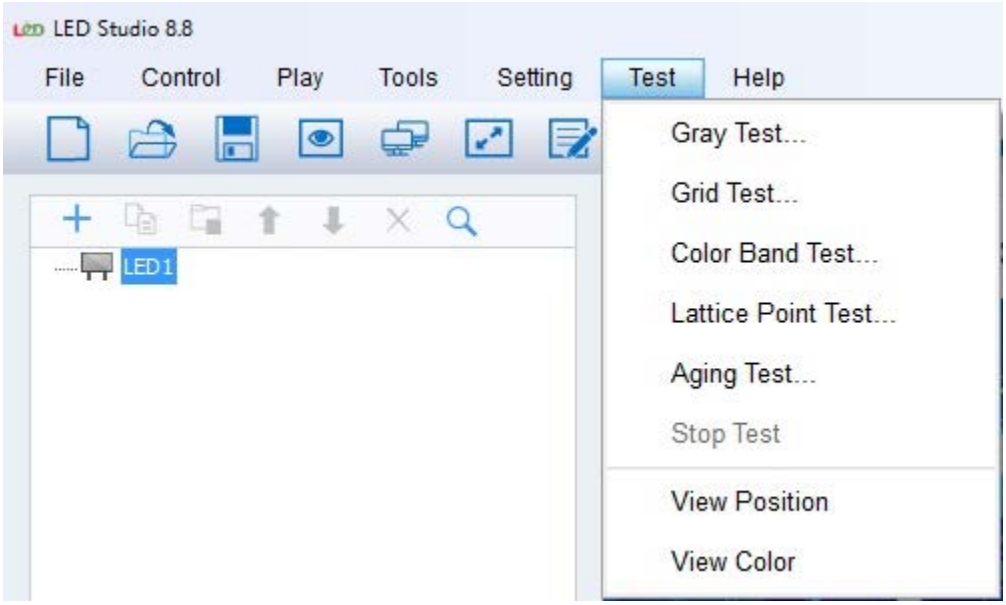


Fig. 3-8 Test Menu

3.2.8 Help Menu

It includes **environment detection**, **release notes**, **and about** *(as shown in Fig.3-9).*

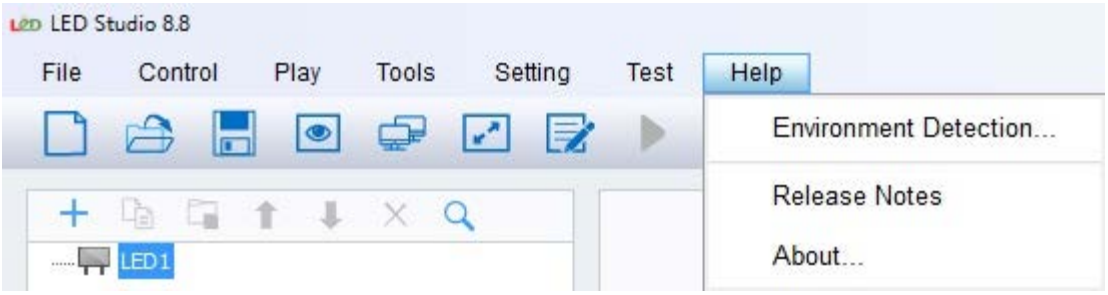


Fig. 3-9 Help Menu

3.3 Main Tool Bar

The main toolbar conveniently presents the most frequently used functions. These include options to create, open, and save program files, toggle the display of the playback window, switch monitors, adjust screen size and count, expand or collapse the main interface, control program playback with play, pause, and stop buttons, activate blackout or screen freeze, access LED screen settings, manage play boxes, and enable real-time monitoring *(as shown in Fig. 3-10)*.

Fig. 3-10 Main Toolbar

3.4 Context Menu of the Playing Page

Right click the mouse in the play window to pop up the menu, which supports various operations on the program pages, switching program play pages as well as setting on windows *(as shown in Fig. 3-11)*.

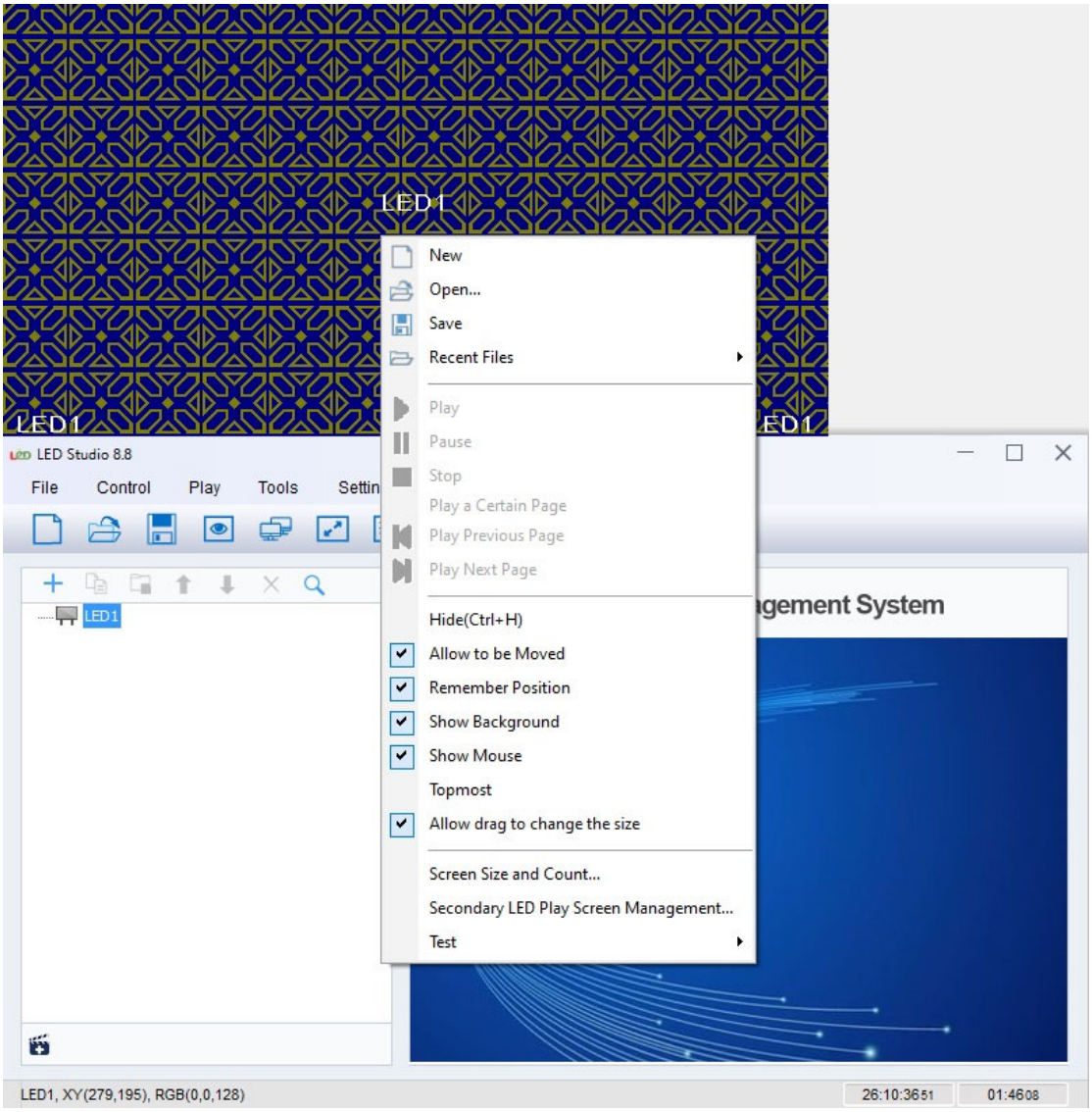


Fig. 3-11 Context Menu of the Playing Page

3.5 Program Editing Toolbar

Fig. 3-12 Program Editing Toolbar

Listed from left to right:

- **Add:** Add program window or the play content item in corresponding position.
- **Copy:** Copy the selected item and all contents below it.
- **Paste:** Paste the copied content.
- **Move Up:** Move the selected content forward.
- **Move Down:** Move the selected content backward.
- **Delete:** Delete the selected item and all contents below it.
- **Search**: Search key words and take corresponding operation.

4. Program Edition

LED STUDIO is a professional software to play and control LED display, which possesses powerful program editing and playing functions. This chapter emphasizes the basic knowledge and process of program edition.

4.1 Play File Composition

The play files of this software are accordingly saved as *.vsn file, consisting of one or more program pages which have two categories: normal page and global page. Normal page is the main component, which can be multiple and played orderly between each page. However, the global program page has only one, which has keeps on playing in the whole process, mainly used for the fixed content playing, such as clock, company's logo, etc. The program page consists of one or more program windows that aims at displaying users' playing contents.

4.2 Program Structure

The LED STUDIO program tree area consists of four levels: **LED screen**, **page**, **program window and materials** *(as shown in Fig. 4-1)*.

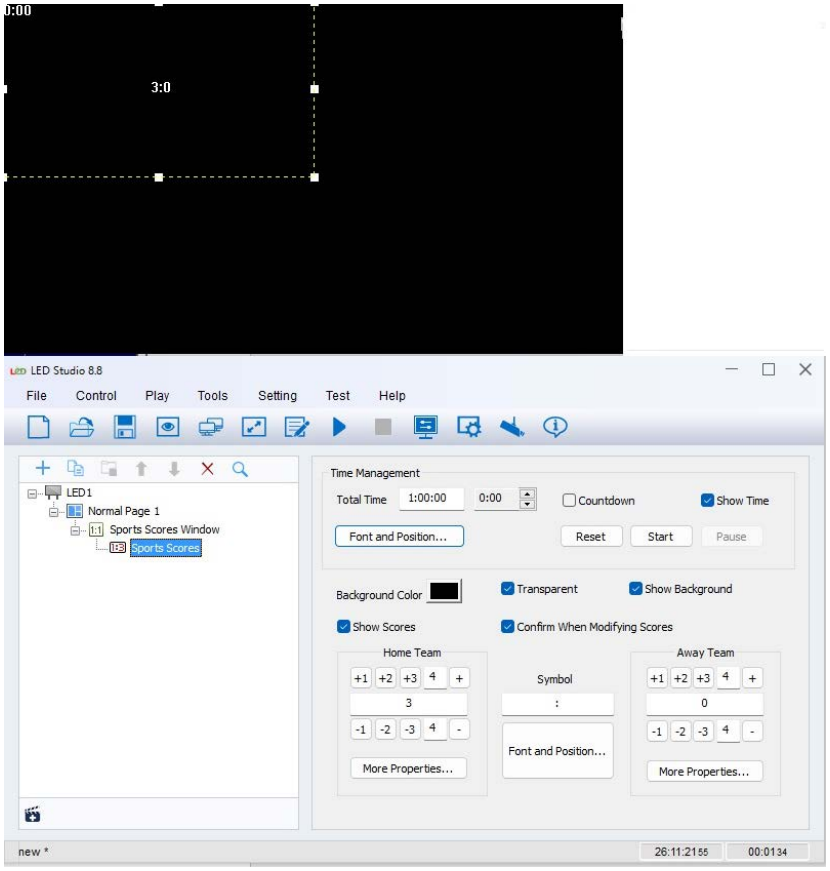


Fig. 4-1 Screen Management Window

- **LED display**: the large screen contents are determined by it. Each **LED screen** has a parallel relationship, in which can add multiple program pages.
- **Page**: it can be divided into two categories, global page, and normal page.
- **Program window**: you can add multiple program windows in the program page, and different contents playing in different windows, all the program window under one program page play at the same time.
- **Material:** the specific contents displayed on LED screen, including video, pictures, GIF, flash, text file, office files, tables, clock, time, web, database, weather forecast, external video, information environment, sports scores, desktop area etc.

> ***Note:*** *In each LED screen, there is a coordinated and play orderly relation between each program page, each contents of the same program window, whereas there is a coordinated and simultaneously play relation between each program window.*

4.3 The program page

Program page can be divided into **Normal page** and **Global page** *(as shown in Fig. 4-2).*

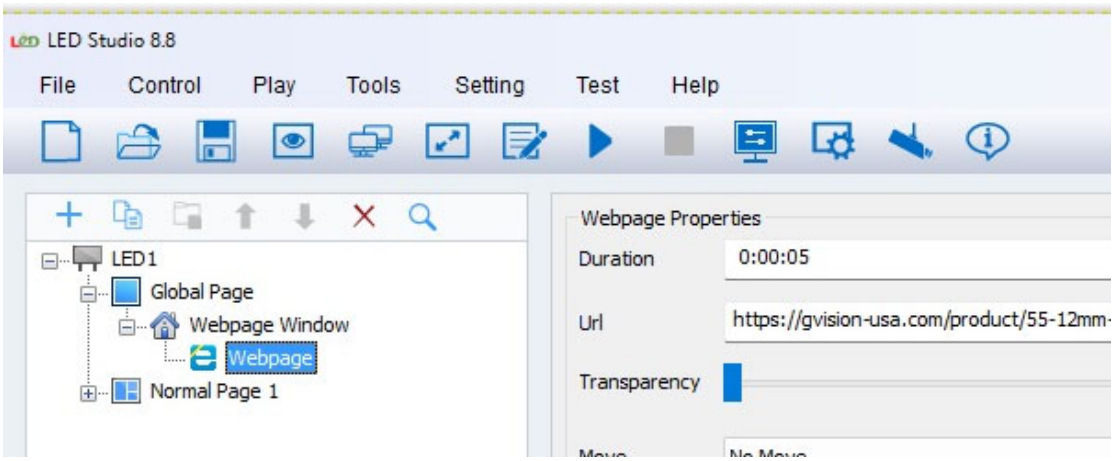


Fig. 4-2 Program Page

- **Normal page**: Normal page contains multiple windows, and each has a different window layout. The same LED display can contain multiple normal pages. Several normal pages are played from top to bottom in cycle. In most cases, an LED display only needs a normal page *(as shown in Fig. 4-3)*.

