PIXELHUE

Pilot MS3 Pro
Multimedia Playback Software

User Manual

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1 General

Overview

- About This Manual
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1.1 About This Manual

This user manual guides you how to use our software. This manual is designed to be a reference for your daily use of our product.

Note

Always check for the latest version of all documents at www.pixelhue.com.

1.2 Symbols and Pictures

Symbol Overview

	Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.
	Warning	Indicates a hazard with a medium or low level of risk, which if not avoided, could result in minor or moderate injury.
	Caution	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
	Note	Provides additional information to emphasize or supplement important points of the main text.

Picture Overview

Images and pictures given in this manual are used for illustration purposes only. The actual product may vary due to product enhancement. The content of the images can be slightly different from reality, such as device types, installed modules, form and position of software windows on the screen.

2 Software Installation

About This Chapter

This chapter guides to you to the installation of the software.

Overview

- Software Installation
- Software Licensing

2.1 Software Installation

Running Environment

To ensure the optimal performance of Pilot MS3 Pro, the following minimum system requirements must be met:

- Processor: Intel i7 9th generation or above
- Memory: 16 GB or above DDR4 2666
- Graphics card: Recommend NVIDIA P2200 or higher-level discrete graphics card, or AMD W5100 or higher-level discrete graphics card
- Storage: 512 GB or larger SSD
- Operating system: Windows 10 Enterprise LTSC

Notes

- It is recommended to disable the antivirus software and firewall in advance.
- During the installation process, if antivirus software or a firewall prompts to block the installation, please choose to allow it.

Installation Procedure

The installation steps and process for the software are the same as for other software. Simply select the required options and follow the on-screen prompts to complete the installation.

Upon successful installation of the software, the following three shortcuts will appear on the desktop:

-  : The software main application
-  : The display end application
- :NDI sender, which acts as an NDI (Network Device Interface) sender, providing an NDI video source for the local machine or other devices on the same local area network

2.2 Software Licensing

Pilot MS3 Pro supports two licensing modes: Temporary and permanent.

- Temporary license: The license remaining days is displayed at the top right.
- Permanent license: No expire message is displayed at the top right.
- Not license: **Trial** is displayed at the top right.

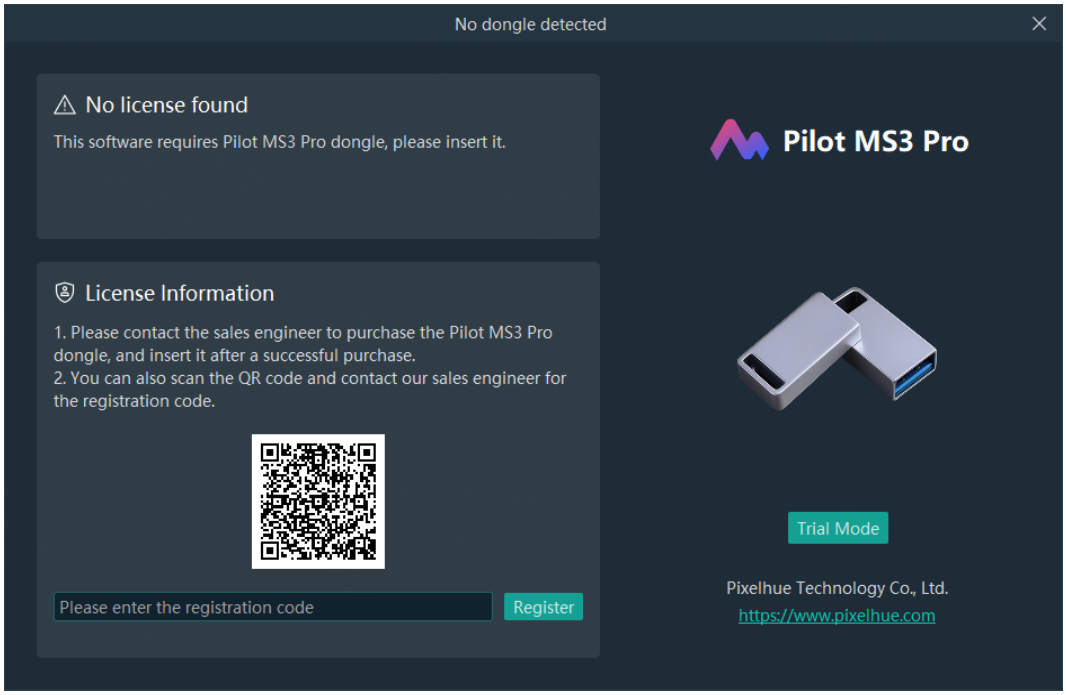
If you want to obtain the license, please contact our sales engineer for purchasing the dongle or registration code.

In trial mode, the **Pilot MS3 Pro** text is displayed on the output.

Dongle detection rules are as follows:

- When the inserted dongle is recognized, **Trial** will disappear automatically and the output will not display the **Pilot MS3 Pro** text.
- Within 3 seconds after the dongle is removed, the software knows the dongle has been removed and prompts you that no dongles have been detected, and the software will again display the **Pilot MS3 Pro** text on the output in 5 seconds.
- When the dongle is inserted and recognized normally, the above window and the **Pilot MS3 Pro** text on the output will disappear automatically.

Figure 2-1 Dongle detection



Please scan the QR code and send the copied content to your sales representative to obtain the registration code. Once obtained, enter the registration code into the text box below the QR code and click **Register** to complete the software licensing.

3 User Interface Introduction

About This Chapter

This chapter introduces you to the user interface of the software.

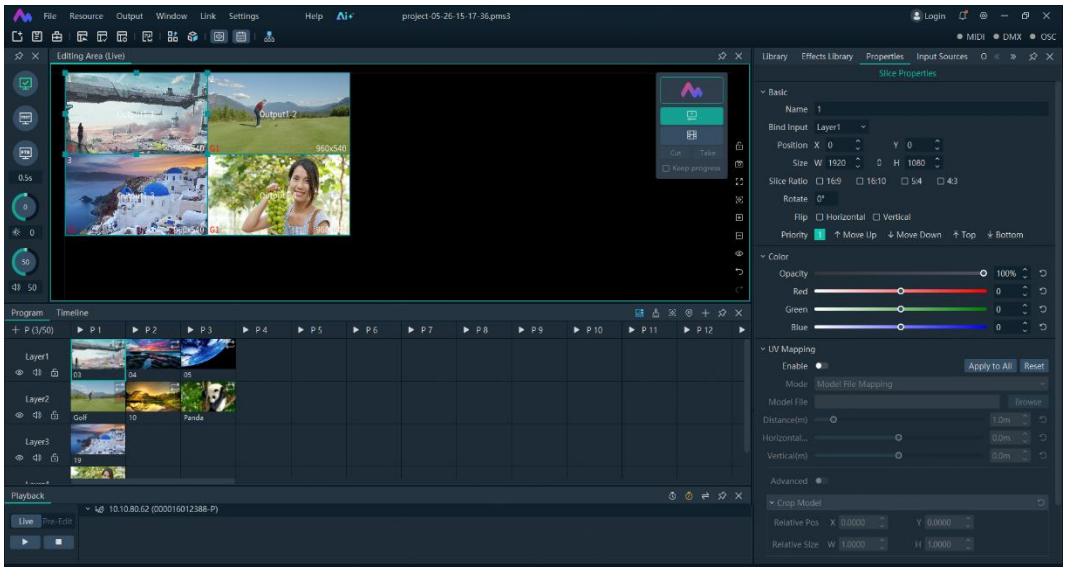
Overview

- User Interface
- Menu Bar
- Toolbar
- Status Bar
- Preview Output
- Global Control
- Stage Editing Area
- Program Management
- Timeline
- Playback Control
- Media Library and Properties
- Exit Software

3.1 User Interface

Run the software, and the main user interface is as shown below.

Figure 3-1 User interface



3.2 Menu Bar

- File: Perform the project-related operations.
  - New: Create a new project.
  - Open: Open the saved project file.
  - Save: Save the current project file.
  - Save As: Save the currently edited project file as a new project file.
  - Package Project: Package and store the used media files currently being edited or all media files in the project package.
  - Exit: Exit the software with the option to save the current project before exiting.
- Resource: Add and delete local media.
  - Add Local Media: Add the local media files.
  - Add Local folder: Add a local media folder and all supported media within the folder.
  - New Folder: Add an empty folder to the library.
  - Clear Library: Delete all imported local media files.
- Output: Manage the output screens, link configurations, and edge blending settings. Click the shortcut icon  below to open the output management window.

- Window: Show or hide the specific user interface areas, including the media library, input sources, editing area, global control, timecode, properties, program management, playback progress, timeline, and output control.
- Link: Configure the master-slave or primary-backup connections.
- Settings: Configure the system settings, including the configuration of system general information, display, Office files, communication, audio, and the management of clients.
- Tools: Use **Playback Control Assistant** for media transcoding, employ **Play Log** to view and export playback logs, and utilize **Port Check** to check system port information.
- Help: Check the software documentation, device ID and software information, as well as switch preferred language.
- : Open AI Assistant to perform AI chat and text-to-image operations.
- Cloud Account: Register and log in to the cloud account. After logging in successfully, you can use the AI assistant.
- : View system messages.
- : Lock the main user interface and manage the local users.

3.3 Toolbar

Table 3-1 Toolbar description

Icon	Name	Description
	New	Create a new project.
	Save	Save the currently edited project.
	Package	Package the current project. In the pop-up dialog box, select **Used Media** or **All Media**, set the **File Name** and **Save Path**, and then click **Package**.
	Restore default layout	Restore the user interface layout to the default layout style. The interface layout can be adjusted as needed: • : The layout window is locked and cannot be moved or resized. • : The layout window is unlocked, and its position and size can be adjusted.
	Save layout	Save the adjusted layout as a new layout. In the pop-up dialog box, set a name and then click **Save**.

Icon	Name	Description
	Layout management	Load or delete a saved layout. In the pop-up dialog box, select an existing layout and then click **Load**/**Delete**.
	Show shortcuts	Show or hide binding information for keyboard shortcuts, MIDI, DMX, OSC, and the software functions. A  to the left of the menu name indicates that it is currently displayed; no  indicates that it is currently hidden.
	Output management	Enter the output management's screen management interface.
	3D editing	Enter the 3D editing area of the output management's edge blending interface.
	Page	Access the page turning control and view its instruction. •  : Disabled •  : Enabled
	Schedule	Enter the scheduled playback interface to enable or disable the feature. •  : Disabled •  : Enabled In the pop-up dialog box, add a playback task and add a playback schedule for the task, then click **OK**.
	Manage console	Open the management console to centrally manage multiple software instances on the local area network.
	Event controller	Enable or disable the port number for UDP communication between the software and the event controller. •  : Disabled •  : Enabled This operation can also be performed on the **Communication** tab under **Settings > System**.
	Virtual light	Enable or disable all virtual light sources. •  : Disabled •  : Enabled

3.4 Status Bar

The status bar is located at the bottom of the software interface. The left side displays the software edition and uptime, and the right side displays the local machine's IP address and name.

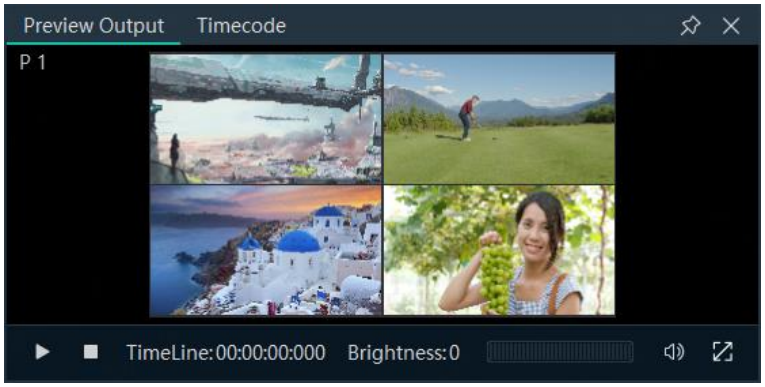
When synchronizing data from the primary device to the secondary or standby device, click **Update** to view the progress.

3.5 Preview Output

The function is designed for previewing and monitoring screen output, as well as providing global control over playback status.

To display or hide the preview output window: Navigate to **Window > Preview Output**.

Figure 3-2 Preview output



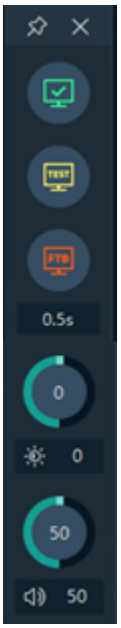
You can perform operations using the following controls:

- / Start or pause program playback.
- : Stop program playback.
- : Adjust the output volume level.
- / Switch the window to or from fullscreen display mode.

3.6 Global Control

Control the output display, volume and more.