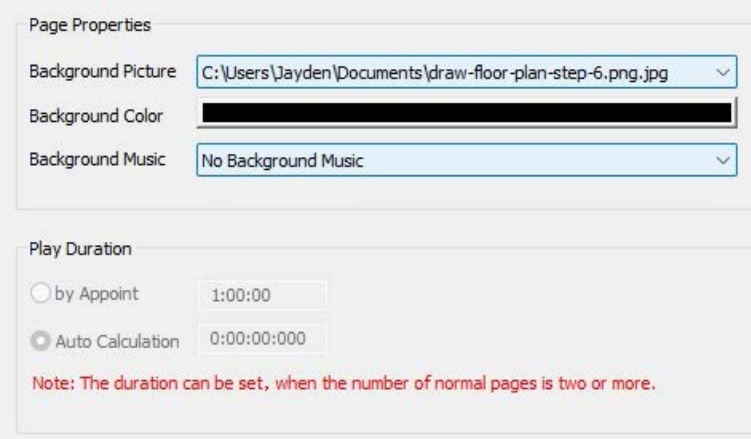


Fig. 4-3 Normal Page Properties

- **Global page**: Program pages that are always played in the whole process and it contains multiple windows.

  Global page and **normal page** have synchronized playback relationship, and the **global page** is always located in the upper layers of **normal program.** If you want to display content such as clock, weather forecast, corporate logo, or other contents in a fixed position, you can edit them into the global page. Each screen can only set one global page.

4.4 Program Window

The program window is the partition window of the program, which determines the layout and level of the program in the program page. The window must belong to the program page, and it can not be exist alone.

Fig. 4-4 Example of Program Window

4.5 Program editing process

4.5.1 Setting the size of the LED screen

The size of the LED screen must be set correctly, generally set to the same size as the LED screen. *(Indoor LED's single tile size is 610x343mm)*

Setting methods: First, select the **Control** in the main menu; secondly, choose the S**creen Size and Count Settings**. When the Screen Size and Count window pops up, set the **number, starting position** and the **size** of LED screen *(as shown in Fig. 4-6)*.

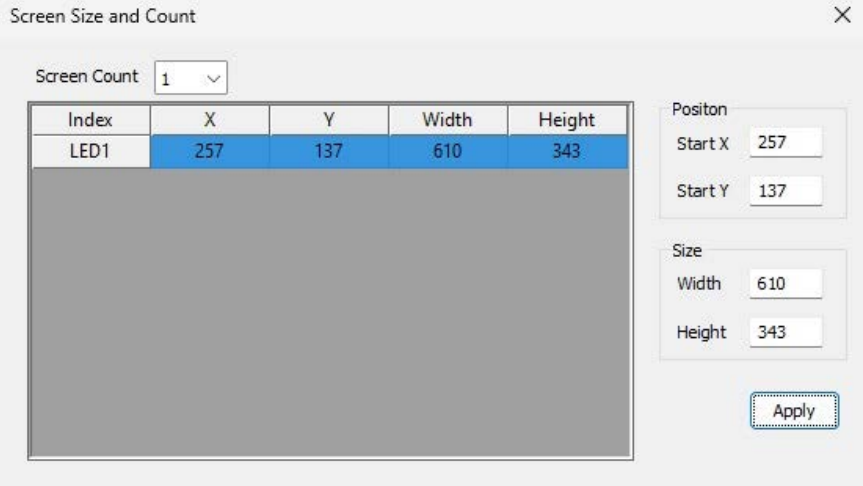


Fig. 4-6 Screen Size and Count Window

4.5.2 New program page

You can click on the button ✚ on the program editing toolbar to pop up the menu and create a new program page *(as shown in Fig. 4-7)*, you can also use the right mouse button to pop up the right menu to create a new program page.

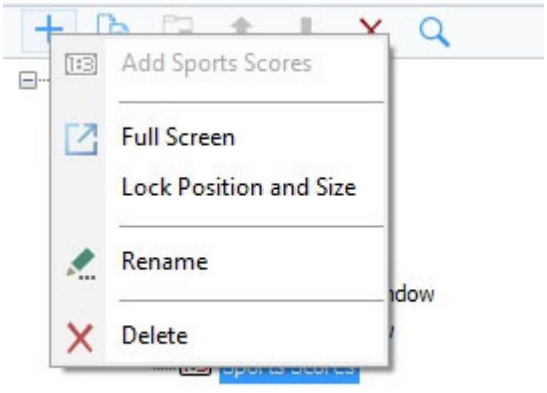


Fig. 4-7 New Program Page

After a normal page is established, its relevant properties will be shown on the right side of the main interface *(as shown in Fig. 4-8)*, and default parameters are generally used.

The properties window on the normal page can be set as follows:

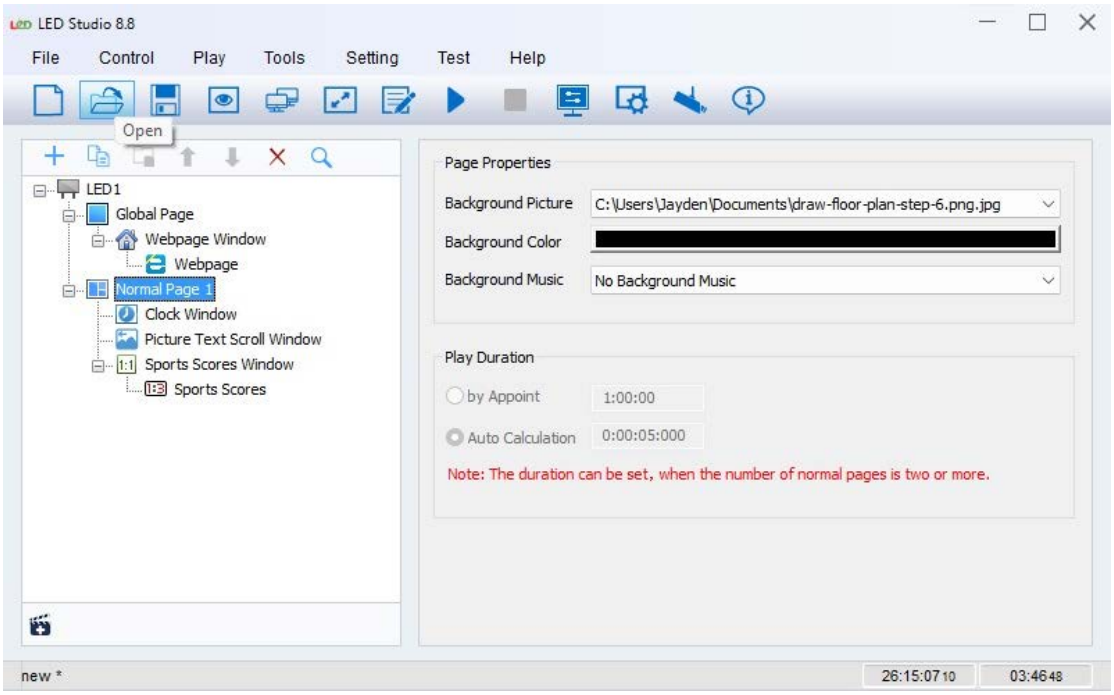


Fig. 4-8 Program Page and Its Properties

- **Background Picture:** You can set a picture as the background image for the program page. The software defaults to no background images.
- **Background Color: Y**ou can click the color bar and choose any color as the background color of the program page. The software defaults to black transparency.
- **Background Music:** You can set one or more audio files as the background music of the program page, and you can edit the background music at the same time such as adjusting the volume.
- **Play Duration:** You can set the time of playing the program page. There are two setting methods: by appoint and auto calculation.

- Method One: By appointment. After the program page plays a set time, it will turn to another program page and play. If there is only one program page, the play time can't be set. By appointment, can only be set when there are two or more normal pages.
- Method Two: Auto Calculation. After playing all the contents of the program page, it will turn to the next page. The software by default will calculate the playing time automatically.

4.5.3 Add program window

After the program page is created, right click on the program page or click on the button ✚ on the program toolbar, the program window of the add menu will pop up *(as shown in Fig. 4-9)*.

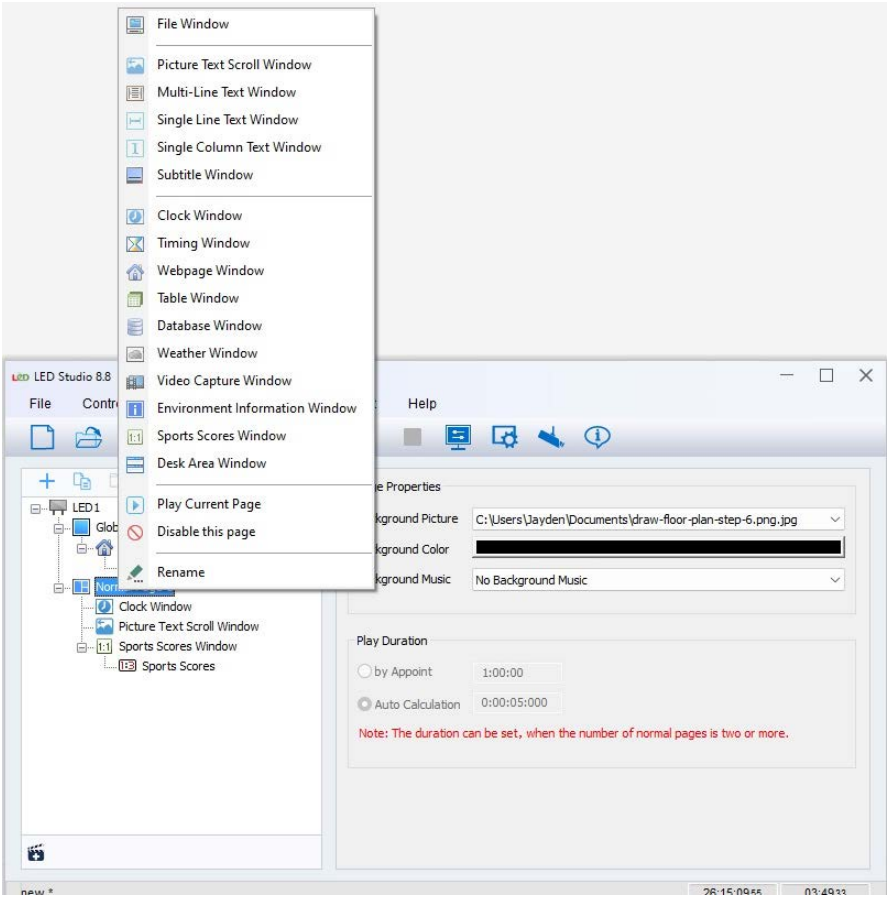


Fig. 4-9 Add Program Window

The location and size of the newly added window are based on the current play window, which are auto calculated. Users can adjust its position and size according to the actual needs in two ways.

- **Method One**: Select the play window and then drag the mouse to adjust its size and position. The selected window frame can also be changed by dragging the mouse; the window position can be changed by selecting non-border areas and then dragging the mouse in the selected window.
- **Method Two**: Set it in the window properties.

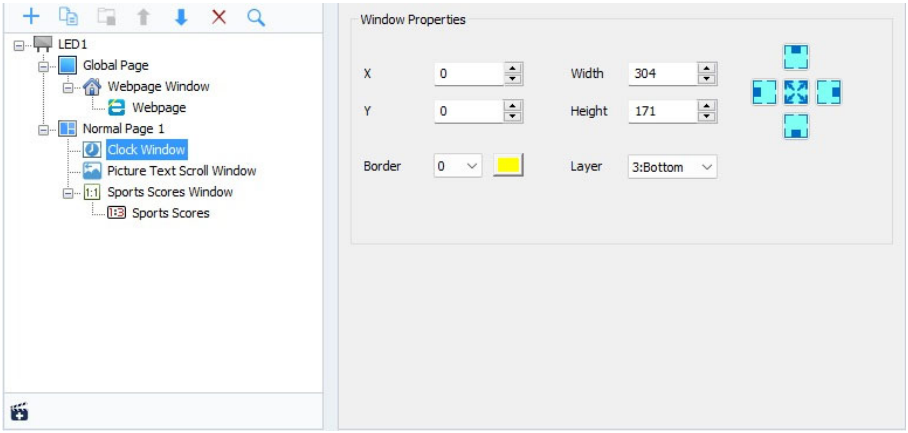


Fig. 4-10 Window Properties

4.5.4 Delete the program window

Select the window you want to delete and click the delete icon to perform the delete operation *(as shown in Fig. 4-11)*.

Fig. 4-11 Delete Window

4.5.5 Copy and paste the program window

If two windows are needed to display the same contents, after editing a window, click on **[Copy]** and then click on **[Paste]**, you can quickly create a window with the completely consistent contents.

Apart from using the toolbar menu in window editing area to operate windows, you can also use the right-click menu of the window node or on the right-click menu in window areas of the display screen. *(as shown in Fig. 4-13)*.

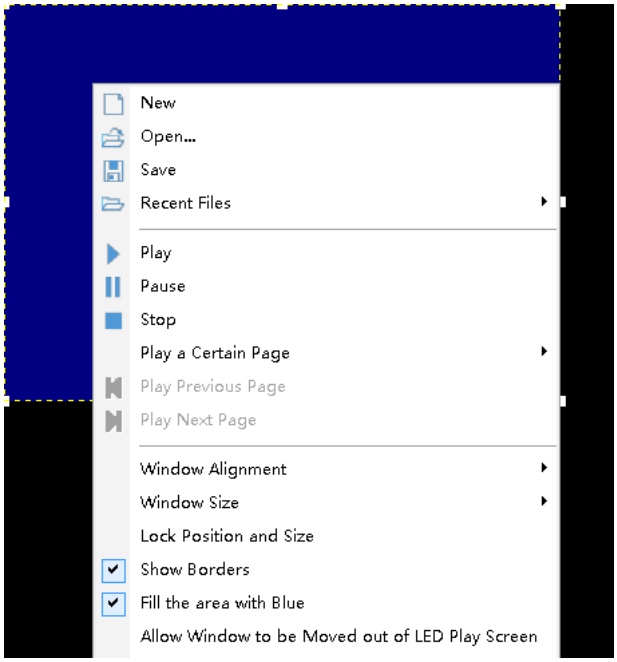


Fig. 4-13 Context Menu of Play Page

4.5.6 Play Program

To play the current program file, please click on the **[Play]** button to start playing or select the menu **[Play]** to play. To play different program files, please click **on [File]** button first, and then click on the **[Open]** to open other program files, and finally click on the **[Play]** button to play.

5. The Detailed Program Playing

5.1 Play Video

5.1.1 Add Video

Right click **[Normal Page]** and select **[File Window].** Next click on [**Add video]** after the menu shows up to add one or more video files. This software supports almost all video formats under the support of the decoder.

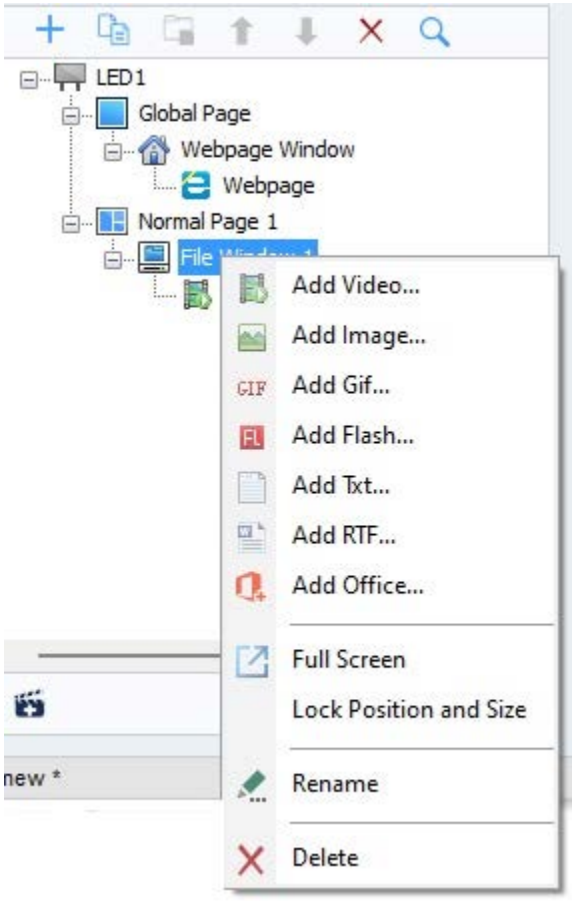


Fig. 5-1 Add Video

5.1.2 Video Properties

The video file includes various properties *(as shown in Fig. 5-2)*. **Path**, **Original Size** and **details** are the read-only properties, in which to read keeping position, original size and details of the video. And **duration**, **volume**, **more**, **opacity**, **keep aspect ratio**, **passed**, **remain**, **and effect properties** can be adjusted freely according to the actual situation.

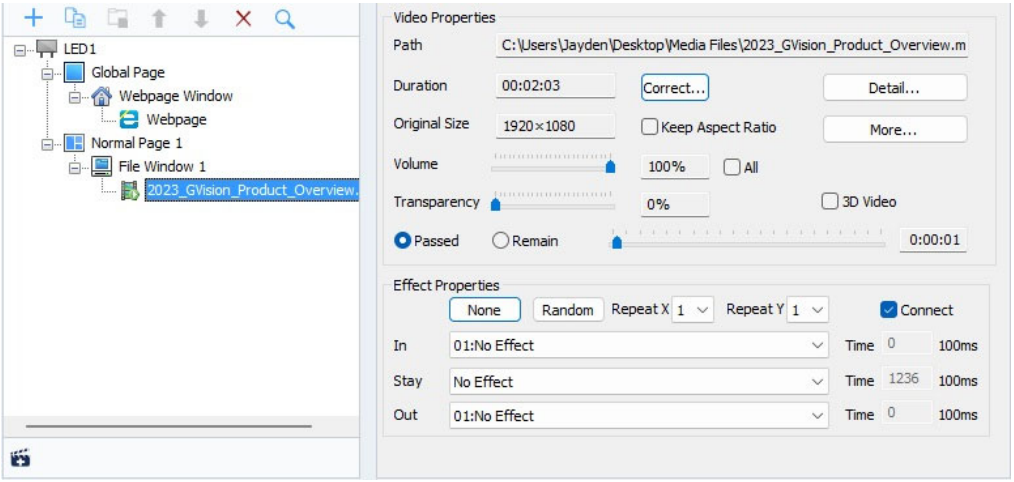


Fig. 5-2 Video Properties

- **Path**: It is the detailed path of video files in computer.
- **Duration**: The actual length of video file.
- **Correct:** The Length is calculated according to the properties of video file. If a user find that the software was wrong when calculating time or want to change the time length of file, click on [**Correct**] button to repair.
- **Original size**: It is the original height and width of video.
- **Detail:** Click on the **[detail]** button, we can see the detailed information. And also click on **[View other videos]** button in the interface of the file information.
- **Volume:** Adjust the video volume, when access to 0%, the volume is Zero. Whereas 100% is the maximum.
- **More:** Clicking on **[more]** button pops up a high-level property interface. In this interface, it can select the type of video decoder. (the software defaults to the **Self Decoding First**); Setting up video rotating and play times; Setting the

sound fades in and out and delaying time; Cutting play region and play time and to play part of the contents or section of the video.

- **Opacity**: Transparency of video file can be adjusted freely, when it is 0%, the video becomes completely transparent and can't be displayed.
- **Keep aspect ratio:** If checked, means according to the original video proportion to display. And if not, the video will display all windows.
- **Passed and Remain:** It can check the video passed and remain when editing.
- **Effect:** Select none, random, and particular effect. The software default is no special effect.

5.2 Play Image

5.2.1 Add Image

Create one **[File Window]**. Right click **[File Window]** or click on the + button, select **[Add Image]** from the pop up menu to add one or more images.

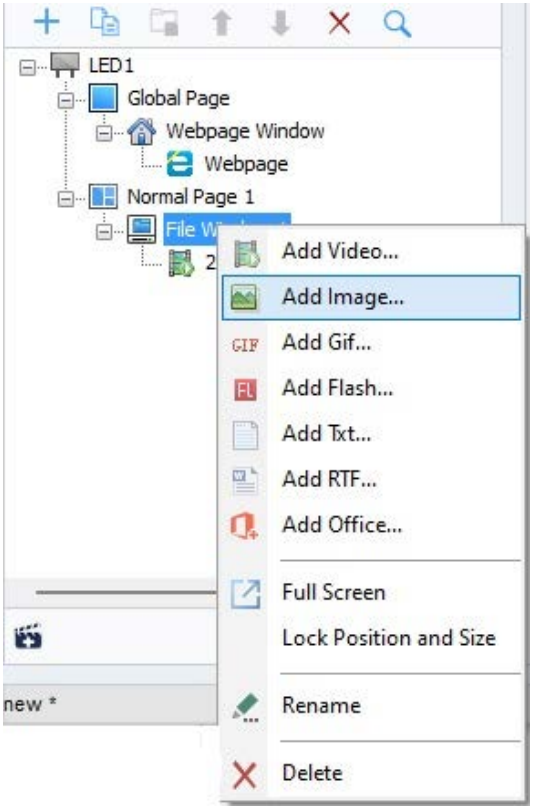


Fig. 5-3 Add Image

5.2.2 Image Properties

Support all image formats (BMP/ PNG/JPG/TIFF/TGA/PCX....). Image file includes various properties and effects *(as shown in Fig. 5-4)*.

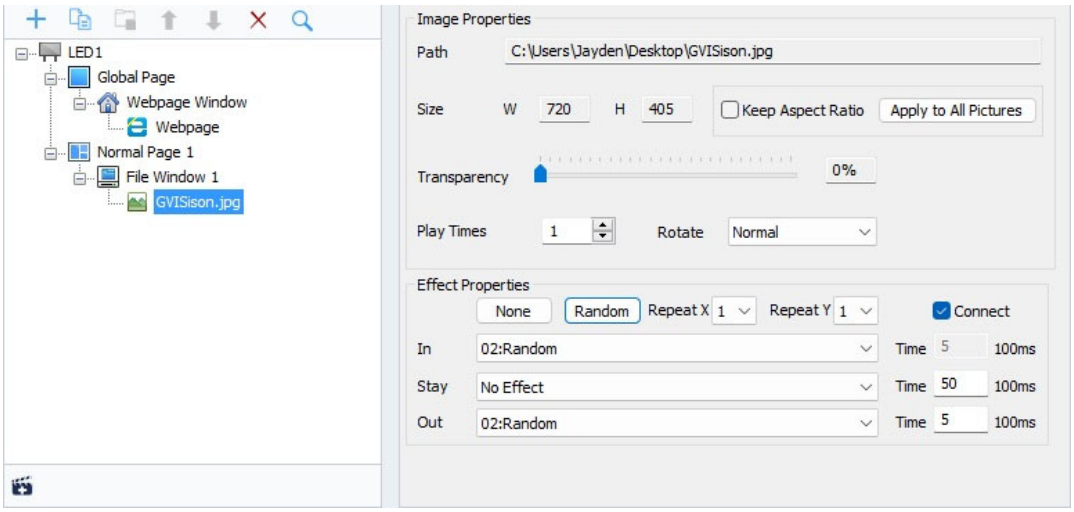


Fig. 5-4 Image Properties

- **Path:** This is the specific file path on the computer.
- **Size:** These are the images' original width and height.
- **Keep Aspect Ratio:** Checking this option displays the image in its original proportion, while unchecking it results in the video filling the entire window.
- **Set All Pictures:** If you select **[Keep Aspect Ratio]** and click **[Set All Pictures]**, the images will maintain their proportions within the window. If you don't select **[Keep Aspect Ratio]** and click **[Set All Pictures]**, all the images in the window will be displayed without maintaining their original proportions, filling the entire window.
- **Opacity:** Transparent effects are customizable, allowing you to make the video fully transparent at 0% opacity, rendering it invisible.
- **Play times:** Adjusting the image playback quantity: The software uses a time-sharing approach to play images. It starts by playing all files in the window one after the other, and then proceeds to play files that appear in the window more than twice in order. It continues this pattern, playing files that appear more than three times, and so on until all files have been played.

- **Rotate**: Options include: Normal, Flip Vertical, Rotate 180°, Rotate Left 90°, and Rotate Right 90°.
- **5.2.3 Effect Properties**.
- **No Effect:** No special effects.
- **Random:** Randomize all effects.
- **Connect:** The out effect of the previous program file matches the in effect of the next program file, making them identical.
- **Repeat:** You can divide the window into a maximum of 16 parts and use effects separately for a more refined outcome. Additionally, you can enable the flashing function to enhance the picture's brilliance while it's displayed.
- **In:** This is the type of effect that occurs when the image enters the screen.
- **Out:** This is the effect type when the image exits the screen.
- **Stay:** It is the duration between the In effect and the Out effect, whose unit is 0.1s.
- **Time:** The speed unit is 0.1s, representing the total time for the current effect to finish. Smaller values make the effect action faster.

> ***Note**: By default, if there are multiple images in the file window, the software applies the same effect to all of them. If users want to apply different effects to specific images, such as setting individual playing durations and in/out effects, they need to uncheck the same animation option in the file window's properties.*

5.3 Play Gif and Flash

5.3.1 Add Gif

To create a **[File Window]**, right-click or click the button to open the menu, then select **[Add Gif]** to add one or more GIFs for playback.

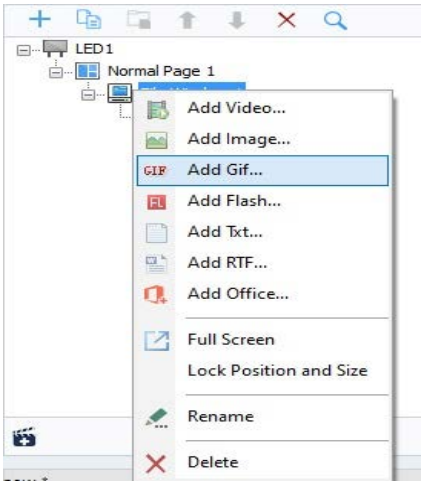


Fig. 5-5 Add Gif

The properties of GIFs are essentially identical to image properties, including full path, original size, keep aspect ratio, set all pictures, opacity, play times, rotate, and effect properties. When configuring these properties, please refer to the information provided in the previous section on adding images.

However, there is one distinction: the default display time for each image is set at 6 seconds upon addition, while for GIFs, it's automatically calculated based on their actual duration *(as demonstrated in Figure 5-6)*.