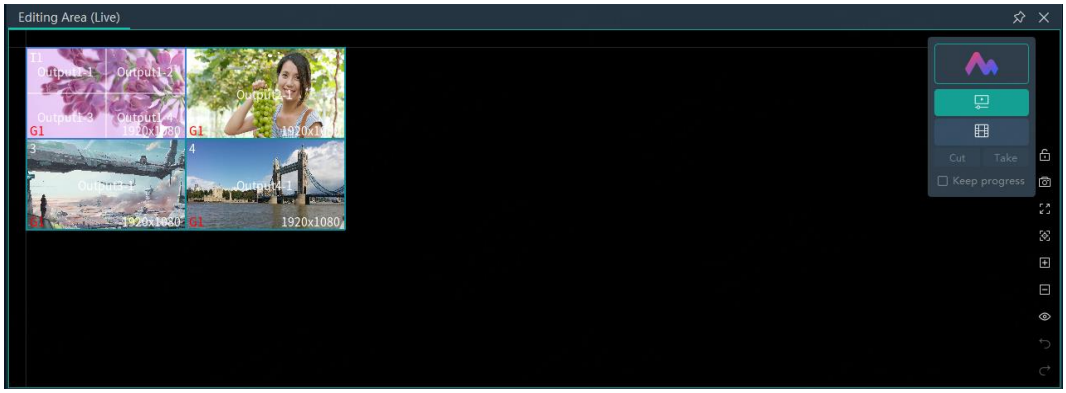
Table 3-2 Global control descriptions

Area	Function	Description
	Output control	• : Output connected. Click to disconnect the output. • : Output disconnected. Click to restore the output connection.
	Test pattern	• : Test pattern enabled. Click to close the test pattern. • : Test pattern disabled. Click to open the test pattern. Once the test pattern is enabled, the screen will display the test pattern.
	FTB	• : Normal output. Click to make the screen gradually fade to black. • : FTB enabled. Click to gradually transition the black screen to normal display. • **0.5 s**: The time duration from normal display to a black screen. This can be manually input with a range from 0 to 5, with a default value of 0.5 seconds.
		Adjust the output brightness gain by moving the slider. The value ranges from -100 to 100.
		Adjust the output volume. Click to mute all outputs.

3.7 Stage Editing Area

Preview the output screen or output slices.

Figure 3-3 Stage editing area

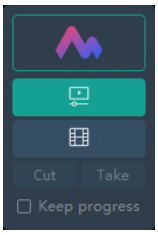
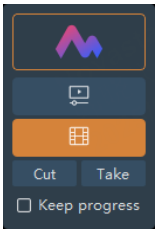


- The sequence number in the upper left corner of the slice indicates the layer slice in program management. This number corresponds one-to-one with the layer number, which can be modified in the **Bind Input** section of the properties.

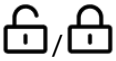
- The **Tx** number in the upper left corner of the slice, where **x** is a digit, represents the timeline layer slice. Slices on the timeline do not support layer binding modifications.

Control Mode

Click  in the top right corner of the editing area to select the control mode, which supports both **Live** and **Pre-Edit.**

Mode	Name	Description
	Live	After this mode is selected, the stage area displays the live image of the current program.
	Pre-Edit	After this mode is selected, the stage area displays a preview of the program to be played. Only after clicking **Take** can the playing program be output to the screen. • Cut: Send the currently previewed program to the screen using the direct cut mode. • Take: Send the currently previewed program to the screen using a fade-in, fade-out mode. • Keep progress: When sending programs, determine whether the program should play from the beginning of the media. – On: The program starts playing from the current progress in the preview area after you click **Take** or **Cut**. – Off: The program starts playing from the beginning after you click **Take** or **Cut**.

Editing Area Control

-  : Unlock or lock the stage editing area. Once locked, any additions, modifications, or movements of slices are not allowed.
-  : Capture the current playback frame of the selected slice and automatically add the captured image to the media library.
-  : Fill the selected layer across the connectors.
-  : When the screen is moved, click to automatically move the screen back to the origin.
-  : Zoom in or zoom out the editing area.

- /: Show or hide all text displays in the stage editing area or screen management interface.

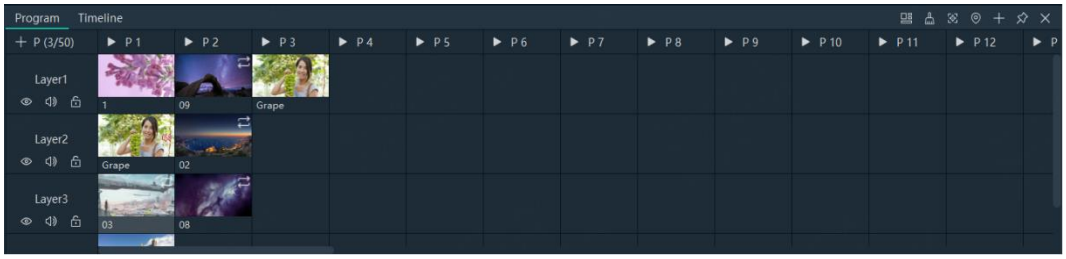
When hidden, only images are shown without any text on slices or sub-outputs. Click to show text again.

- : Revert the last actions and restore the previous state.
- : Reapply the most recently undone action.
- After hiding text, press and hold the ALT key to temporarily display text, or release the ALT key to continue showing text.

3.8 Program Management

Manage the programs and layers.

Figure 3-4 Program management



- Program n/50: Displays the number of edited programs and the total number of programs in the current group.
  - n: Indicates the number of programs that contain media.
  - 50: The default number of programs in the system, which will increase as more programs are added.
- Program: The program name
- Layer control: Manage the display image and output audio of the layers.
  - : The layer image is displayed normally. Click to hide the layer image.
  - : The layer does not display any image. Click to show the layer image.
  - : The layer audio is output normally. Click to disable the layer audio.
  - : The layer audio is disabled. Click to enable the layer audio.
  - : The layer is not locked, allowing for adding media and other operations. Click to lock the layer.
  - : The layer is locked. Once the layer is locked, you cannot add programs, delete media, or perform other operations on this layer. Click to unlock the layer.

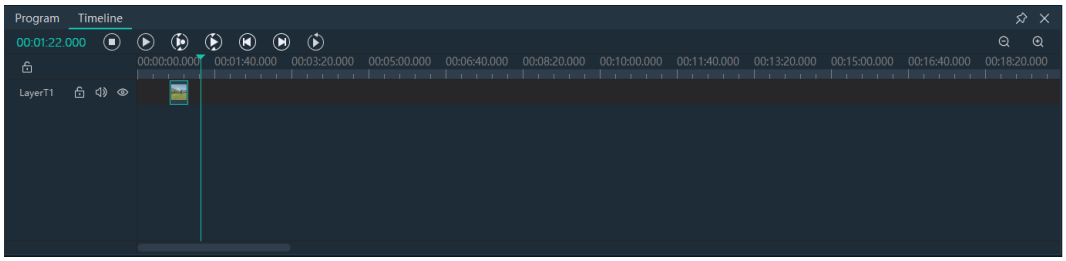
- : Click at the leftmost of the layer management area to add a layer.

- Program media jump playback: When the media is set to jump playback, different status icons will be displayed in the upper right corner of the media in the program.
  - : The media plays in a loop, and it loops before transitioning to the next media.
  - : Before the media jumps, and after the media finishes playing, freeze on the last frame.
  - : Before the media transitions, and after the media finishes playing, it stops.
  - : After the current media loop, all media within the program will play on loop.
  - : After the media finishes playing, switch to the next program for playback.
  - : After the media finishes playing, it will switch to the designated program.
  - : The media loops continuously and plays a specified number of times before it moves on.
- Program control: Includes the program positioning, program addition, and program playback control.
  - : Click this icon on the left of the program name to start playing or resume the current program.
  - : Click this icon on the left of the program name to stop playing the current program.
  - : Click this icon to enable the layout retaining feature. When enabled, the icon changes to and all slice information remains consistent across programs.
  - : Click this icon to clear media from all programs.
  - : Navigate the program list to the first program.
  - : Navigate the program list to the currently playing program.
  - : Add a program to the end of the program list.

3.9 Timeline

Manage the timeline and the layers on it.

Figure 3-5 Timeline management



- Add layers

  In the **Library** on the right, select a media and drag it to the blank area of the timeline to create a layer and complete the media addition to the layer.

- Replace media

  Replace the selected media on the timeline. In the media library, select the target media and drag it onto the media in the timeline to open the media replacement popup, allowing the following actions:

  - Keep: Retain the original media's properties, including start time and duration, when replacing.
  - Don't Keep: Replace the selected media on the timeline without retaining the original properties.
  - Cancel: Do not replace the media on the timeline.

- Delete layers

  After all media on the timeline layer is deleted, the timeline layer will be automatically deleted.

- Lock timeline

  - Click above all layers in the timeline area to lock all layers. Once locked, adding layers and media is not allowed.
  - Click next to each timeline to lock it. Once locked, adding and removing media from the current timeline is not allowed.

- Control timeline playback

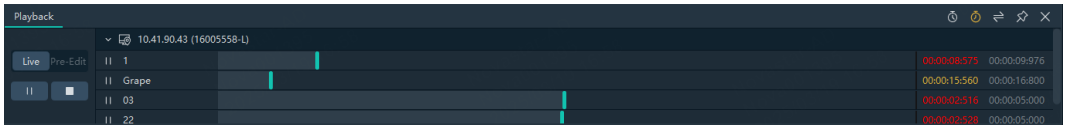
  - : Stop the timeline playback.
  - : Start the timeline playback.
  - : When the playback position is within a clip, play it once, then pause at the end.
  - : When the playback position is within a clip, loop the playback.

- : Click to jump to and play the previous clip.
- : Click to jump to and play the next clip.
- : Click to jump to the beginning of the timeline and restart the playback.
- : Turn on or turn off the layer media audio.
- : Click this icon next to the layer to lock the layer.
- : Hide the media image of the layer.
- : Click to zoom in the timeline.
- Click to zoom out the timeline.
- Layer stacking order determines display priority. The topmost layers have the highest priority and appear foremost.

3.10 Playback Control

Control the playback of a single media or all media of the currently playing program.

Figure 3-6 Playback control

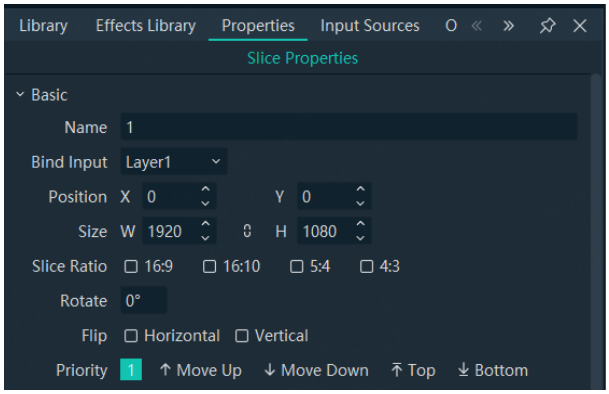


- Overall control: Manage the playback of all media in the current program.
  - : After the icon is clicked, all media start playing.
  - : After the icon is clicked, all media pause.
  - : After the icon is clicked, all media stop playing.
- Single media control: Control the playback for the selected media in the current program.
  - : Click this icon in front of the playing media to continue playing the media.
  - : Click this icon in front of the playing media to pause playback of the media.
- Playback timers: Counting up, counting down, and synchronized playback control for media
  - : Start the count up display, showing the duration of all media that has been played.

- : Start the countdown display, showing the remaining playback time for all media.
- : Start the synchronized playback control. Click and drag the media playback progress bar to synchronize the playback time.

3.11 Media Library and Properties

Figure 3-7 Media library and properties



Properties

- Click the media in the program to view and modify the properties of the individual media in the program.
- Click the slice in the editing area to view and modify the output slice properties.
- Click the layer to view and modify the layer properties, and change the output of all media in the layer by adjusting the layer property values.
- Click the program to view and modify the program properties.

Media Library

Add and manage the added media. Test Pattern is the software built-in test patterns.

- Delete media: After selecting the media that has not been added to any programs, click in the top right corner to delete the selected media.

  When selecting media, press and hold **Ctrl** or **Shift** to select multiple media.
- Manage media: Add and manage media in the media library.
  - Click in the top right corner to enter the local media addition interface.
  - Right click a blank area in the media library to perform actions such as **Add Local Media**, **Add Local Folder**, **New Folder**, **Add Collection**, and **Clear Library**.
  - By dragging the added media into the newly created folder, you can categorize and manage the media.
  - By clicking **All** at the top and choosing different types, you can view the added media by categories.

- Single media operations: Right click a media in the media library to expand the media context menu.
  - Edit: Edit the media. The OSDs, virtual light sources, timers, scoreboards, digital clocks, and test patterns support this menu.
  - Edit Media Collection: Edit the media collection. This menu is only supported for playback collections.
  - Create Copy: Create a copy of the current media. The OSDs, virtual light sources, timers, scoreboards, digital clocks, and media collections support this menu.
  - Add Local Media: Add the media files saved locally.
  - Media Optimization: When the size of added media files exceeds the processing capability of the graphics card, the media type will display **Optimizable**. For the specific processing capability each graphics card supports, please refer to the table below. Once optimized, the media will display **Optimized**.