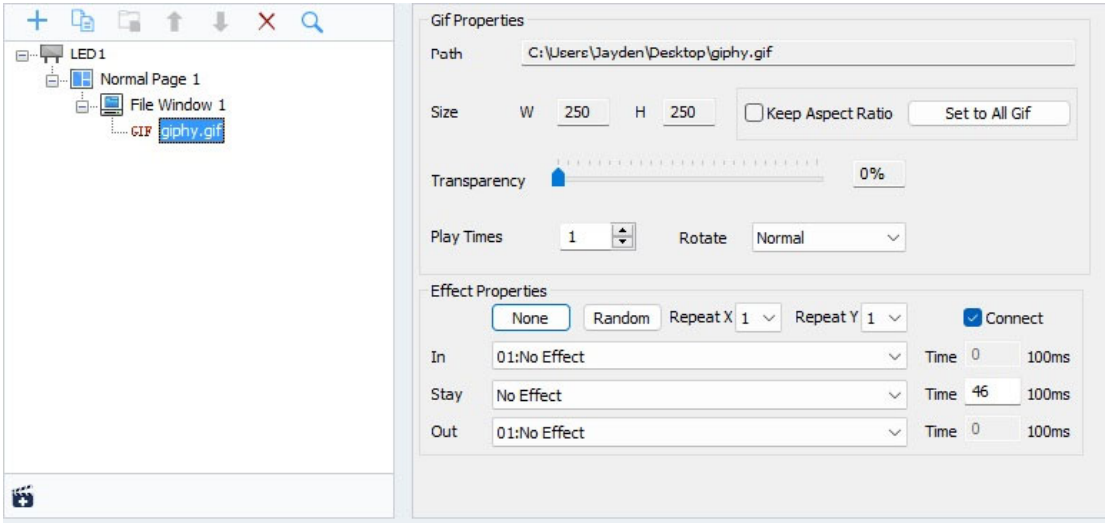


Fig. 5-6 Gif Properties

5.3.2 Add Flash

Flash Player has been discontinued, and this function is no longer supported.

5.4 Play Office Files

5.4.1 Play Word

LED STUDIO supports the playback of Word documents. To do this, create a new file window, right-click **[File Window]** or click the + button to open the menu, then select **[Add Office]** and choose the Word documents you wish to play. This will enable the playback of Word documents.

To optimize the display on the LED screen, the software provides various features for Word files, including **Inverse**, **Fit Window**, **Keep Aspect Ratio**, **Fixed Table**, and **Reserve Margins**. You can also edit Word files and have them **automatically update** to reflect changes in the Word file contents *(as depicted in Figure 5-9)*.

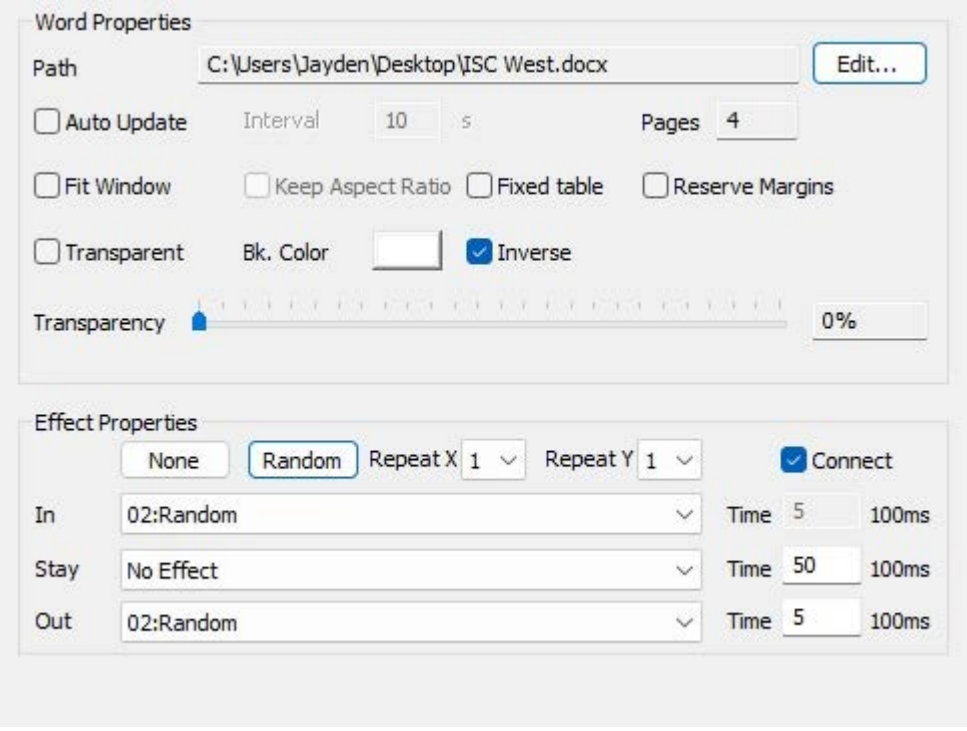


Fig. 5-9 Word Properties

***Note**: The software can play Word files, but it requires Microsoft Office to be installed on the system. If other office software like WPS is installed, the software may not support the playback of Word files. Similarly, Microsoft Office installation is a prerequisite for playing Excel and PowerPoint files, as discussed below.*

5.4.2 Play Excel

LED STUDIO provides direct support for playing Excel files. To do so, create a new file window, right-click **[File Window]** or click the + button to open the menu, and then select **[Add Office]** and **[Add Excel]** to include these files for playback.

Excel files exhibit similar display effects to Word files. The software allows you to apply display effects to Excel file playback, such as Inverse and Opacity. Additionally, you can edit Excel files and have them automatically update in response to changes in the Excel file contents *(as illustrated in Figure 5-10)*.

Additionally, Excel files can be set to scroll continuously. Enabling the [Scroll Up] option will make the Excel document continuously scroll upward to display its contents during playback.

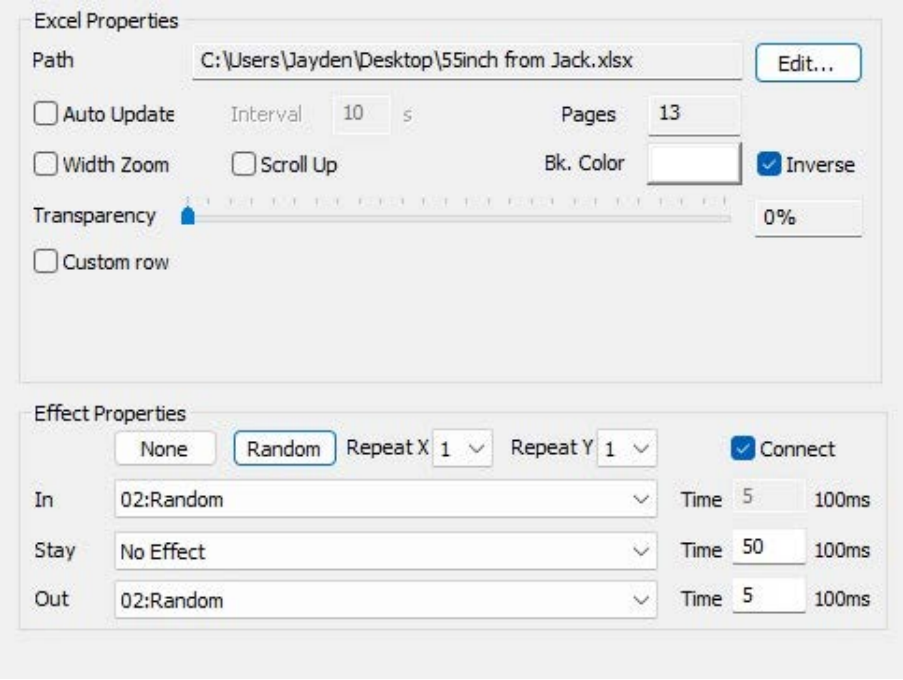


Fig. 5-10 Excel Properties

5.4.3 Play PowerPoint

LED STUDIO offers direct support for playing PowerPoint files. You can do so by following these steps: Open a new file window, either right-click on the **[File Window]** or click the + button to access the menu. From there, select **[Add Office]** and then choose **[Add PowerPoint]** to initiate the playback of these files.

Configuring PowerPoint files is straightforward. You have the option to adjust the aspect ratio and opacity as needed. Furthermore, the displayed content can be automatically updated to reflect any changes made to the document file contents. *(as demonstrated in Figure 5-11)*

Nonetheless, there are two important considerations when playing PowerPoint files. First, you cannot manually initiate the playback of PowerPoint files within the file window, as depicted in Figure 5-11. If you wish to play a PowerPoint presentation manually, you can do so by clicking on the main menu, selecting **[Play]**, and then choosing **[Play PowerPoint...]** to add and play PowerPoint documents manually.

The second point to note is that when playing the contents of a PowerPoint document in the file window, they will be displayed in pages. If a user has arranged multiple layers of content on a single page in the PowerPoint document, such as stacked images, the content on the bottom page will not be displayed during playback.

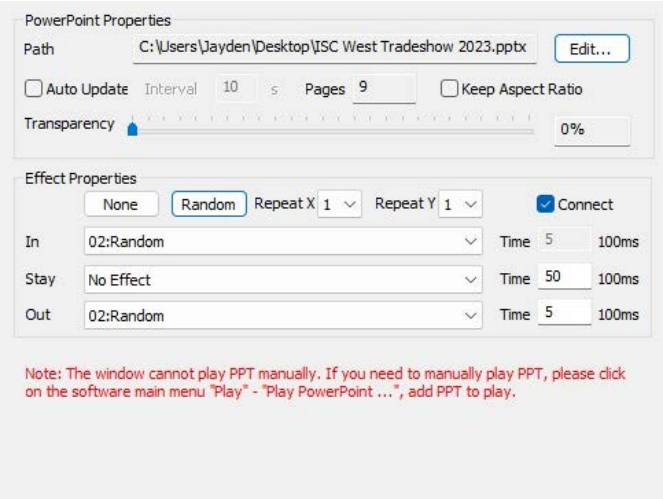


Fig. 5-11 PowerPoint Properties

5.5 Play Text

5.5.1 Play Multi-Line Text

To add multi-line text, simply right-click on the **[Multi-Line Text Window]** or click the button. When the menu appears, you can choose to add an **RTF/TXT** file or create a new multi-line text by selecting **[New Multi-Line Text]**. The multi-line text file is in RTF format, and you can edit it within the Multi-line Text editing box. *(as illustrated in Figure 5-12)*

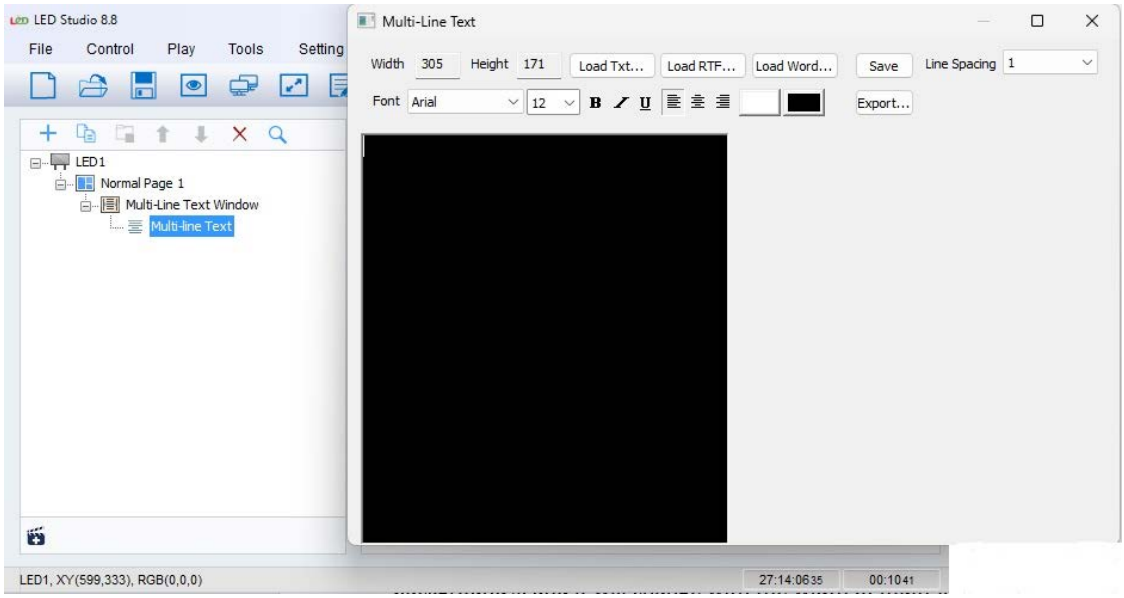


Fig. 5-12 Edit Multi-Line Text

You have the option to either input text directly into the Editing box or load TXT, RTF, and Word files. Additionally, you can apply various text display effects. After completing your editing, click on the **[Save]** button. If you wish to save the multi-line text you've edited on your computer, you can do so by clicking the **[Export ...]** button, which allows you to export RTF files. It's worth noting that the width of the multi-line text editing box is in sync with the LED backgrounds and will automatically adjust according to the width of the multi-line text.

The multi-line text feature supports a **Scroll Up** function. When you choose to **[Scroll Up]**, you can regulate the playback speed by adjusting the number of points either **By Time** or **By Frame**, or you can control the Play Time, choosing between **By Count** or **By Time** *(as demonstrated in Figure 5-13)*

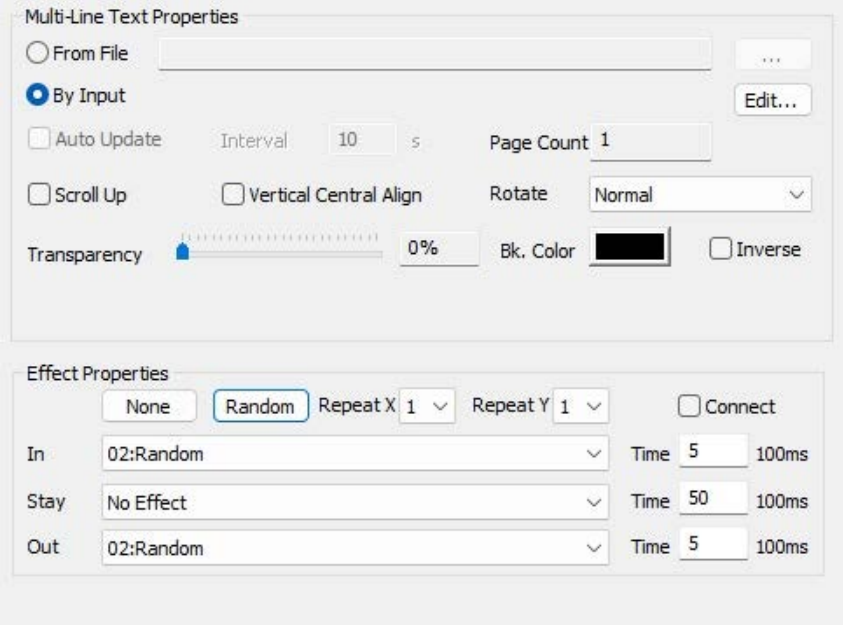


Fig. 5-13 Multi-line Text Properties

5.5.2 Play Single-Line Text

To add a single line of text, right-click on the Program Page or click the + button to access the menu. Then, select **[Single Line Text Window]**, *as depicted in Figure 5-14*. You can customize the display properties of the single line text, including the Background Color, Font, and Spacing. The displayed content can either be sourced **From File** or **From Input**. If you choose **From File**, the displayed content can be updated automatically in response to changes in the text file's content.

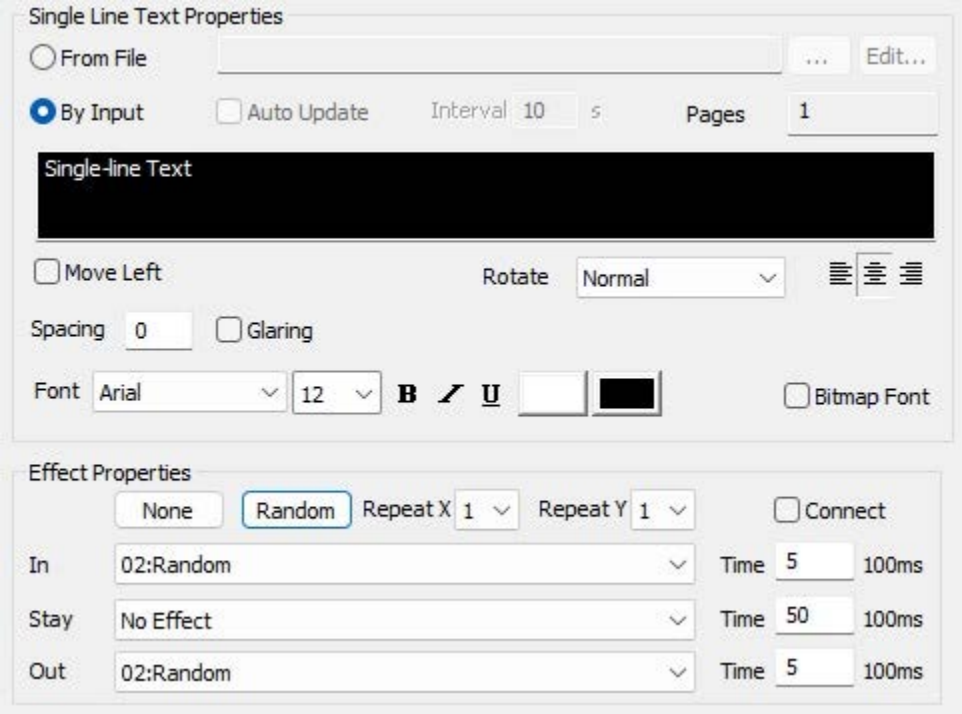


Fig. 5-14 Single Line Text Properties

The single line text also supports a **Glaring** effect *(as illustrated in Figure 5-15)*

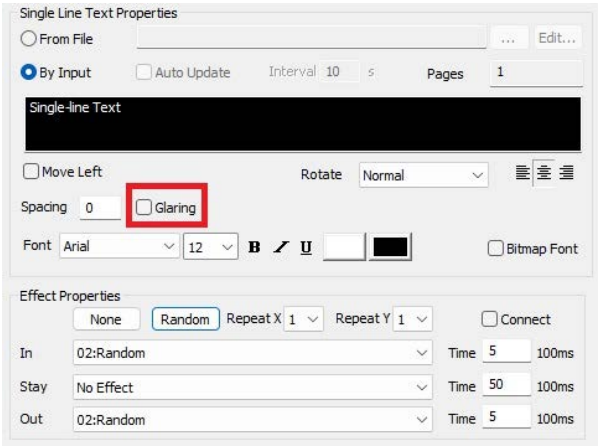


Fig. 5-15 Glaring Effect

The single line text feature offers a **Move Left** effect. When you opt for **[Move Left]**, you can manage the playback speed by specifying the number of points either "By Time" or **By Frame**, or you can control the Play Time, choosing between **By Count** or **By Time**. *(as demonstrated in Figure 5-16)*

The picture displays the special effects settings for single line text.

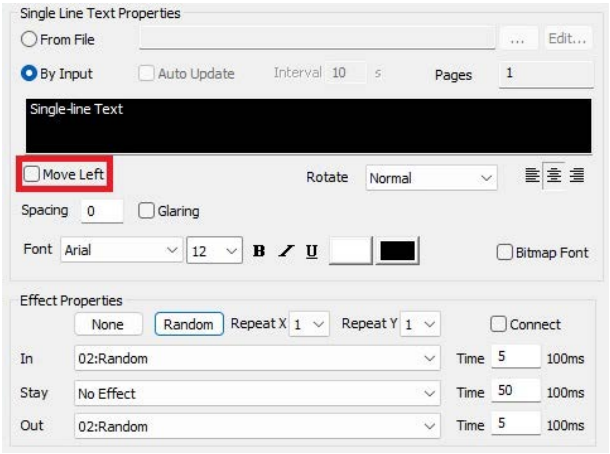


Fig. 5-16 Move Left Control

5.5.3 Play Single Column Text

To add Single-Column Text, right-click on **[Normal Page]** or click the + button, and then right-click **[Single Column Text Window]**. The properties for **Single-Column Text** are essentially the same as those for single line text. *(as shown in Figure 5-17)*

Fig. 5-17 Separate Line Text Properties

Single line text supports the "continuously move left" effect, while single column text supports the "move top" effect.

5.5.4 Play Subtitle

To add subtitle text, right-click on **[Normal Page]** or click the + button, and then select **[Subtitle Window]**. The properties for subtitle text are displayed. *(as shown in Figure 5-18)*

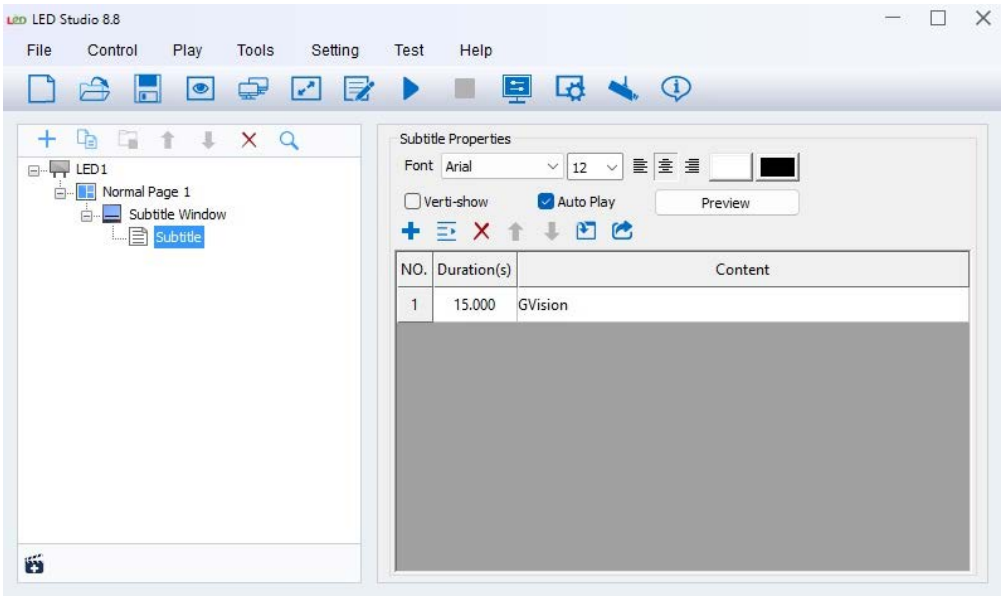


Fig. 5-18 Subtitle Properties

If you wish to add subtitles to other programs, the subtitle window should be overlaid on top of the other program window, and the subtitle window should be set as the top layer. Subtitles can be imported in formats such as "*.lrc" and "*.txt." You have the flexibility to modify subtitle attributes, including the **Font, Duration, and Content**. Additionally, you can add or remove subtitles, insert blank lines, and adjust the vertical positioning of subtitles as needed.

Once you have completed your settings, please click on **[Play]** in the main menu, and then choose **[Subtitle Management]** to access the **Caption Control** interface for playback. *(as illustrated in Figure 5-19)*

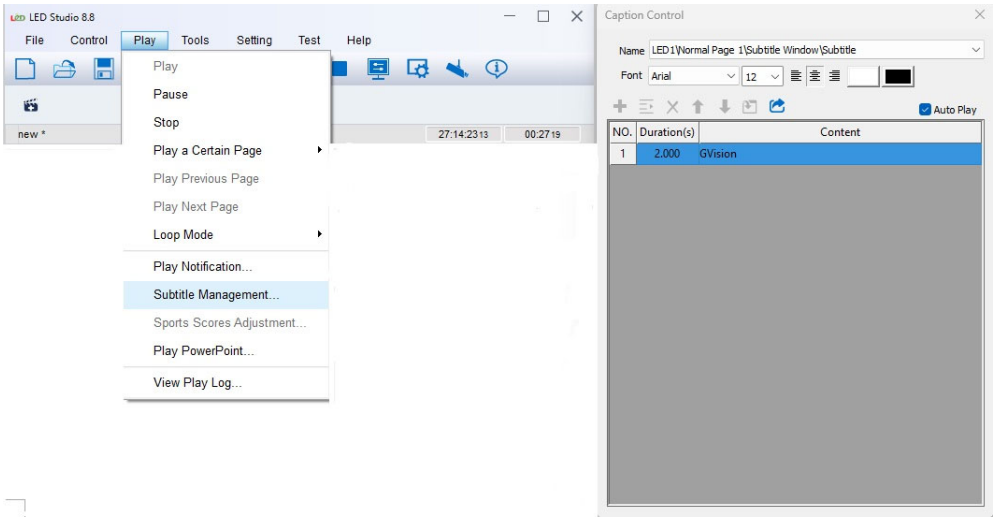


Fig. 5-19 Caption Control

5.6 Play Clock and Timer

5.6.1 Play Clock

In the clock windows, you have the option to select from **[Normal Clock]** and **[Beautiful Clocks]**. The normal clock category encompasses both analog and digital clock options.

5.6.2 Play Analog Clock

To display an analog clock, right-click on **[Clock Window]**, choose **[Add Normal Clock]**, and then select **[Analog Clock]**. Further customization can be done by selecting an **[Analog Clock Style]** in the **[Clock Properties]** interface.

As depicted in Figure 5-20, the analog clock effect is configured.

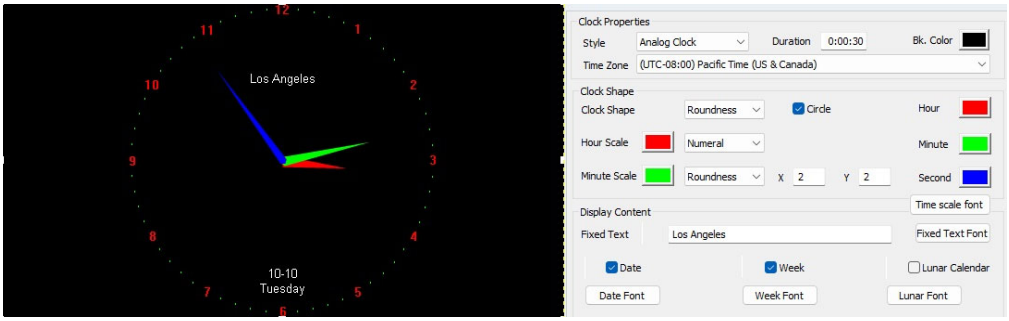


Fig. 5-20 Analog Clock Effect

5.6.3 Play Digital Clock

To add a digital clock, right-click on **[Clock Window]**, then choose **[Add Normal Clock]**, and select a **[Digital Clock Style]** within the clock properties interface.

As demonstrated in Figure 5-21, the digital clock settings are displayed. You can customize various aspects, including the clock **style**, **duration**, **background**, **time zone**, **content**, **fixed text**, **hour style**, **year style**, **multi-line** and **single line styles**, as well as the **font**. There are three types of digital clocks available. The digital clock supports a "move up" effect when displayed in multi-line mode and a "move left" effect when displayed in single line mode.