Graphics Card	Image	Video
P2200	Width or height > 16384 pixels	Width or height > 8192 pixels, or bandwidth > 8192×4320@60Hz
T400	Width or height > 8192 pixels	Width or height > 8192 pixels, or bandwidth > 8192×4320@30Hz
RTX 4000 RTX5000 RTX A4000 RTX A5000 RTX A5500 RTX A6000	Width or height > 16384 pixels	Width or height > 8192 pixels, or bandwidth > 8192×8192@60Hz
Other graphics cards	Width or height > 8192 pixels	Width or height > 8192 pixels, or bandwidth > 8192×4320@60Hz

Note

Media in hap format will not display **Optimizable** even if they exceed the maximum recommended resolution.

  - Cancel Optimization: Reverts optimized media back to its pre-optimized state.
  - Add Collection: Arrange multiple media items in order to form a new composite video source and play them according to specified rules.
  - Add Local Folder: Add the local folders and media within the folders.

- Insert Folder: Insert a new folder and add the selected media to the inserted folder.
- More Tools: Add the OSDs, virtual light sources, timers, scoreboards, digital clocks, and test patterns.
- Rename: Modify the name of the selected media.
- Replace Media: Replace the media in the material library and meanwhile replace this media in all programs together.
- Access File Location: Open the local storage location of the media file.
- Delete: Delete the selected media. If the media has already been added to the program, it cannot be deleted.
- Properties: View the basic properties of the selected media.

Effects Library

Pilot MS3 Pro offers a collection of preset or custom visual effects, letting users swiftly apply them during program setup to boost visual impact.

Simply drag an effect onto a slice or into the program media to add it.

Input Sources

Manage capture devices and add media sources such as streams, NDI, web pages, and Spout.

Output Control

Manage the backend device by adding control commands.

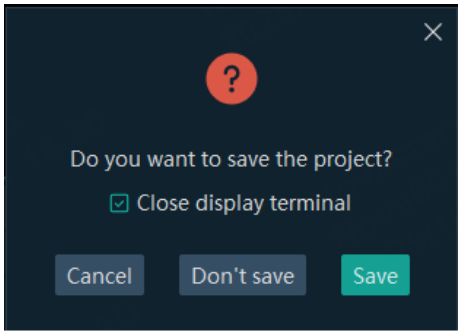
Note

It is recommended that only personnel with professional training perform this operation.

3.12 Exit Software

Click ✕ in the upper right corner of the software interface, or choose **File > Exit**. A confirmation dialog will appear.

Figure 3-8 Exit confirmation



Close Display Terminal

- Check **Close display terminal** to ensure the output interface closes with the main interface.
- Leave it unchecked to keep the output display running according to the program management even after the main interface is closed.

Save Project File

- Save: Save the current project file when the software closes.
- Don't save: Close without saving the current project file.
- Cancel: Cancel the software close.

4 Project

About This Chapter

This chapter guides you on how to create and save projects, manage media, edit outputs, layers and slices, play programs and more.

Overview

- Create New Projects
- Manage Media
- Edit Outputs
- Split Outputs
- EDID Quick Tool
- Configure Edge Blending
- Edit Program Layers
- Edit Timeline Layers
- Edit Timeline
- Configure Effects
- Edit Output Slices
- Play Programs
- Configure Scheduled Playbacks
- Save Projects

4.1 Create New Projects

There are three methods for creating a new project:

- After launching the software, click **New Project** on the startup screen, select the storage location for the new project, and then click **Save**. The system will automatically create a project file.
- Navigate to **File > New**, choose the new project's storage location, and click **OK** to create a new project file.
- Click  in the menu bar to create a new project file.

4.2 Manage Media

Pilot MS3 Pro supports processing and playing images, videos, PowerPoint files, and audio files.

The supported media formats are as follows:

- Video: mp4, avi, mkv, flv, mov, mpeg, mpg, ts, wmv, 3gp, nvf
- Image: jpg, jpeg, bmp, png, gif, ico
- Audio: mp3, aac, flac, amr, ape, wav, wma, ogg
- Office: ppt, pptx

  ppt and pptx decoding supports up to a 4K resolution size.
- Other formats: exe

Note

Recommended video encoding formats:

- 4K < resolutions ≤ 8K, width and height ≤ 8192 pixels, H.265 (HEVC) or VP9 recommended
- Resolutions ≤ 4K: H.264 (AVC) recommended

For a better image quality experience, the following video bitrates are recommended.

- Recommended video bitrates for SDR uploads - single media server and single graphics card:

Type	Video Bitrate Standard Frame Rate (24 Hz, 25 Hz, 30 Hz)	Video Bitrate High Frame Rate (48 Hz, 50 Hz, 60 Hz)
4320 (8K)	75 to 90 Mbps	110 to 135 Mbps
2160p (4K)	35 to 45 Mbps	53 to 68 Mbps
1440p (2K)	16 Mbps	24 Mbps

Type	Video Bitrate Standard Frame Rate (24 Hz, 25 Hz, 30 Hz)	Video Bitrate High Frame Rate (48 Hz, 50 Hz, 60 Hz)
1080p	8 Mbps	12 Mbps

- Recommended video bitrates for SDR uploads - multiple media servers and multiple graphics cards:

Type	Frame Rate	Video Bitrate	Video Coding
4320 (8K)	60 Hz	30 Mbps	H.265
2160 (4K)	60 Hz	30 Mbps	H.264

Note

If frame synchronization output is not required in the application scenario that has multiple media servers and multiple graphics cards, please refer to the recommended video bitrates for SDR uploads - single media server and single graphics card.

Video Media Requirements

The video playback performance varies depending on the graphics card. To ensure optimal compatibility and smooth playback, please prepare and add media materials according to the following specifications:

- Requirements for single graphics card scenario:
  - 4K video: Resolution ≤ 4096 pixels (width/height), encoded in H.264
  - 8K video: Resolution ≤ 8192 pixels (width/height), encoded in H.265
  - Super 8K video: Resolution > 8192 pixels and ≤ 16384 pixels (width/height), encoded in HAP
- Requirements for multi-graphics card scenario:
  - 4K video: Resolution ≤ 4096 pixels (width/height), encoded in H.264
  - 8K video: Resolution ≤ 8192 pixels (width/height), encoded in H.265
  - Super 8K video: Requires segmentation, with all segments of equal duration.

Note

Video playback must utilize hardware decoding, with a frame rate of 30/60 fps, and a recommended video bitrate under 200 Mbps to ensure synchronization.

Graphics Card	Resolution	Frame Rate	Encoding Format	Pixel Format	Bitrate Range
AMD	4096×4096	60	H.264	YUV4:2:0/ YUV4:2:2	0 to 300 Mbps

Graphics Card	Resolution	Frame Rate	Encoding Format	Pixel Format	Bitrate Range
	3840×2160	60	H.264 (HDR)	YUV4:2:0/ YUV4:2:2	0 to 300 Mbps
MPGT400	8192×4320	60	H.265 (HDR)	YUV4:2:0/ YUV4:2:2	0 to 300 Mbps
HPGA4000	8192×4800	60	H.265 (HDR)	YUV420/YUV422	0 to 450 Mbs
	7680×4320	60	Prores422 HQ	YUV420/YUV422	No requirements
	3840×2160	60	Prores422 HQ	YUV420/YUV422	No requirements
HPGA5000	8192×8192	60	H.265 (HDR)	YUV420/YUV422	0 to 150 Mbs
	3840×2160	60	Prores422 HQ	YUV420/YUV422	No requirements
HPGA6000	8192×8192	60	H.265 (HDR)	YUV420/YUV422	0-150Mbs
	3840×2160	60	H.265 (HDR)	YUV420/YUV422	No requirements
HPGA4000 HGPA5000 HPGA6000	16384×4320	60	HAP	YUV420/YUV422	No requirements

4.2.1 Add Media

4.2.1.1 Import Files

Import a single media file or multiple media files.

Step 1 On the right pane, click the **Library** tab to enter the media library interface.

Step 2 Right click the blank area and select **Add Local Media**.

Step 3 Select the target media and click **Open**. The software will automatically import the selected media files into the media list.

- To import a single file, simply select the file and click **Open** to complete the import.
- To import multiple files simultaneously, press and hold **Shift** or **Ctrl** click the target files, and then click **Open** to complete the import.

4.2.1.2 Import Folders

There are two methods for importing folders.

Import Folders

Step 1 Right click the blank area in the media library area, and select **Add Local Folder**.

Step 2 Select the folder where you save the media files and click **Open**.

The system will automatically import the folder with its original name and the media files within the folder into the media library.

Replace Folders

Step 1 Right click the blank area in the media library area, and select **Insert Folder**. The system will automatically create a new folder.

Step 2 Right click the folder and select **Replace**.

Step 3 Select the folder you want to import in the pop-up dialog box.

Step 4 Click **Open** to import the selected folder and its contents into the media library simultaneously.

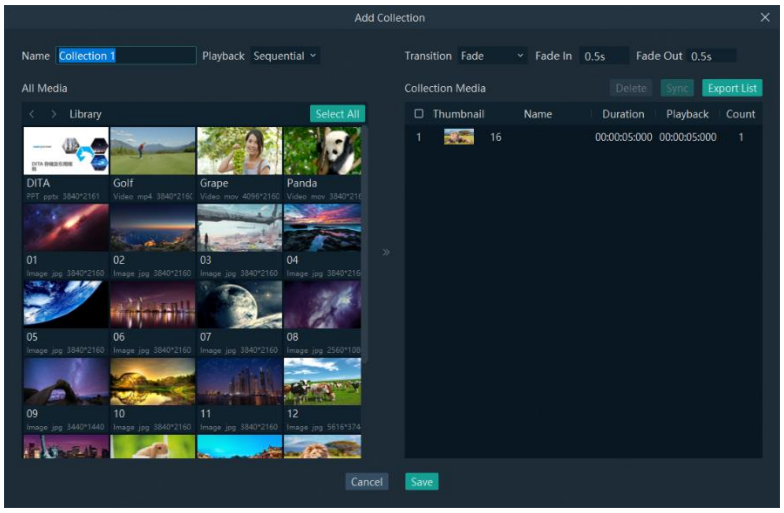
4.2.1.3 Add Media Collections

Sort and combine multiple media items into a new composite video source and play it according to specified rules.

Step 1 On the right side of the main interface, select the **Library** tab, then right-click and choose **Add Collection**.

Step 2 In the pop-up dialog box, set the collection name and playback mode.

Figure 4-1 Add media collections



The playback mode descriptions are as follows:

- Sequential: The collection media is played sequentially according to the arranged order.
- Shuffle: The collection of media plays in a random order.
- Loop: Media in the collection is interleaved according to the number of play counts. For example, if media A is set to play 3 times and media B 2 times, the playback sequence will be A-B-A-B-A.

Step 3 Set the transition effect for the collection media. You can choose **Fade** or **Cut**. If **Fade** is selected, you can also set the **Fade-In** duration and **Fade-Out** duration.

Step 4 In the **All Media** area, select the media and click → add it to the **Collection Media** area. The same media can be added multiple times.

- To select all media, click **Select All**. If the media is in a folder, open the folder first and then select the media.
- To delete media from the collection, select the media and click **Delete**, or press the **Delete** key.

Step 5 Set the playback duration for the collection media.

To set all media to the same playback duration in bulk, first set the playback duration of one media item. Then select that media item and click **Sync** to synchronize its playback duration with the other media.

- If the playback duration is greater than the media duration, the media will automatically loop until the playback duration is reached.
- If the playback duration is less than the media duration, the media will only play up to the playback duration.

Step 6 Set the number of times the collection media plays.

To export the playback collection's timing information to an Excel file, click **Export List**.

Step 7 After completing the setup, click **Save**.

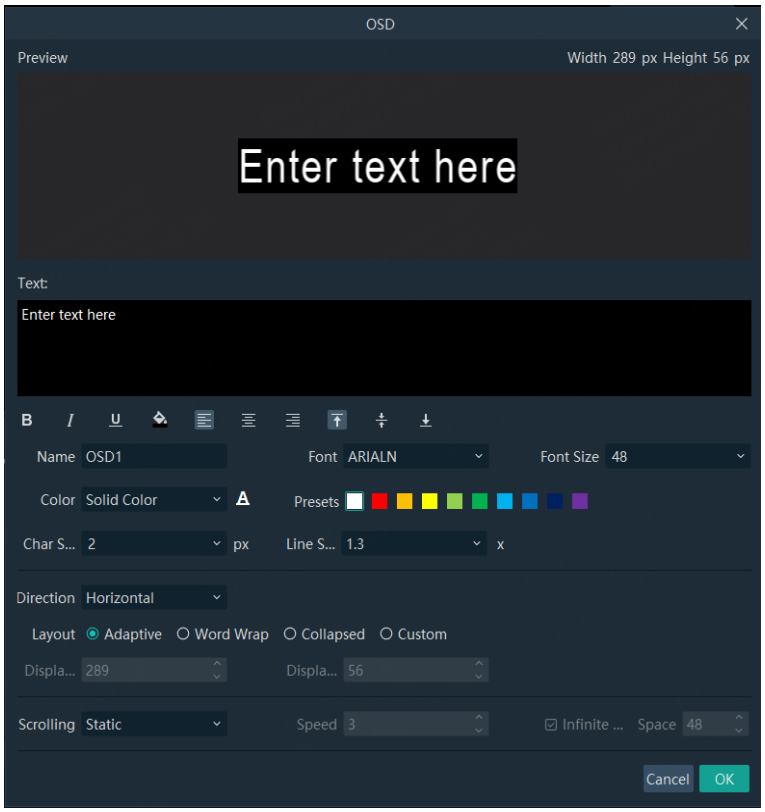
After saving successfully, the collection will appear in the media library.