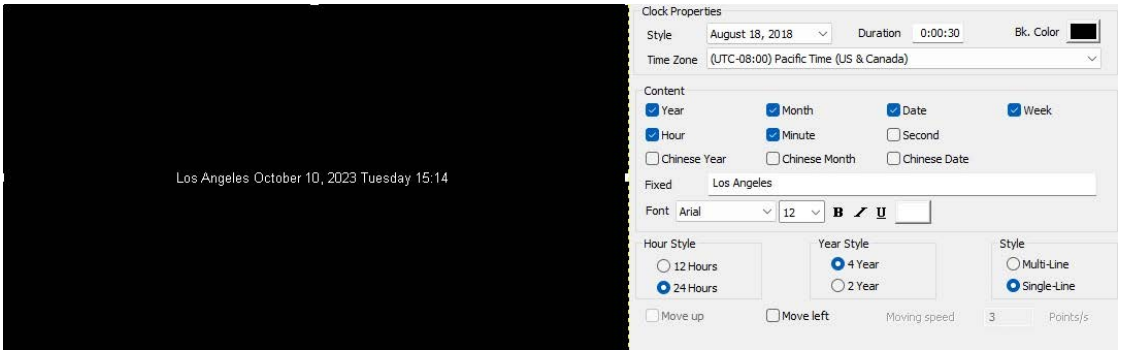


Fig. 5-21 Digital Clock

5.6.4 Play Beautiful Clock

The **Beautiful Clock** feature utilized the flash player, but it has been discontinued and is no longer supported.

5.7 Play Timing

5.7.1 Add Timer

If you need to start counting after an event has occurred, you can do so by right-clicking on the **[Timing Window]** and then selecting **[Add Timer]**.

The timer properties settings, *as displayed in Figure 5-23*, encompass various options such as **play time**, **fixed text**, **starting time**, **style**, **font**, **single-line**, **multi-line**, **day**, **hour**, **minute**, **second**, and more.

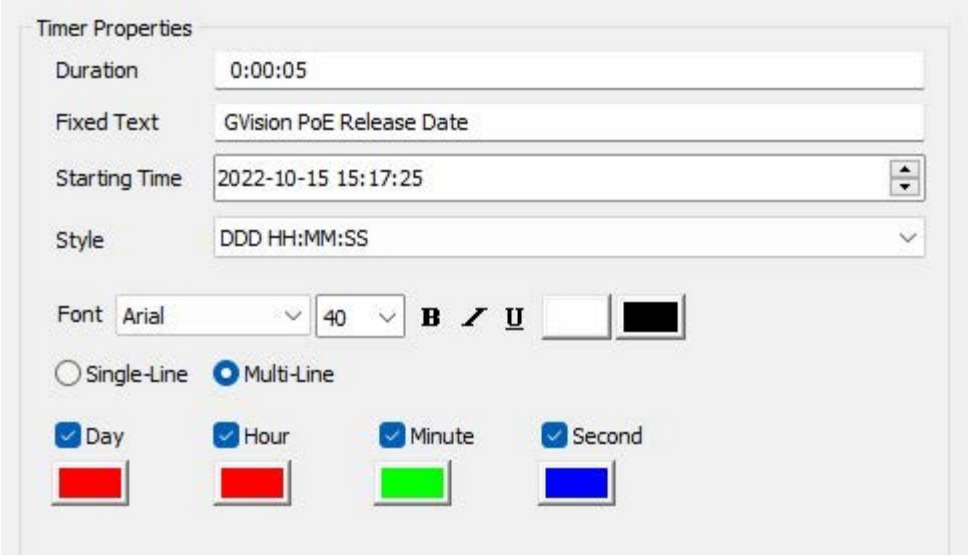


Fig. 5-23 Timer Properties

The display effect of the timer is depicted in *Figure 5-24*.

Fig. 5-24 Timer Effect

5.7.2 Add Countdown

If you need to initiate a countdown before an event that has not occurred yet, you can do so by right-clicking on the **[Timing Window]** and then selecting **[Add Countdown Timer]**.

The properties for the countdown timer are configured in a manner consistent with those of the timer. The display effect of the countdown timer. *(as illustrated in Figure 5-25)*

Fig. 5-25 Countdown Timer Effect

5.8 Webpage Display

To add a webpage window, right-click on **[Normal Page]** or click on the + button, then select **[Webpage Window]**. The software will automatically add pages when you add a web window. *(as illustrated in Figure 5-26)*

Subsequently, input the relevant URL (website) in the webpage properties. Click on **[Goto]**, which will take you to the corresponding webpage. Please note that this action requires an active network connection and the correct website address.

For webpage display, you can adjust its opacity, and you also have the option to set the starting position by specifying the X and Y coordinates. The starting point is typically the upper left corner of the page, with coordinates (0,0).

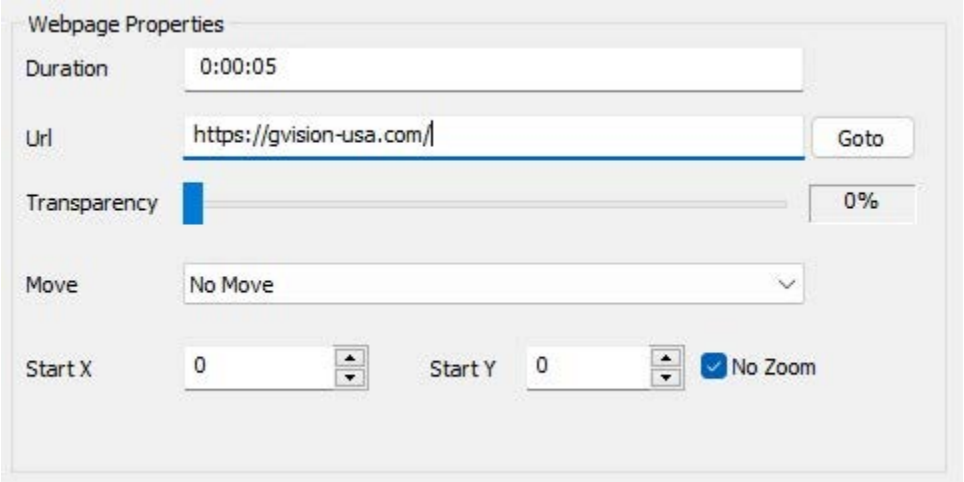


Fig. 5-26 Webpage Properties

If you wish to display a larger or smaller area of the webpage without altering the webpage window itself, you can achieve this without checking the **[No Zoom]** option. Instead, you can set the starting point, width, and height of the specific region you want to display. *(as demonstrated in Figure 5-27)*

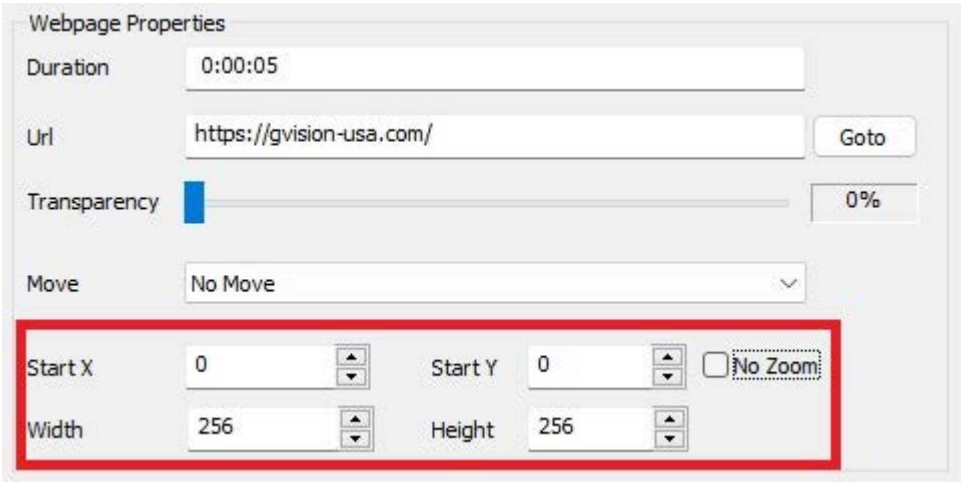


Fig. 5-27 Webpage Zoom

5.9 Play Table

To create a new table window, follow these steps: Right-click **[Normal Page]**, then select **[Table Window]**. Subsequently, right-click **[Table Window]** and choose **[New Table]**. This will result in a new table. *(as depicted in Figure 5-28)*

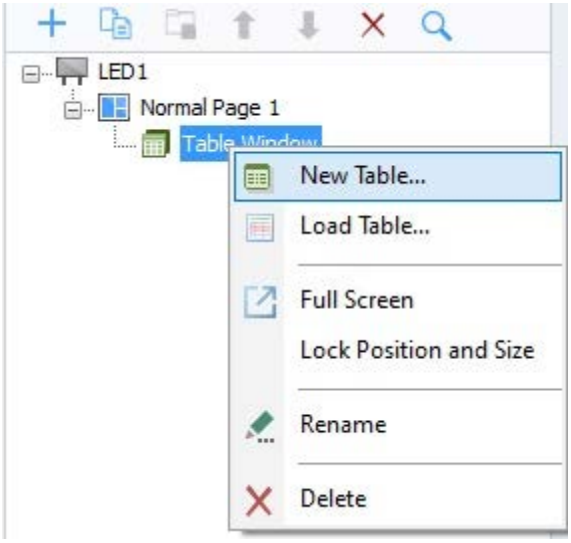


Fig. 5-28 Add Table

To edit the table using the **Table Editor**, configure the relevant properties, including the **table name**, **font**, **height**, **width**, **background color**, **line width**, and other settings as needed. After completing the editing process, click the **[Save]** button. *(as shown in Figure 5-29)*

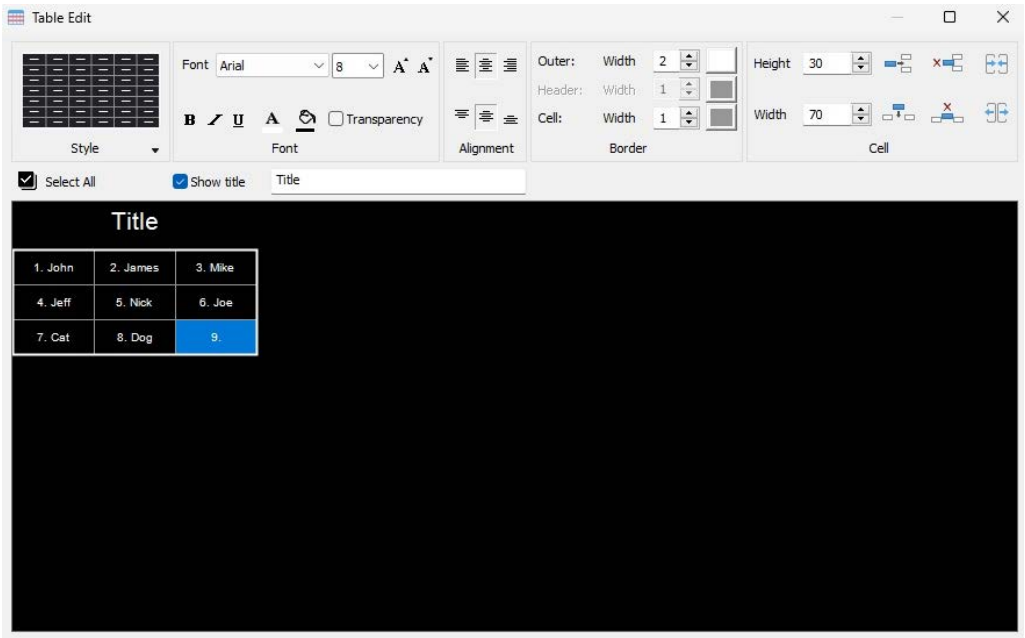


Fig. 5-29 Table Editor

Furthermore, you have the option to swiftly edit existing tables by loading Excel files and TBS files. You can accomplish this by selecting the **[Table Window]**, right-clicking, and choosing **[Load Table]** to directly add TBS files for playback.

Note: If you wish to play an Excel file, you can either directly add Office files in the file window and select the Excel file, or you can load an Excel file during the editing process and subsequently convert it into the TBS format.

5.10 Play Database

5.10.1 Create New Database Window

To add a database, click on the **[Normal Page]** and then right-click to select **[Database Window]**, *as demonstrated in Figure 5-30*. The software supports five types of database connections, including **Oracle**, **SQL Server**, **MySQL**, **ODBC**, and **Access**.

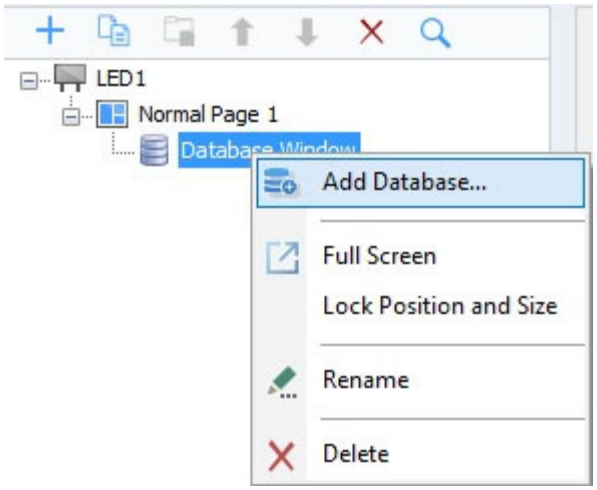


Fig. 5-30 Add Database

5.10.2 Add Oracle Database

To add a database, click on **[Add Database]** from the database toolbar. A **Database Type Selection** box will appear, and you can select the **[Oracle]** database. *(as shown in Figure 5-31)*

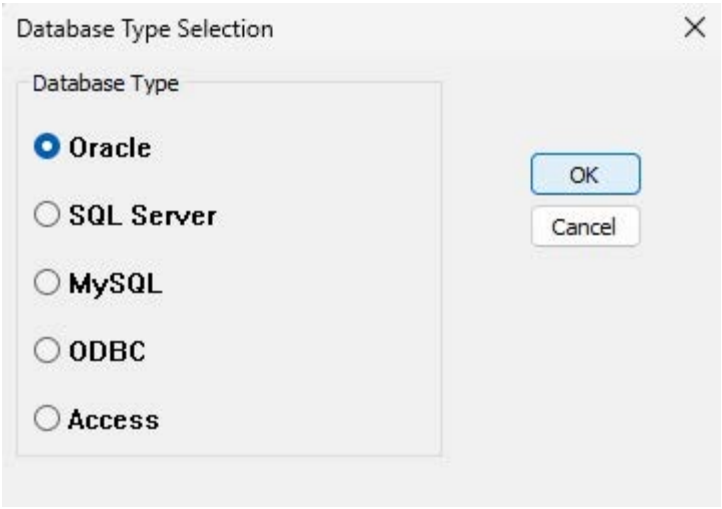


Fig. 5-31 Database Type

After selecting the Oracle database, click **[OK]**, and you will be directed to the **Oracle Net Configuration Assistant**.