4.2.1.4 Add OSDs

Pilot MS3 Pro supports the OSD as a kind of media.

Step 1 On the right side of the main interface, select the **Library** tab, then click  and go to **More Tools > OSD**.

Figure 4-2 OSDs



Step 2 Enter the desired content in the **Text** area.

Step 3 Adjust the font and style.

You can set the following attributes.

- **B** : Make the text bold or not.
- *I* : Italicize the text or not.
- U : Underline the text or not.
- : Align the text to the left.

  When the display area width is larger than the text width and the moving is set to **Static**, align the text to the left of the display area.

- : Center the text horizontally.

  When the display area width is larger than the text width and the moving is set to **Static**, center the text horizontally to the display area.

- : Align the text to the right.

  When the display area width is larger than the text width and the moving is set to **Static**, align the text to the right of the display area.

- : Align the text to the top.
- : Center the text vertically.
- : Align the text to the bottom.

Step 4 Enter a name next to **Name**.

Step 5 Set the font and font size.

Select the desired font from the drop-down list and the default font is **Arial**.

Select the desired font size from the drop-down list and the default size is **48**. You can only select a number from the drop-down list and you cannot enter a number manually.

Step 6 Set the font color.

Gradient and **Solid Color** are supported.

- Solid Color: Select **Solid Color** from the drop-down list and select the desired color block next to **Presets**.

  When you are not interested in any of the preset colors, click A to open the **Select Color** window to customize your own color, and then click **OK** to complete the pure color settings.

  After selecting the input text, you can individually set the color of the selected text, but it can only be set to a solid color.

- Gradient: Select **Gradient** from the drop-down list and the default gradient color is displayed.

  Click two color blocks at the both ends of the gradient color to customize your own gradient colors. Set the gradient angle to complete the gradient color settings.

Step 7 Set the character spacing, line spacing, and text direction.

- Char Space: Set the horizontal distance between adjacent characters. A larger value results in looser spacing, and a smaller value makes it tighter, ranging from 0 to 30 pixels.
- Line Space: Set the vertical distance between consecutive lines of text. A larger value results in looser spacing, and a smaller value makes it tighter.

Step 8 Direction: Set the orientation of the OSD text. The options include **Horizontal** and **Vertical**.

Step 9 Set the typography information for text captions. The options include **Adaptive**, **Word Wrap**, **Collapsed**, or **Custom**.

- Adaptive: The text displays responsively.

  Selecting this option ensures the text display area adjusts automatically according to the text size, facilitating a complete and coherent presentation.

- Word Wrap: Continuous text naturally wraps according to display width, maintaining content coherence.

  The display width must be set here. Once configured, the text display area wraps according to this width, ensuring the text is presented fully and aligns with expected layout.

- Collapsed: Segments text strictly according to specified collapse width, possibly truncating text and leaving space, suitable for structured layout needs.

  The text will be forcibly trimmed according to the subsequent **Display Width** setting, even if it may truncate text and leave blank spaces, satisfying specific formatting requirements.

  - When **Collapse Width ≤ Display Width**, the text displays normally.
  - When **Collapse Width** > **Display Width**, the text is trimmed to the set display width, retaining only the text within that width.
  - When **Collapse Width** is less than text width, the text wraps naturally.

- Custom: Text is trimmed according to predefined **Display Width** and **Display Height**.
  - When **Display Width** < text width, the text is trimmed to the set display width, retaining text within that width.
  - When **Display Width ≥** text width, the text displays normally.
  - When **Display Height** < text height, the text is trimmed to the set display height, retaining text within that height.
  - When **Display Height ≥** text height, the text displays normally.

Note

For **Collapsed** and **Custom** settings, trimming the text is related to the text alignment.

Step 10 Set the moving effect and speed.

- Scrolling: The options include Static, Left to Right, Right to Left, Top to Bottom and Bottom to Top.
- Speed: Set the moving speed. This parameter is available when the moving effect is not **Static**.
- Infinite Scroll: Set whether the scrolling text should seamlessly connect.
  - Checked: The scrolling text will seamlessly connect the end of one sequence with the beginning of the next. If selected, you must also set **Space**, which defines the spacing between the end of one scroll and the start of the next.
  - Unchecked: The text will complete one scroll before starting the next.

Step 11 Click **OK** to complete the OSD settings.

Once the OSD is added, it appears as **Tools** in the media library.

- Right click the added OSD and select **Edit** to modify the created OSD.
- Right click the added OSD and select **Create Copy** to make a duplicate of the OSD.

4.2.1.5 Add Virtual Lights

A virtual light source can be played as independent media.

Step 1 On the right side of the main interface, select the **Library** tab, then click  and go to **More Tools > Virtual Light**.

Step 2 In the dialog box that appears, configure the relevant parameters for the virtual light source.

Figure 4-3 Virtual lights

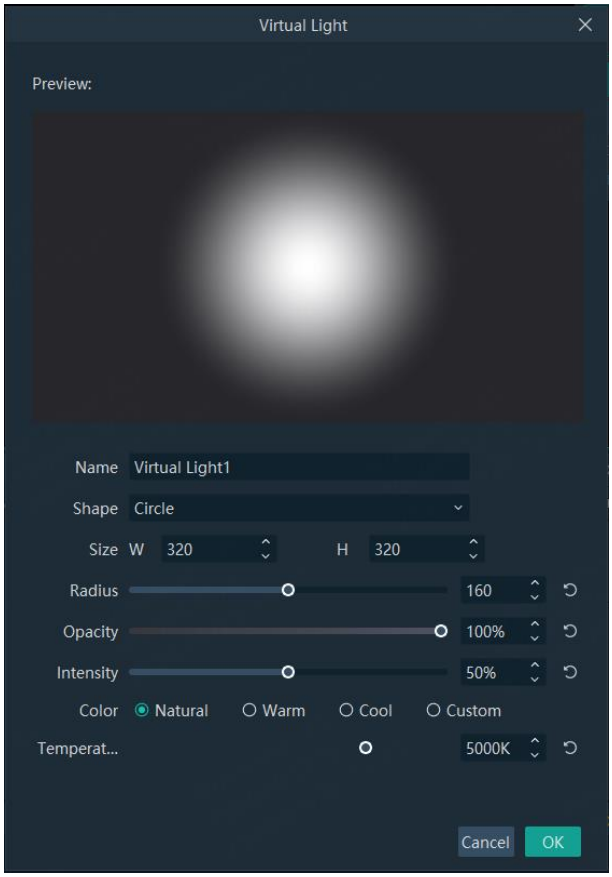


Table 4-1 Parameter description

Parameter	Description
Name	Set the light source name.
Shape	Select the light source shape. The options include **Rectangle** and **Circle**.
Display	Set the display size of the media.
Radius/Light	Set the radius when the light source is circular, or the width and

Parameter	Description
Size	height when the light source is rectangular. Click  to restore default values.
Opacity	Set the opacity of the light source. Click  to restore default values.
Intensity	Set the luminous intensity of the light source. Click  to restore default values.
Color	Set the color of the light source. The options include **Natural**, **Warm**, **Cool**, or **Custom**. When set to **Natural**, **Warm**, or **Cool**, the interface displays the related parameter **Temperature**, allowing the color temperature value to be set. Click  to restore default values.

Step 3 After completing the setup, click **OK**.

After the addition is completed, the virtual light source will appear in the media library.

4.2.1.6 Add Timers

The timer is used for count-up and countdown, such as a New Year's countdown. Go to **Settings > System > Display** to set the timer's default playback duration.

Step 1 On the right side of the main interface, select the **Library** tab, then click  and go to **More Tools > Timer**.

Step 2 In the pop-up dialog box, set the relevant parameters.

Figure 4-4 Timers

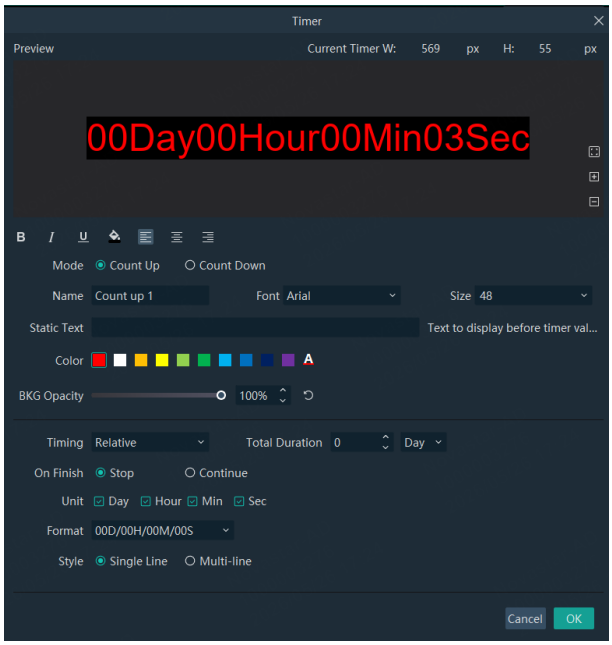


Table 4-2 Function icon description

Type	Description
Preview	• : Adaptive • : Zoom in • : Zoom out
Text	• : Bold • : Italic • : Underline • : Fill color • : Left-aligned • : Horizontally center-aligned • : Right-aligned

Table 4-3 Parameter description

Parameter	Description
Mode	Select the counting mode. The options include **Count Up** and **Count Down**.
Name	Set the timer name.
Font	Set the timer's font.
Size	Set the timer's font size.

Parameter	Description
Static Text	Set the fixed text added before the timer.
Color	Set the timer's font color. You can select a preset color or click  to choose another color.
BKG Opacity	Set the timer's background opacity. Click  to restore default values.
Timing	• Relative: When the software is closed or the timer stops playing, restart the timer. • Absolute: The timer will continue counting even if the software is closed or the timer stops playing.
On Finish	• Stop: Stop the timer when the time is up. • Continue: Continue counting after the set time is reached.
Unit	Select the time unit to display. The options include **Day**, **Hour**, **Min**, and **Sec**. If checked, it will be displayed.
Format	Select the time display format. You can select preset formats or create a custom format.
Style	• Single Line: Display fixed text and the timer on a single line. • Multi-line: The first line displays fixed text, and the second line displays the timer.

Step 3 After completing the setup, click **OK**.

After a successful addition, the timer will appear in the media library.

4.2.1.7 Add Scoreboards

A scoreboard is used for scoring and counting, such as keeping score in sports competitions. Go to **Settings > System > Display** to set the default playback duration for the scoreboard.

Step 1 On the right side of the main interface, select the **Library** tab, then click  and go to **More Tools > Scoreboard**.

Step 2 In the pop-up dialog box, set the relevant parameters.

Figure 4-5 Scoreboards

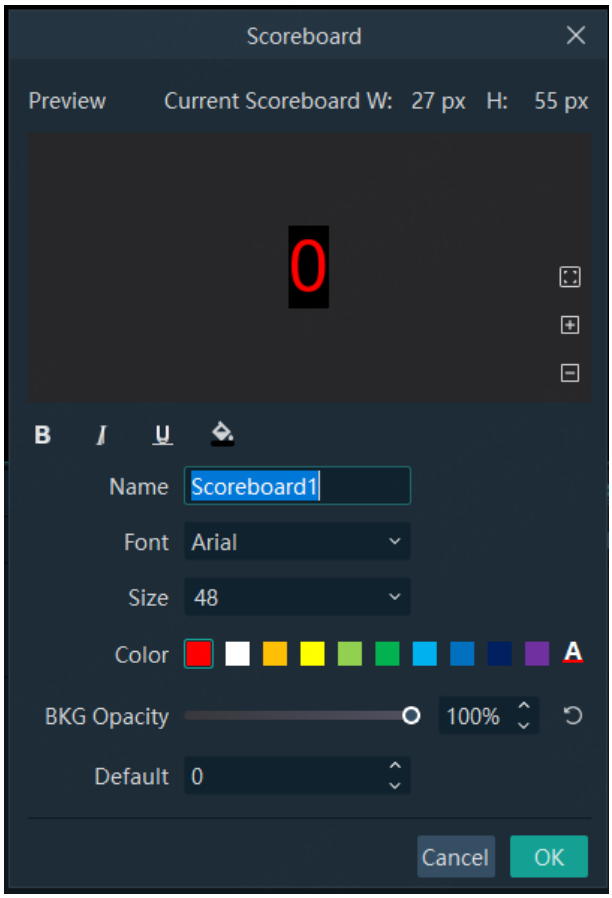


Table 4-4 Function icon description

Type	Description
Preview	• : Adaptive • : Zoom in • : Zoom out
Text	• : Bold • : Italic • : Underline • : Fill color

Table 4-5 Parameter description

Parameter	Description
Name	Set the scoreboard name.
Font	Set the scoreboard's font.
Size	Set the scoreboard's font size.