Initially, the user should configure the Oracle database and make any necessary adjustments to the relevant form. Following this, enable the Oracle database.

Next, based on the specific configuration of your database, input the Net Service Name, **Username**, and **Password** in the **Oracle Setting**. Afterward, click **[OK]**. *(as illustrated in Figure 5-32)*

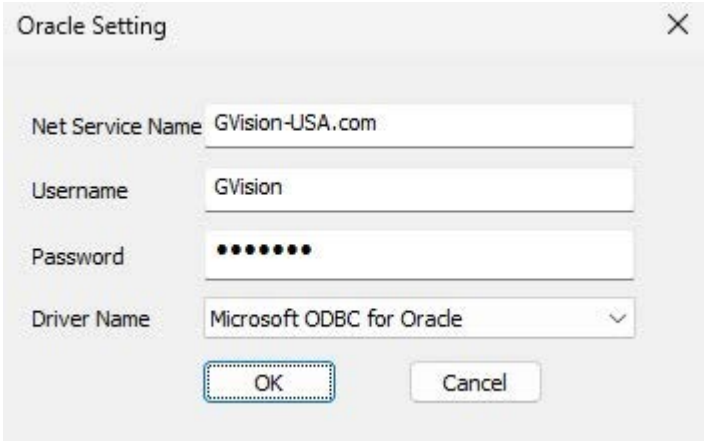


Fig. 5-32 Oracle Setting

5.10.3 Add SQL Server Database

To add a SQL Server database, click on **[Add Database]** in the database toolbar. This action will bring up the Database Type Selection box. Choose **[SQL Server]** and provide the **Server Address**, **Database Name**, **Username**, and **Password**. Finally, click **[OK]**. *(as depicted in Figure 5-33)*

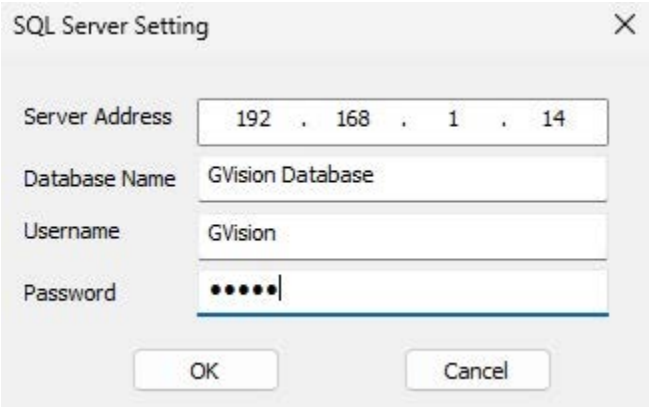


Fig. 5-33 SQL Server Setting

5.10.4 Add MySQL Database

To add a MySQL database, click on **[Add Database]** in the database toolbar. The Database Type Selection box will appear, and you should select **[MySQL]** as the database type. Then, input the **Server Address**, **Database Name**, **Username**, and **Password**. Finally, click **[OK]**. *(as illustrated in Figure 5-34)*

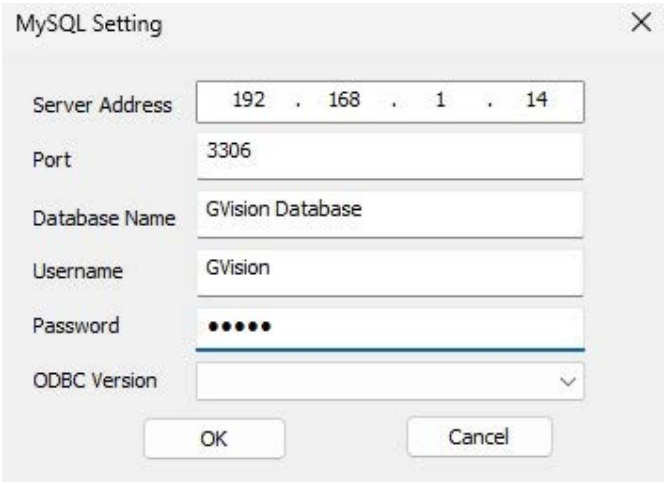


Fig. 5-34 MySQL Setting

5.11 Play Video Capture

5.11.1 Video Capture Device Installation

For video sources generated by external devices such as cameras, TVs, or VCRs, users can connect these devices to their computer system, and then use a video capture window to display the video feed.

There are currently two types of interfaces for TV cards and capture cards: PCI and USB.

TV cards typically come with AV, S-Video (SV), and TV interfaces, which allow users to play the contents from video devices.

The interface of a capture card is determined by the specific type and model of the capture card. Different capture cards may have different interfaces. Some recommended capture cards include the 10 MOONS uv200, 10 MOONS TB400, 10 MOONS HDV3000E, and Aver Media C727, among others.

5.11.2 Add Video Capture

To add a TV, capture card, or camera as a video source, select **[Video Capture Window**], and then right-click to choose **[Add TV/Capture Card/Camera]**. The system will automatically detect and list all the external devices connected to the PC. *(as illustrated in Figure 5-35)*

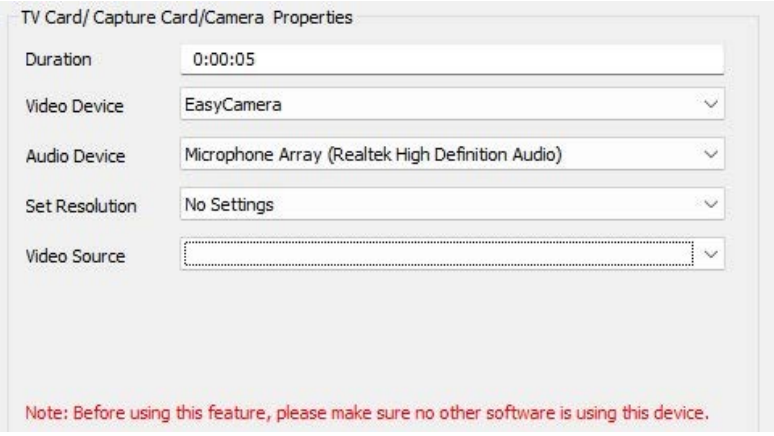


Fig. 5-35 External Video Properties

- **Duration:** The playing period of video capture.
- **Video Device:** Select the video capture device.
- **Audio Device:** Select the audio capture device.
- **Set Resolution:** Set the video source output resolution. Generally, shall be consistent with video source resolution.
- **Video Source**: Use to select the signal type of the video source

Note:

1) *When using a video capture card, first, close any software provided by the device manufacturer. Then, install the capture device driver, and finally, use LED STUDIO to add the video capture source for display after connecting the hardware devices.*
2) *To ensure normal display, it's important to first select the correct video input device, audio input device, and video source. This ensures that the video and audio are properly configured for display.*
3) *If you encounter issues where the video doesn't display after adding a video capture card, you can try adjusting the video output resolution in the Set Resolution settings. An effective approach is to systematically try different resolutions one by one until you find one that fits correctly within the display window.*

5.12 Play Sports Scores

Sports scores are primarily used in various sports events. To add a Sports Scores Window, right-click on **[Normal Page]**. *(as illustrated in Figure 5-36)*

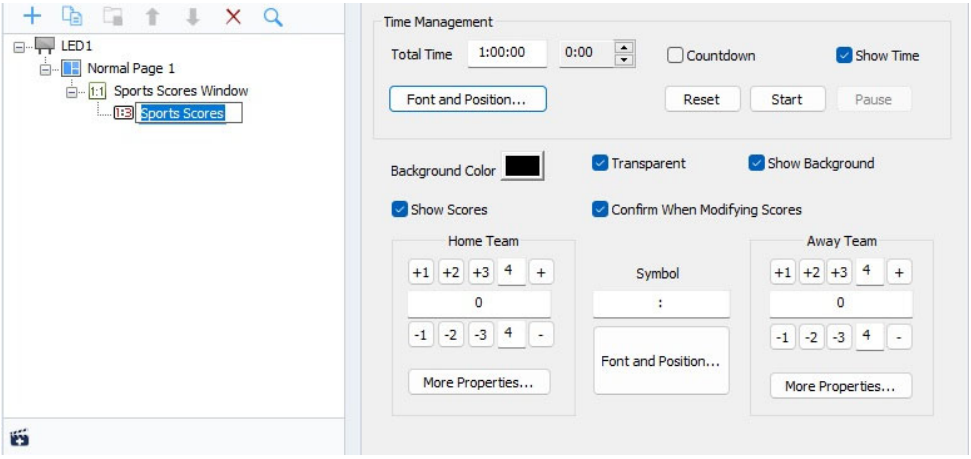


Fig. 5-36 Game Score Management

Once you've added the Sports Scores Window, you can configure its properties, which include settings for **total time**, **font**, and **score modifications**. Additionally, you can set properties for both the Home Team and the Away Team, adjusting elements like background, positioning, and score modifications, among other options.

Once you have finished configuring the settings, click on [**Play]**, and then select **[Play]** from the menu, followed by **[Scores Adjustment]** to enter the scores adjustment interface. *(as depicted in Figure 5-58)*

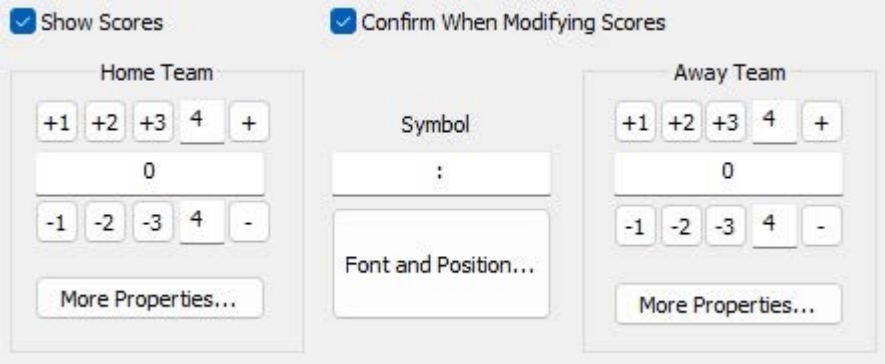


Fig. 5-37 Score Adjustment

In the scores adjustment interface, you have the flexibility to adjust and play both the time and the scores separately. The display effect of the sports scores is *demonstrated in Figure 5-38*.

Fig. 5-38 Score Effect

5.13 Play Desk Area

To access the desktop area properties, right-click on the **[Normal program page]** and choose **[Desk Area Window]**. Within these properties, you can set the **Play time**, which refers to the duration required to play all the programs in this window.

- **Start X:** The initial position of the playing area is defined as the left edge, with the left upper corner as the reference point, measured in pixels.
- **Width:** The dimension of the playing area, measured in pixels, represents its width.
- **Height:** The vertical dimension of the playing area, measured in pixels, represents its height.
- **No Zoom:** When checked, the desktop is played pixel by pixel. When unchecked, the playing area size will be scaled to fit the desktop window.
- **Select:** Quickly choose the desktop area by capturing it.
- **Capture Frequently:** The frequency at which the desktop content is captured, typically using the default value.

6. Special Application Display

6.1 Play Notification

Notifications are distinct single-line messages displayed independently of the regular program content. They are primarily utilized to promptly convey urgent and crucial information. To access the notification management interface, click on the main menu **[Play]** → **[Play Notification]**, *as illustrated in Figure 6-1*. You can refer to Chapter 5 for **single-line text editing** notification content, and for setting the display effects, refer to **play image** in Chapter 5 as well.

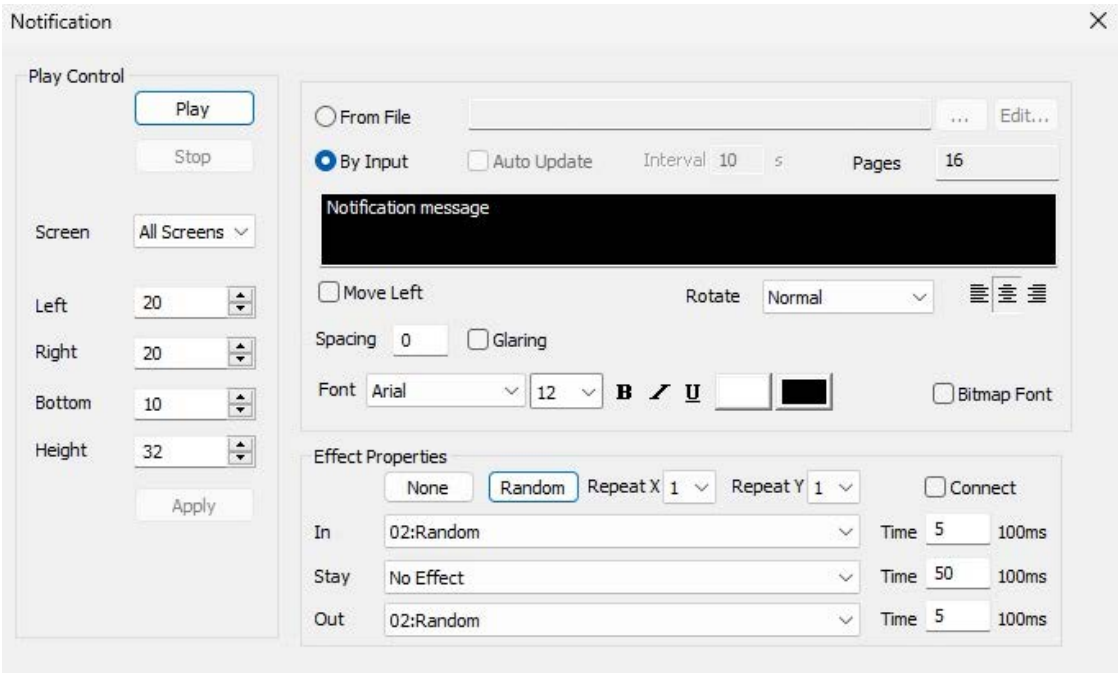


Fig. 6-1 Notification Management

You have the option to choose the screen on which the notification will be displayed. In cases where there are multiple screens, you can select **[All screens]** to show the notification on all of them. Alternatively, you can opt for **[Single screen]**, which means the notification will only appear on the selected target screen. Additionally, you can customize the window position and size by adjusting the parameters for **Left**, **Right**, **Bottom**, and **Height**.

6.2 Play PowerPoint

Select **[Play]** from the main menu, and then opt for **[Play PowerPoint]** in the dropdown menu. *(as depicted in Figure 6-2)*

To add a PowerPoint file that you wish to play, simply select **[Play]**. The presentation will automatically transition to the display area on the large screen. *(as illustrated in Figure 6-3)*

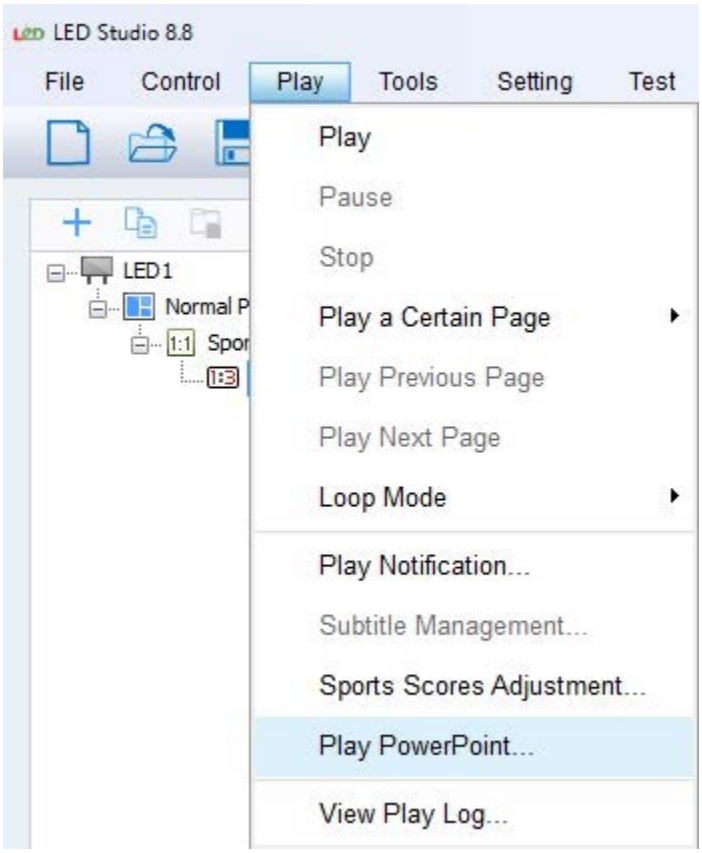


Fig. 6-2 Play PowerPoint

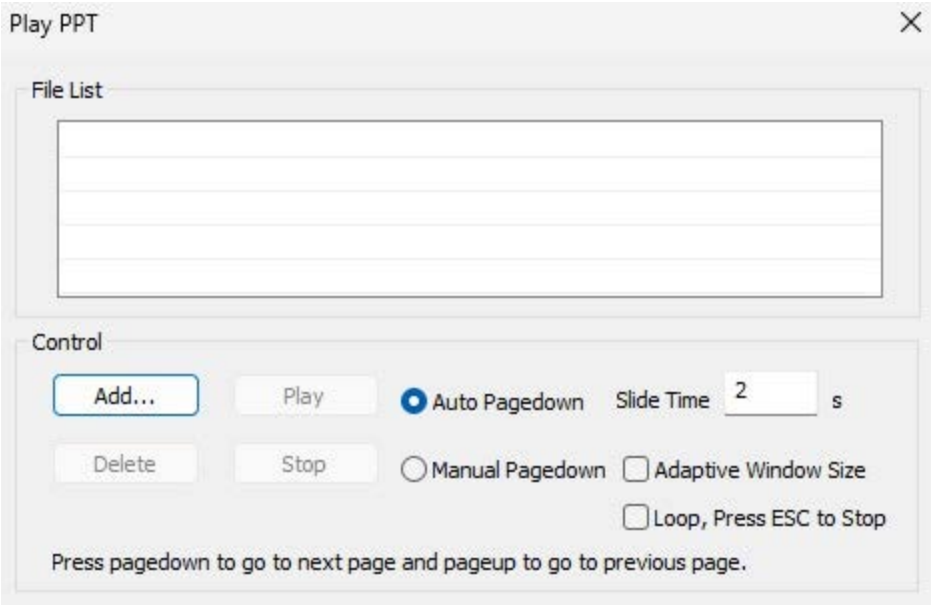


Fig. 6-3 PowerPoint settings

- **Add, Delete:** Add or remove a PowerPoint file.
- **Play, Stop:** Initiate or halt the PowerPoint presentation.
- **Page-down:** Facilitates automatic or manual page advancement.
- **Slide time:** Specifies the time interval between two pages when utilizing ***Auto Page-down*** mode, measured in seconds.
- **Adaptive Window Size:** Adjusts the PowerPoint dimensions to fit the window size.
- **Loop:** Allows you to press ***ESC*** to stop and set the presentation to loop during playback.

7. Timing Play and Control

7.1 Timing command list

Access the Action Table interface by clicking on **[Control]** → **[Timing command list]** in the menu. *(as demonstrated in Figure 7-1)*

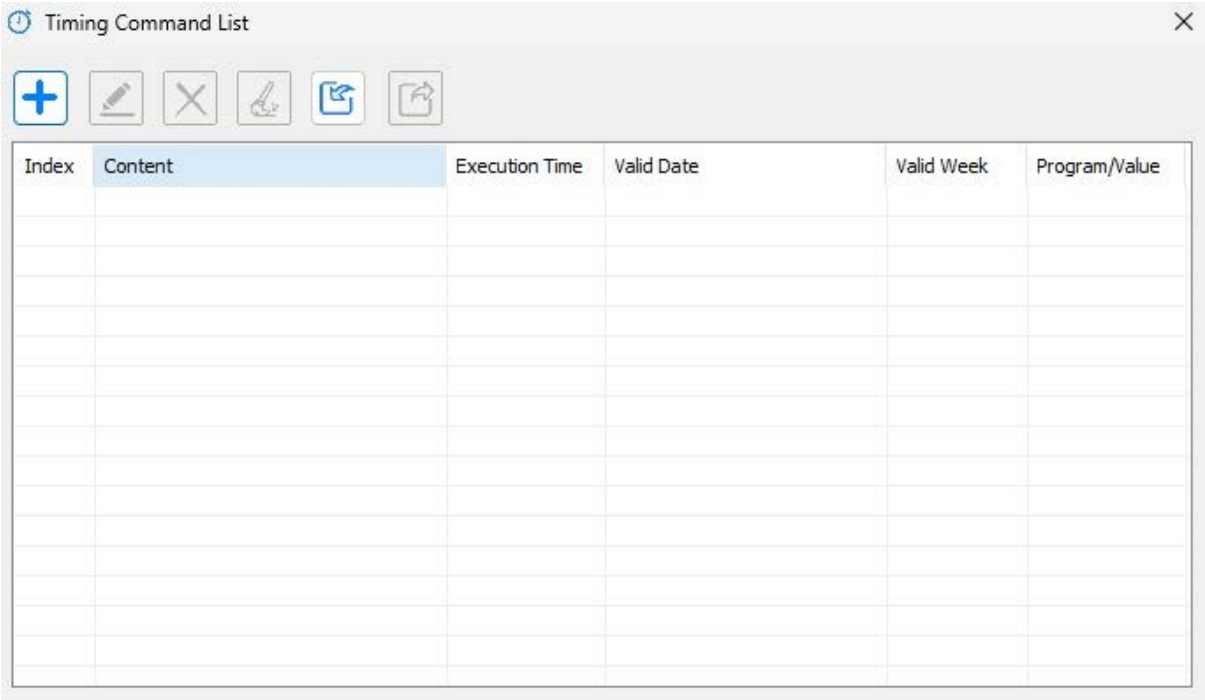


Fig. 7-1 Action Table interface

Click on **[Add...]** to insert the command and configure the execution time, *(as illustrated in Figure 7-2)*. If there are multiple commands, repeat the process for each one.

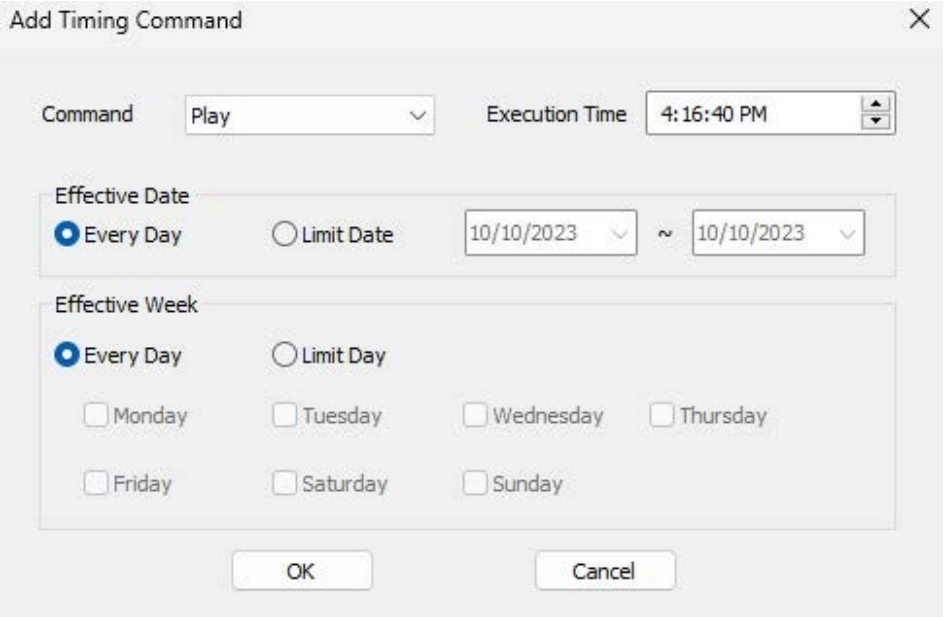


Fig. 7-2 Add Command List

The specific command details are displayed in Figure 7-3.

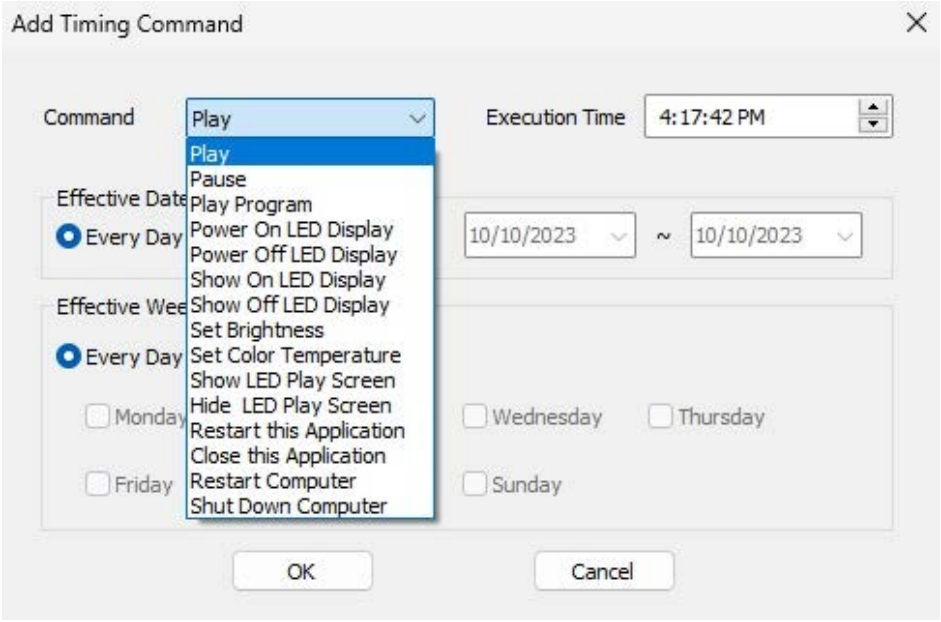


Fig. 7-3 Command List

8. Technical Support

If you encounter challenges during the LED Studio installation or experience difficulties with software configuration, please do not hesitate to reach out to GVision's technical support team for further assistance. Thank you.

Toll Free Number	1-888-651-9688 ext. 117
Email Address	RMA@gvision-usa.com
Website (URL)	www.gvision-usa.com