Parameter	Description
Color	Set the scoreboard’s font color. You can select a preset color or click  to choose another color.
BKG Opacity	Set the scoreboard's background opacity. Click  to restore default values.
Default	Set the default initial value of the scoreboard. The score accumulates starting from the default value.

Step 3 After completing the setup, click **OK**.

After a successful addition, the scoreboard will appear in the media library.

4.2.1.8 Add Digital Clocks

The digital clock can display the current date and time, and it also supports setting a time offset to meet scenarios such as delayed broadcasting and recorded playback. Go to **Settings > System > Display** to set the default playback duration of the digital clock.

Step 1 On the right side of the main interface, select the **Library** tab, then click  and go to **More Tools > Digital Clock**.

Step 2 In the pop-up dialog box, set the relevant parameters.

Figure 4-6 Digital clocks

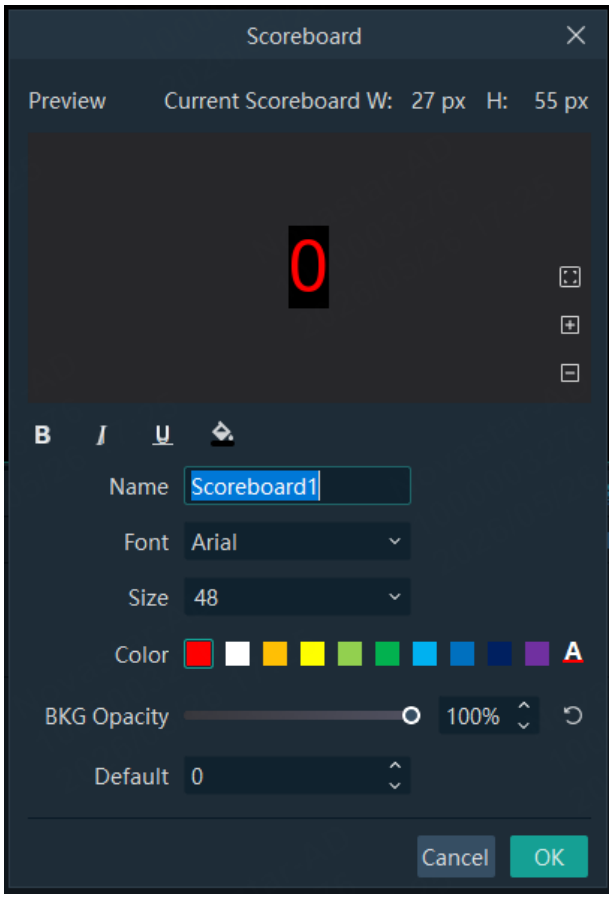


Table 4-6 Function icon description

Type	Description
Preview	• : Adaptive • : Zoom in • : Zoom out
Text	• : Bold • : Italic • : Underline • : Fill color • : Left-aligned • : Horizontally center-aligned • : Right-aligned

Table 4-7 Parameter description

Parameter	Description
Name	Set the digital clock name.
Font	Set the digital clock's font.
Size	Set the digital clock's font size.
Char Space	Set the distance between characters.
Line Space	Set the distance between lines.
Static Text	Set the fixed text added before the digital clock.
Color	Set the digital clock’s font color. You can select a preset color or click  to choose another color.
BKG Opacity	Set the digital clock's background opacity. Click  to restore default values.
Year	Select the display format for the year. The options include **4-digit** and **2-digit**.
Format	Select the date display format.
Content	Select the category of content to display. The options include **Date**, **Time**, and **Weekday**. If checked, it will be displayed.
Style	• Single Line: Display all content on a single line. • Multi-line: Display each part on a new line.
Offset	• Select the method and amount of the time offset. • Forward: After the time offset, it is earlier than the current time. • Backward: After the time offset, it is later than the current time.

Step 3 After completing the setup, click **OK**.

After a successful addition, the digital clock will appear in the media library.

4.2.1.9 Add Test Patterns

The Pilot MS3 Pro offers robust functionality for adding custom test patterns. Users can flexibly generate precise test patterns based on the actual condition of the current display. These patterns include precise geometric shapes (such as lines, grids, and circles), detailed color and brightness presentations, ideal for on-site screen debugging.

Step 1 On the right side of the main interface, select the **Library** tab, then click  and go to **More Tools > Test Pattern**.

Figure 4-7 Test patterns

Step 2 In the **Layer Settings** and **Display Content Personalization** sections on the right, you can configure the properties of the custom test pattern and change the style of the test pattern. Each setting will display a real-time test effect image on the left.

Step 3 After completing the setup, click **OK**.

After a successful addition, the test pattern will appear in the media library.

4.2.1.10 Media Optimization

When the size of the added media file exceeds the graphics card processing capabilities, the media type will display as **Optimizable**. For convenience in subsequent use, you can use this function to modify the media resolution in advance.

Note

Only videos and images can be optimized, and the resolution must be even numbers.

Step 1 In the media library, select the image or video you need to optimize.

Step 2 Right click the media file and select **Media Optimization**.

Step 3 Set the media optimization options based on the interface instructions.

Figure 4-8 Media optimization

- Coding: Set the video encoding format, supporting **Adaptive**, **h264**, **h265**, **vp9**, and **hap** formats. When set to **Adaptive**, transcoding follows the original video encoding.
- Quality: The image quality after video transcoding can be set to **Low**, **Medium**, or **High**.
  - Low: The transcoded video is more blurred compared to the original.
  - Medium: The transcoded video quality is between high and low.
  - High: The transcoded video is close to the original quality.
- Code Rate: Set the video bitrate after transcoding, supporting **Adaptive** and **Custom**.
  - Adaptive: Consistent with the original video bitrate
  - Custom: Input the desired bitrate for transcoding.
- Frame Rate: Set the frame rate of the media after optimization. The options include **Adaptive**, **24**, **25**, **29.97**, **30**, **50**, **59.94**, **60**, and **120**.

  Adaptive: Matches the original video frame rate.
- Audio: Set the audio transcoding mode, supporting **AAC**, **Copy**, or **No Audio**.
  - AAC: Re-encode the original audio in AAC format.
  - Copy: Retain the original audio in the video.
  - No Audio: Output video without audio.
- Resolution: Set the resolution size of the transcoded video.
  - W: Set the horizontal size. Default: 1920; recommended maximum: 8192.
  - H: Set the vertical size. Default: 1080; recommended maximum: 8192.
  - If set resolution exceeds the original media, it defaults to the original resolution.
- GPU Acceleration: Toggle GPU acceleration during media optimization.

Step 4 After completing the setup, click **Optimize**.

4.2.2 Manage Media

4.2.2.1 Rename Media

- Right click the media file or folder you want to rename, select **Rename** to activate the editing for the media or folder name, and enter a custom name.
- Double click the media or folder name area to activate the media or folder name editing, and enter a custom name.

4.2.2.2 Delete Media

There are the following ways to delete the media.

- In the media library, select the target media and click .
- In the media library, right click on the media you want to delete and select **Delete**.
- When deleting a folder, all media within the folder will be deleted as well.

4.2.2.3 Manage Media

You can create folders to categorize and manage the imported media.

- Right click the media library area, select **Insert Folder** and enter a folder name to create a folder.
- Select the media files and drag them into the folder to categorize and manage them.
- Hold down the **Shift** key or **Ctrl** key, select the files you want to manage in a new folder. Right click and select **Insert Folder**, and enter a name for the newly inserted folder to complete the file categorization and folder creation.
- Drag the file or folder to sort it.

4.2.3 Manage Input Sources

4.2.3.1 Add Capture Card Sources

The software supports acquiring input source images and audio via capture cards. The capture cards listed in the following table have undergone rigorous compatibility testing to ensure a stable and reliable experience.

Table 4-8 Recommended capture cards

Brand	Model	Connector Type
Blackmagic Design (BMD)	DeckLink·8K·Pro·Mini	4x 12G-SDI
	DeckLink·Mini Recorder 4K	1x 6G-SDI, 1x HDMI 1.4, choose one
YUAN High-Tech	SC542N4	4x HDMI 1.3
Chuangshi Zhixing	CSZX-8002HDMI_20220430	2x HDMI 1.3
Tianchuang Hengda	TC-410N2	2x HDMI 1.4
	TC542N2	2x HDMI 1.3
Baoshi	SC0720	4x HDMI 2.0

Prerequisites

- The capture card and its drivers are installed on the media server with Pilot MS3 Pro.
- Connect the input source to the capture card using the appropriate video cable.

Operating Procedure

Step 1 On the right side of the main interface, select the **Input Sources** tab, then click to expand **Capture Device**.

The software will automatically detect the video and audio of the input source and display them separately in the interface.

-  : The video of the input source
-  : The audio of the input source

Step 2 Perform the corresponding operation as needed.

- Show/Hide thumbnail: For a single input video, click the icon in its top-right corner. For all input videos, click the icon to the right of **Capture Device**.
  -  : Disabled
  -  : Enabled
- Rename input source: Double-click the name to edit it.
- Change sound card: Select the desired sound card from the dropdown. This setting is only supported for video input sources.
- Set backup relationship: For video, select the backup video source from the dropdown. For audio: select the backup audio source from the dropdown.
- Set video format: Select the desired video format from the dropdown. This setting is only supported for video input sources.

For example: 3840 * 2160@60.00 is the input resolution, and yuyv422 is the video sampling format.

Table 4-9 Sampling rate description

Format	Description	Common Uses
yuyv422	YUV4:2:2 format, with interlaced storage of brightness (Y) and chroma (UV) components, sharing a set of UV values for every two pixels	Camera capture, video conferencing, video capture cards
rgb32	32-bit RGB format (with Alpha channel), where each pixel occupies 4 bytes (R, G, B, A)	Graphics processing, screen capture, image editing
rgb24	24-bit RGB format, with each pixel occupying 3 bytes (R, G, B), no Alpha channel	Image storage, video rendering, computer vision
nv12	YUV4:2:0 format, with separate storage of brightness (Y) and interlaced storage of UV components (half resolution)	Video codec H.264/H.265, GPU accelerated processing
uyvy422	YUV4:2:2 format, similar to YUYV422 but with a different byte order (UYVY instead of YUYV)	Video capture, digital video interfaces (e.g., HDMI capture)

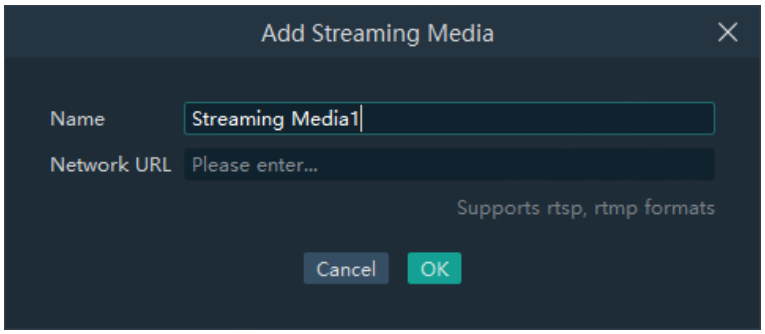
4.2.3.2 Add Streaming Media

The streaming media can be added as an input source. RTSP and RTMP formats are supported.

Step 1 Click the **Input Sources** tab on the right pane to enter the input source configuration interface.

Step 2 Click + next to **Streaming Media** or right click the blank area and select **Add Steaming Media** to pop up the streaming media adding dialog box.

Figure 4-9 Add streaming media



Step 3 Enter the name of the streaming media.

Step 4 Enter the media path.

The media path must start with rtsp:// or rtmp://.

Step 5 Click **OK** to complete adding the streaming media.

4.2.3.3 Add NDI

After the successful installation of Pilot MS3 Pro, it includes the installation of the NDI configuration tool - NDI Sender. Once NDI Sender is enabled, Pilot MS3 Pro will automatically search for all computers with NDI senders enabled on the current network segment.

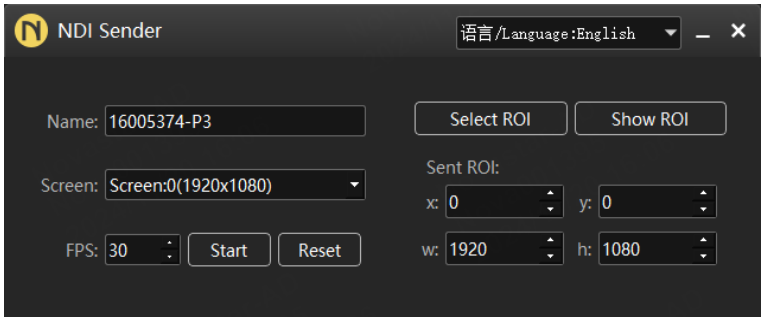
Prerequisites

- The computer with the NDI sending device must be on the same network segment as the media server or host where Pilot MS3 Pro is located.
- Ensure that the computer with the NDI sender can communicate normally with the media server or host where the Pilot MS3 Pro is located.

NDI Configuration

Step 1 Double click NDI Sender.exe to enable the NDI sender.

Figure 4-10 NDI Sender interface



Step 2 Set the position and size of the screen on the computer to be used as NDI.

There are two ways to set the position and size of the NDI image.

- Click **Select ROI** and hold down the left mouse button to make a selection on the screen.

- In the **Sent ROI** area, precisely set it using the region coordinates and region size.
  - x: The horizontal starting position of the top left corner of the NDI image relative to the screen.
  - y: The vertical starting position of the top left corner of the NDI image relative to the screen.
  - w: The horizontal width of the NDI image.
  - h: The vertical height of the NDI image.

After setting up, click **Show ROI** to view the NDI output screen.

Step 3 Enter the name of the NDI source in the **Name** section.

Step 4 When the computer outputs to multiple screens, select the screen you want to use as the NDI display from the dropdown menu in the **Screen** section.

Step 5 Enter the frame rate of the NDI image in the **FPS** section, with a default value of 25.

Step 6 Click **Start** to complete the NDI Sender configuration.

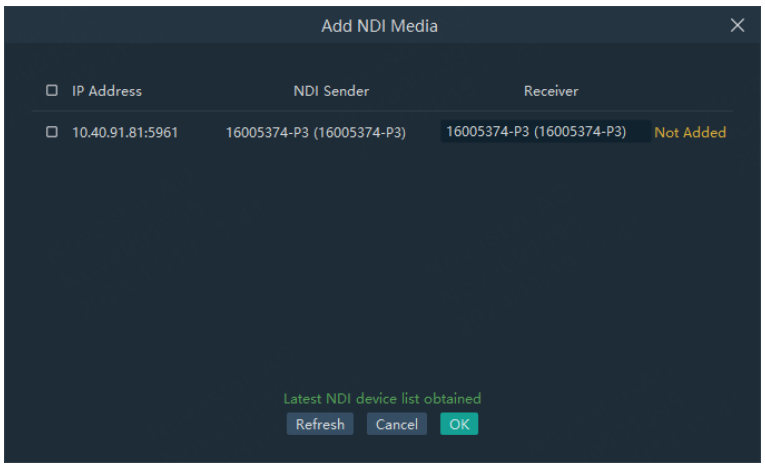
Add NDI Sources

Step 1 Click the **Input Sources** tab on the right pane to enter the input source configuration interface.

Step 2 Click + next to **NDI** or right click the blank area and select **Add NDI Media** to pop up the NDI adding dialog box.

The system will automatically search for all sources with NDI sending enabled on the current network and open the NDI network screen list.

Figure 4-11 NDI network screen



Step 3 Select the NDI network screen you want to add.

Step 4 Modify the name of the NDI source in the **Receiver** section.

Step 5 Click **OK** to complete adding the NDI input source.

Click **Refresh** to retrieve the list of NDI sources on the current network segment again.

4.2.3.4 Add Webpages

Pilot MS3 Pro supports adding the webpages as input sources.

Prerequisites

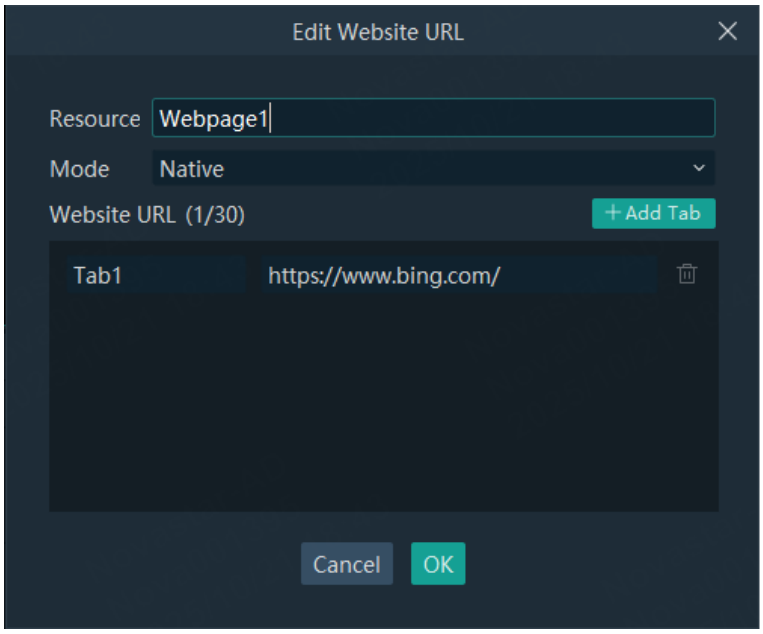
The computer running the software is connected to the network.

Operating Procedure

Step 1 In the **Media Library** area, select the **Input Sources** tab.

Step 2 Click + next to **Webpage** to open the webpage adding window.

Figure 4-12 Add webpages



Step 3 Enter the desired webpage name in the **Resource** area.

Step 4 Select the display mode for the added website in the **Mode** area. The options include **Native** and **Screenshot**.

- Native: During playback, the stage editing area does not provide a preview. Instead, it is displayed directly on the extended screen, and the output image can be controlled using the mouse.

  When the resolution of the added webpage exceeds the processing capability of the media server's graphic card, it is NOT recommended to use the native mode. Moreover, in native mode, the same webpage media should not be added to multiple layers within the same program.

- Screenshot: During playback, the software captures the image from the webpage window and renders it onto the display screen connected to the connector, and allows for the image to be cropped if needed.

Step 5 Enter the tab name in the left text box in the **Website URL** area.

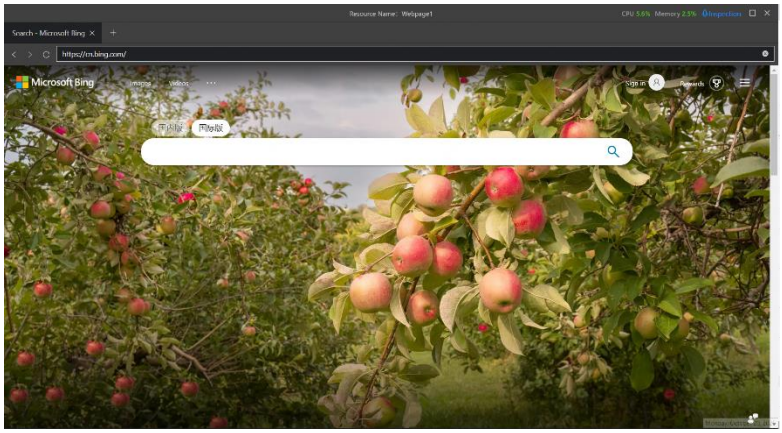
Step 6 Enter the complete domain name in the right text box.

Step 7 Click **Add Tab** to add a new tab page.

Step 8 Enter the tab name and domain name of the new tab page.

Step 9 Click **OK** to enter the added website.

Figure 4-13 Website page (native mode)



If the screenshot mode is selected, when a super-large browser image is added, which exceeds the processing capacity of a single graphics card on the media server, you can crop the browser image to several parts and then mosaic them together in the program to finally display the whole webpage content.

You can complete the webpage cropping configuration using the following parameters:

- X: Sets the starting horizontal coordinate for the cropping, based on the top-left corner.
- Y: Sets the starting vertical coordinate for the cropping, based on the top-left corner.
- W: The horizontal width of the cropped image.
- H: The vertical height of the cropped image.
- Apply: Click **Apply** to make the parameters take effect.
- Webpage Output: Adjust the size of the output webpage by selecting an output resolution.
- Inspection: Click **Inspection** in the upper right corner. The system will automatically analyze the current webpage, and upon completion, the detection results will open automatically.

Note

If the webpage resolution is too large, drag the thumbnail in the bottom right to select the crop area.

- Hold the spacebar to drag the bottom right canvas.
- Hold the Ctrl key and scroll the mouse to zoom in or out of the bottom right canvas.

Step 10 Click × at the top right corner to close the website.

Note

- When multiple tabs are opened, the tab where you stay on before closing the website will be used as the input source.
- If you opened other website pages and the new page is displayed on the new tab, the system automatically adds the new tab page.
- If you require long-time webpage playback, it is advisable to configure software to automatically restart at scheduled intervals via **Settings** > **System Settings**, in order to periodically clear the webpage cache.

4.2.3.5 Add Spout Media

Spout is a video frame sharing technology for Microsoft Windows. It enables the output of one application to serve as the input source for another application on the same computer.

Prerequisites

The Spout sender and receiver must be running on the same computer and must use the same discrete graphics card.

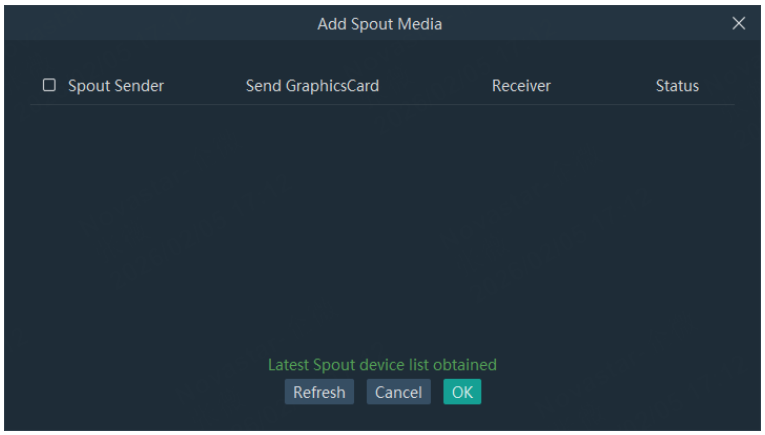
Operating Procedure

Step 1 On the right side of the main interface, select the **Input Sources** tab, then click next to **Spout Media**.

Step 2 In the dialog box that appears, select the desired Spout sender from the list and click **OK**.

If necessary, click **Refresh** to update the list of available senders.

Figure 4-14 Add Spout media

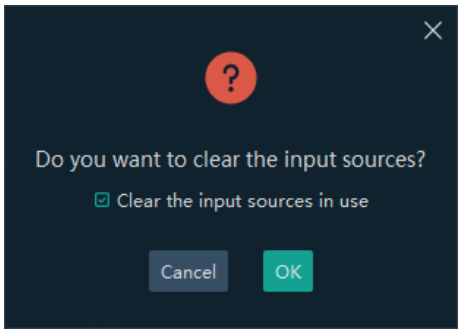


4.2.3.6 Clear Input Sources

Step 1 Click the **Input Sources** tab on the right pane to enter the source configuration interface.

Step 2 Right click the blank area and select **Clear Input Sources**.

Figure 4-15 Clear input sources



Step 3 (Optional) Select **Clear the input sources in use**.

Step 4 Click **OK** to clear all input sources except the capture card.

4.2.4 Output Control

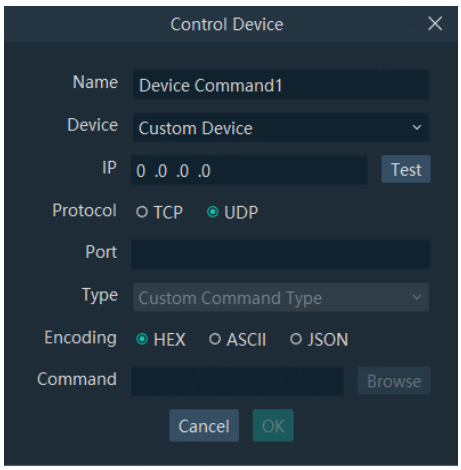
Pilot MS3 Pro allows backend device control through control commands. It is recommended that only trained professionals perform the operation.

4.2.4.1 Add Output Control

Step 1 Click the **Output Control** tab on the right pane.

Step 2 Click + in the upper right corner or right click in the blank area and select **Add Output Control**.

Figure 4-16 Add output control



Step 3 Enter the command name in the text box next to **Name**.

Step 4 Choose the target device to be controlled in **Device**.

Step 5 Enter the IP address of the device to be controlled in **IP**.

After completing the entry, click **Test** to test the network connection and verify connectivity.

- A green box indicates a normal network connection between Pilot MS3 Pro and the target device.
- A red box indicates a network connectivity issue, necessitating troubleshooting of the network configuration or hardware.

Step 6 Select the communication protocol, either **TCP** or **UDP**.

When **Custom Device** is selected, the communication protocol can be configured.

Step 7 Enter the external control port number in **Port**.

Step 8 Choose the command's control type in **Type**.

Step 9 Select the encoding format of the command in **Encoding**. Options include HEX, ASCII, and JSON.

When **Custom Device** is selected, the communication protocol can be configured.

- HEX: The command is in hexadecimal format.
- ASCII: The command is text-based.
- JSON: The command is in json format.

Step 10 Enter the specific command corresponding to its type in **Command**.

For the JSON encoding type, click **Browse** to upload a JSON file.

Step 11 Click **OK** to complete adding a command.

Once added, drag the output control to the program or timeline to add and send commands.

4.2.4.2 Edit Output Control

Once output control has been added, it can be edited and modified as needed.

Modify Output Control Command Information

Step 1 Right click the output control command to be modified and select **Edit Output Control** to open the editing interface.

Alternatively, double click the control command to access the interface.

Figure 4-17 Edit output control

Step 2 Make the necessary modifications to the information of the command.

Step 3 Click **OK** to complete the command modification.

Rename Output Control Commands

The name of an output control command can be changed in the following ways:

- In the modification interface, give a new name in the **Name** field.
- Right click the command to be renamed in the **Output Control** tab interface, select **Rename**, and enter the new name.

4.2.4.3 Delete Output Control

Delete Single Command

- Click the output control command to be deleted in the **Output Control** tab interface, then click at the top right to delete it.
- Right click the command and select **Delete** to delete it.

Delete Multiple Commands

- Right click the blank area in the **Output Control** tab interface and choose **Clear Output Control** to delete all added commands.
- Press and hold **Ctrl** or **Shift** while selecting multiple commands, then click to delete the selected commands.

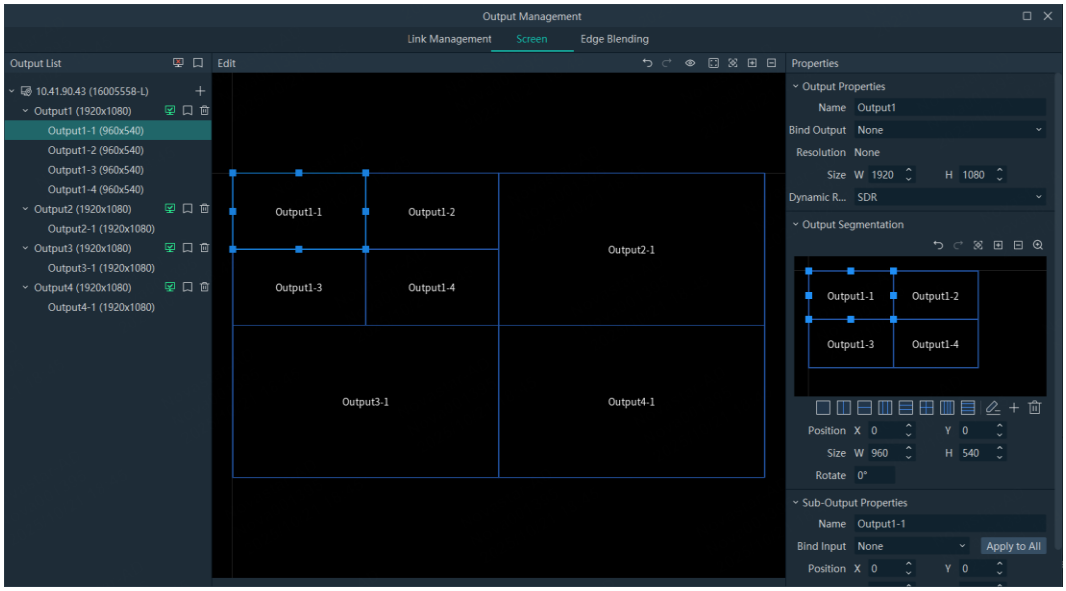
4.3 Edit Outputs

Before editing the outputs, in order to ensure synchronization of the outputs, please refer to the procedure described in Graphics Card Mosaic to complete the graphics card output mosaic configuration.

Pilot MS3 Pro supports output editing, allowing you to mosaic multiple output connectors for seamless output.

In the menu bar, navigate to **Output > Screen** to enter the output management interface.

Figure 4-18 Screen management



- : The output connection for the selected connector is already enabled. Click to disconnect the current connector's output connection.
- : The output connection of the selected connector is disabled. Click to connect the current connector.
- : The output identify function is enabled. Click to disable it.
- : The output identify function is disabled. Click to enable it.
- : Delete the selected output.
- : Revert the most recent or multiple actions to restore the content to its previous state.
- : Reinstate actions that were just undone.
- : Click to hide text display in the stage editing area or screen management.

  After hiding, the icon changes to . At this time, the slices in the stage editing area will only show images, with no text. Click it again to display the text information.
- : Click to display the output screens in the editing area with the best perspective.
- : Click to restore the editing area to the top left corner.

- : Click to zoom in the editing area.
- : Click to zoom out the editing area.
- Press and hold the mouse wheel and drag to move the canvas.

Add and bind screens automatically

When the software starts, it automatically detects the graphics card connectors, automatically adds the corresponding outputs, and completes the output and connector binding in sequence, displaying them all in the **Output List** area on the left.

When changing the connection order of the computer output connectors and the backend devices, you can edit the output name, the binding relationship of the physical connector, and the output resolution in the **Properties** area on the right.

Add and bind screens manually

Note

The software has no limit on the number of screens that can be bound.

Click at the top right of the output list. After the output is added, modify the output-related parameters in the **Properties** section on the right.

- Name: Modify the current output name.
- Bind Output: Configure the mapping relationship between the currently edited output and the physical output connector of the actual device.

  When binding to a graphics card connector, it will display the graphics card name, connector, and connector output resolution.

  - Graphics card connector: The connector name includes the connector number, the graphics card number, and the graphics card model. When **Not Recommended** is displayed, it indicates that this connector is currently used for display in the software interface.
  - NDI Video Output: Output the current connector display via NDI.
  - Spout Video Output: Output the current connector display via Spout.
  - ST 2110: Output the current connector display through the connector of the ST 2110 card.
- GPU: In multi-GPU scenarios, select the GPU used to generate the Spout output, or the GPU used to generate the ST 2110 output.
- Primary IP: Set the ST 2110 stream pushing address.
- Primary Port: Set the push-streaming port for ST 2110.
- Source: Display the physical resolution of the currently bound graphics card connector.
- Size: Set the output image width and height starting from the top-left corner, and scale the configured display area to fill the entire connector display.
- Frame Rate: The output frame rate. When the output is bound to the graphics card connector, this parameter is not displayed.

- Dynamic Range: The output video format. When the output is bound to ST 2110, the output bit depth can be set.

4.4 Split Outputs

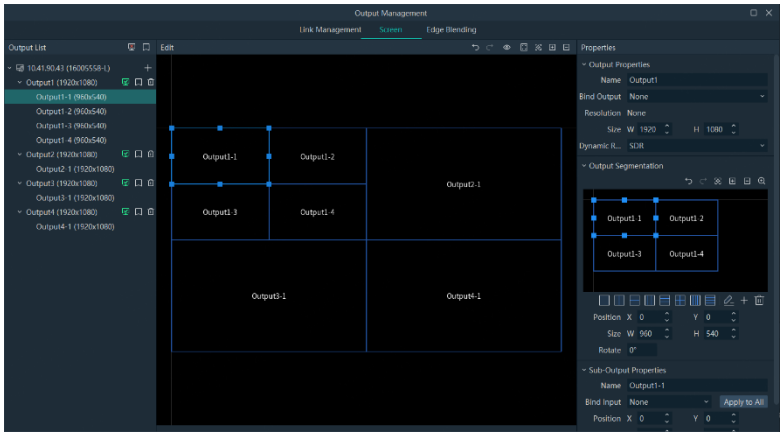
4.4.1 Output Segmentation

Output segmentation divides an output into multiple sub-outputs, enabling the splitting and reassembly of the display image, which facilitates the construction and management of irregular screens.

Step 1 Navigate to **Output > Screen**, then select the output in the output list on the left or click an output in the **Edit** area.

Step 2 In the **Output Segmentation** section on the right, select the desired segmentation method from the listed ones.

Figure 4-19 Output segmentation



- Layout:
  - : 1x sub-output
  - : 2x sub-outputs in horizontal direction
  - : 3x sub-outputs in horizontal direction
  - : 4x sub-outputs in horizontal direction
  - : 2x sub-outputs in vertical direction
  - : 4x sub-outputs in a grid pattern
  - : 3x sub-outputs in vertical direction
  - : 4x sub-outputs in vertical direction

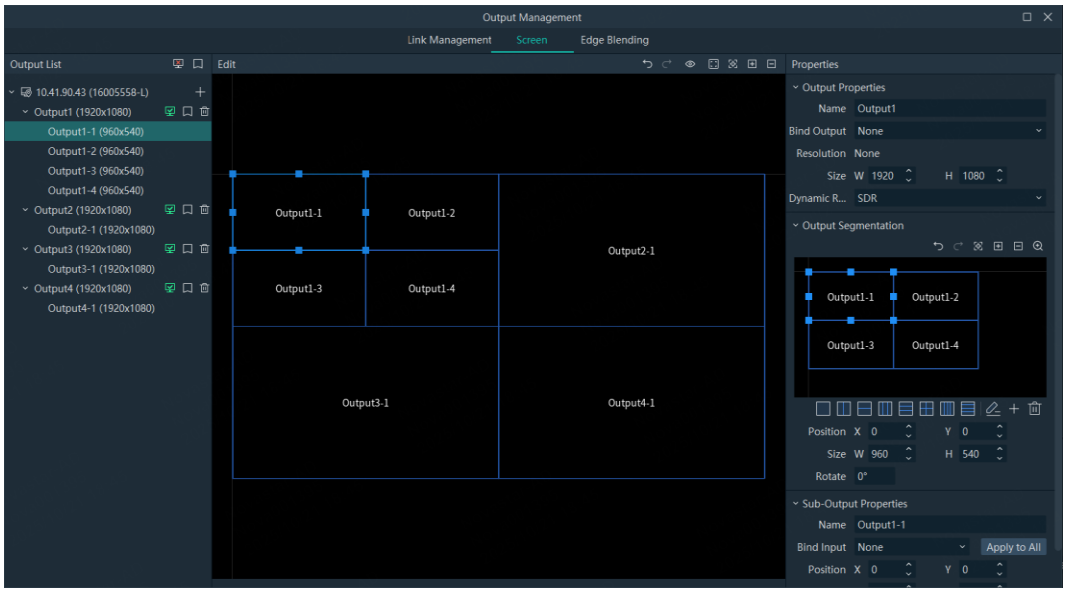
  - : Custom sub-outputs
  - : Add a sub-output. Add one sub-output with each click, and use the size of the first sub-output for the addition.
  - : Delete the selected sub-output.
- Output segmentation control:
  - : Revert the most recent or multiple actions to restore the content to its previous state.
  - : Reinstate actions that were just undone.
  - : After moving the canvas, click this button to reset the canvas to the top-left corner.
  - : Click to zoom in the output area display.
  - : Click to zoom out the output area display.
  - : Click to enlarge the sub-output and expand it to the editing area. After expansion, click in the top-right corner of the editing area or click **Restore Canvas** to revert the zone.
- Press and hold the mouse wheel and drag to move the position of the canvas.

4.4.2 Sub-Output Rearrangement

Sub-output rearrangement refers to reorganizing the output segmentations as needed.

Under the **Screen** tab, drag the sub-outputs to rearrange them.

Figure 4-20 Rearrange sub-outputs



In the **Sub-Output Properties** section on the right, modify the relevant information for the selected sub-output.

- Name: Modify the sub-output name.
- Bind Input: Bind the current output or sub-output to the corresponding layer. Once bound, the sub-output will consistently display the content from the associated layer.

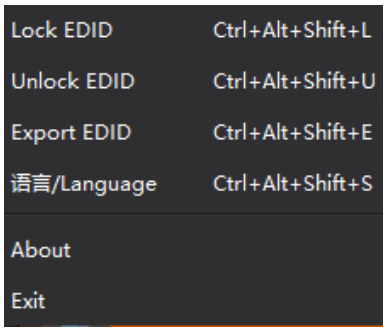
  Apply to All: Apply the layer from the current bound input to all sub-outputs of the current output.
- Position: Adjust the position of the sub-output on the screen based on the top left corner of the stage.
  - X: The horizontal starting coordinate of the sub-output or output on the entire stage
  - Y: The vertical starting coordinate of the sub-output or output on the entire stage
- Size: Set the size of the sub-output.
  - W: The width of the sub-output or output
  - H: The height of the sub-output or output
- Rotate: Adjust the rotation angle of the sub-output or output in a clockwise direction.
- Color: The image quality parameters of the sub-output, including **Brightness**, **Contrast**, **Opacity**, **Hue**, **Saturation**, **Red**, **Green**, and **Blue**.

4.5 EDID Quick Tool

Once the output configuration is complete, use the EDID Quick Tool to lock and export all output EDIDs.

Right click the EDID Quick Tool icon in the desktop's lower-right toolbar to open the menu.

Figure 4-21 EDID tool



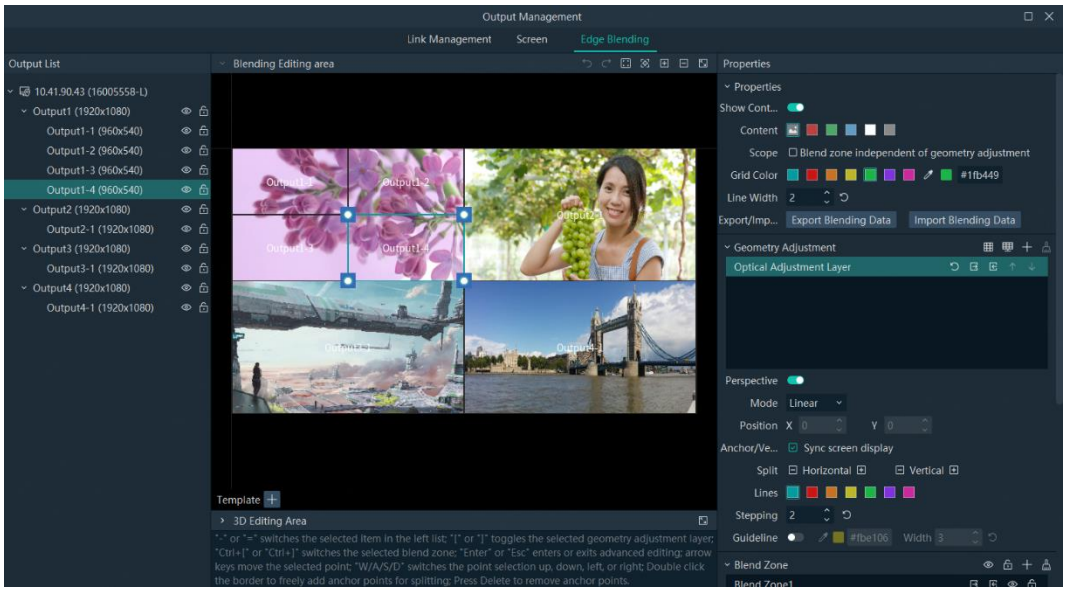
- Lock EDID: Instantly lock all connected output connector EDIDs to prevent display order confusion or resolution anomalies due to connector reconnection, signal interruption, or system reboot. Shortcut: Ctrl+Alt+Shift+L.
- Unlock EDID: Unlock all previously locked connector EDIDs. Shortcut: Ctrl+Alt+Shift+U.
- Export EDID: Instantly export EDIDs from all connected output connectors to the local desktop, automatically creating an EDID folder. Shortcut: Ctrl+Alt+Shift+E.
- Language: Switch the EDID Quick Tool menu interface language between English and Simplified Chinese. Shortcut: Ctrl+Alt+Shift+S.
- About: View version information for the EDID tool.
- Exit: Exit the EDID Quick Tool.

4.6 Configure Edge Blending

Edge blending is the method of finely overlapping the projected images from multiple projectors at the edges, using software to blend the images to eliminate seams and adjust overall brightness and resolution.

Navigate to **Output > Edge Blending** to enter the edge blending interface.

Figure 4-22 Edge blending interface



Select the target output in the **Output List** area on the left or click the output connector in the **Edge Blending Editing** area in the middle.

In the **Properties** area on the right, configure the related parameters.

- Show Content: Show or hide the display of the current editing content.
- Content: Select the display content of the selected output.
  - : The software interface shows the playback content of the current connector.
  - Solid color blocks: The software interface shows the selected solid color.
- Scope: Configure whether the current blend zone configuration is applied base on the geometric adjustment.
  - Unchecked: Edit the blend zone based on geometry adjustment, with both the blend zone and geometry adjustment configuration effective.
  - Checked: Independently edit the blend zone, adjusting on the original image without the effects of the geometry adjustment layer.
- Grid Color: Configure the color of the grid on the output screen. You can choose from preset colors or click on the right to select from the screen display.
- Line Width: Set the width of the grid lines on the output screen, ranging from 1 to 10. Click to reset the line width setting.
- Export/Import: Export the blending configuration data into a separate file, or import the exported blending data file into the system.
  - Export Blending Data: Export the configured blending data in the current environment to your local computer.
  - Import Blending Data: Import the blending data into the system to quickly complete edge blending configuration.

4.6.1 Geometry Adjustment

Geometry adjustment solves the mismatch issue between projected images and the screen caused by improper projector placement, projection angle deviation, or lens distortion. Precise geometric adjustments ensure the image perfectly fits the screen, achieving clear, accurate projection that meets various display needs. Users can select the most suitable mode based on the actual projection environment and creative needs, even achieving perspective cropping for ideal visual presentation.

Step 1 Select the output in the **Output List** area on the left or click the output connector in the **Edge Blending Editing** area in the middle.

Step 2 In the **Geometry Adjustment** section on the right, click + to add related parameters.

The supported adjustment types include **Linear** and **Curved**.

- Linear: A geometry adjustment method based on linear transformation. It deforms the image by simply moving vertices.
- Curved: A geometric deformation achieved through a non-linear mathematical model. It supports complex deformations in local areas and allows differentiated adjustments to different parts of the image.

The system will add a **Geometry Adjustment Layer x** with adjustment parameters.

In the **Geometry Adjustment** area, click  and  on the right to add a grid to the canvas editing area and output image.

-  : Add a grid to the selected output or sub-output in the canvas editing area.
-  : Synchronize and display the grid lines of the current output on the screen.

Step 3 In the **Edge Blending Editing** area, click the vertex's anchor point and drag it to adjust the output image.

Figure 4-23 Anchor editing

On the right, set and edit anchor points in detail.

- Perspective: Enable or disable perspective mode during adjustments.
- Mode: Set the anchor point adjustment mode. Options include **Linear** and **Curved**.
- Position: Adjust the anchor point position.

  - X: Set the horizontal coordinate of the selected anchor point, relative to the horizontal distance from the origin of the screen.
  - Y: Set the vertical coordinate of the selected anchor point relative to the vertical distance from the origin of the screen.
- Anchor/Vertex: Set whether the anchor point editing process is simultaneously displayed on the output screen.
- Split: Split the connector screen horizontally and vertically, and after splitting, you can edit the anchor points in each direction respectively.
  - Horizontal: Click ⊞/⊟ to increase or decrease split points horizontally.
  - Vertical: Click ⊞/⊟ to increase or decrease split points vertically.
  - Double click the edge to freely add anchor points.
  - Select an added anchor point and press the **Delete** key to remove it.
- Lines: Set the color of the lines between the anchor points.
- Stepping: After selecting an anchor point, adjust its position using the arrow keys on the keyboard. Each keystroke moves the anchor point a distance ranging from 1 to 10, with a default value of 10.

  Click ↺ on the right to restore the set value to its default.
- Guideline: After selecting an anchor point, enable or disable the guideline between the anchor point and its adjacent anchor points.

  After enabling the guideline, you can set the line color using the following methods.
  - Click ✎ to select the line color.
  - Click the color block and choose a color from the pop-up color picker.
  - Enter the color value in the text box to set it to the specified color.
  - Width: Set the size of the guideline, with a value ranging from 3 to 10, and a default value of 3.

Step 4 Click the other anchors to make the necessary settings for them.

Press and hold the **Ctrl** key and click other anchor points to select multiple anchors at once. After holding the **Ctrl** key, drag the selected anchor points to modify multiple anchors simultaneously.

Step 5 Click + next to **Geometry Adjustment** to continue adding geometry adjustment layers. When there are multiple geometry adjustment layers, click ↑ or ↓ next to the layer name to adjust the order.

Other Operations

- ↺: Click to restore the selected geometric adjustment parameters to their default values.
- ⎘: Click to export the selected geometry adjustment parameters to a local file.

- : Click to import geometry parameters saved locally, replacing the currently selected geometry parameters.
- : Click to move the selected geometry adjustment layer up.
- : Click to move the selected geometry adjustment layer down.

4.6.2 Blend Zone

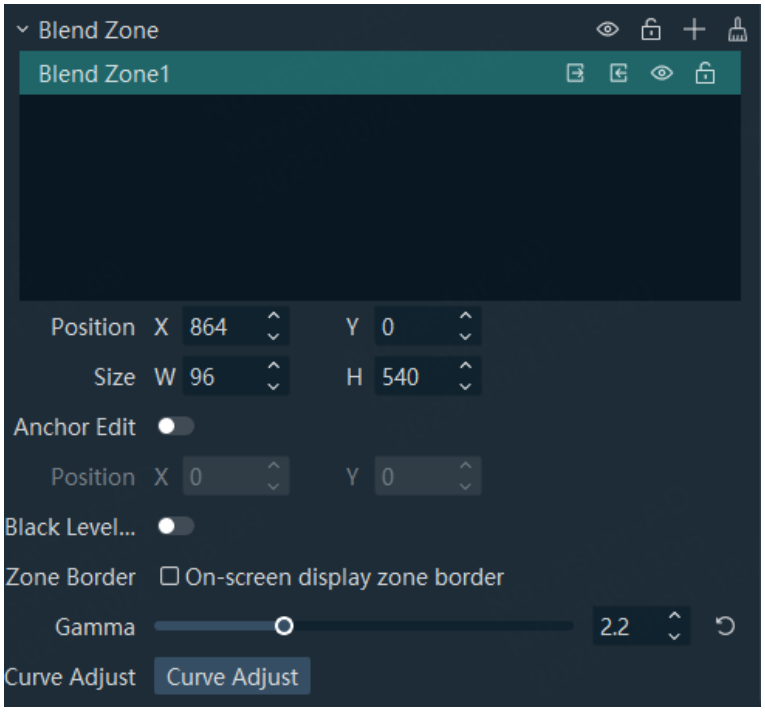
The blend zone is a transitional area formed by setting specific parameter when using multiple projectors to combine and project an image. It eliminates or reduces seams or overlaps at the edges between different projectors, ensuring a smooth transition between images for a more seamless and natural projection effect.

Step 1 Select the output in the **Output List** area on the left or click the output connector in the **Edge Blending Editing** area in the middle.

Step 2 In the **Properties** area on the right, click + next to **Blend Zone** and select the target position for the blend zone.

- Left: Add a blend zone to the left side of the selected area.
- Right: Add a blend zone to the right side of the selected area.
- Top: Add a blend zone at the top of the selected area.
- Bottom: Add a blend zone at the bottom of the selected area.
- Outer: Add a blend zone around the selected area.

Figure 4-24 Add blend zone



Step 3 Adjust the parameters of the blend zone as required.

- Position: Adjust the position of the blending zone using X and Y coordinates, relative to the origin of the image in horizontal and vertical directions.

  In the **Edge Blending Editing** area, hover the mouse over the blend zone, hold the left mouse button and drag to quickly adjust the position of the blend zone.

- Size: Set the size of the blend zone.
  - W: The horizontal width of the blend zone
  - H: The vertical height of the blend zone
  - In the **Edge Blending Editing** area, place the mouse over the vertex of the blend band, click and hold the left mouse button, and drag to quickly edit the size of the blend zone.
- Anchor Edit: Enable or disable the anchor point editing function for the four vertices of the blend zone.
- Position: When **Anchor Edit** is enabled, this parameter can be configured to provide detailed position information for the four anchor points of the blend zone, using the top left corner of the output image as the reference.
- Black Level Compensation: Enable or disable the black level compensation function.
- Black level compensation refers to enhancing the brightness of non-overlapping areas in a dark field environment to offset the overlapping bright zone, thereby unifying the brightness of the non-overlapping image with that of the overlapping bright zone for a visually smooth transition.
- Zone Border: Turn the display of the blend zone border on or off on the output screen.
- Gamma: Adjust the Gamma parameter of the blend zone, with a range of 1.0 to 5.0 and a default value of 2.2.
- Curve Adjust: Click **Curve Adjust** to open the blend curve adjustment interface.

  - Channel: Select the blend channel to adjust. Options include White, Red, Green, and Blue.

    White: Adjust the blend effect uniformly across all color channels.

Red, Green, Blue: Adjust the blend curves for red, green, and blue individually to address color differences in projections.

- Curve Type: Two modes are provided: **Preset** and **Custom**.

  Preset: Predefined blend curve templates for quick adaptation to common projection needs. Templates include **Bezier**, **Triangle**, and **Exponential**, which can be fine tuned using the **Parameter** below.

  Custom: Allow manual dragging of curve nodes for free adjustment. Click **Reset** next to **Template** to reset the curve.

- Gamma: Adjust the non-linear brightness response curve, affecting the curvature of brightness transitions in the blend zone. Range: 1.0–5.0 (default: 2.2).
- Gradient Angle: Define the transition direction of the blend zone.
- Click ↺ next to a parameter to reset it.

More Operations

- / : Show or hide the blend zones.
  - Click the icon at the top of a blend zone to show or hide all blend zones.
  - Click the icon next to a specific blend zone to show or hide only the selected blend zone.
- / : Lock or unlock the blend zones.
  - Click the icon at the top of a blend zone to lock or unlock all blend zones.
  - Click the icon next to a specific blend zone to lock or unlock only the selected blend zone.
- : Click to add a blend zone.
- : Click to export the selected blend zone to a local file.
- : Click to import a blend zone from a local file, replacing the currently selected blend zone.
- : Revert the most recent or multiple actions to restore the content to its previous state.
- : Reinstate actions that were just undone.

4.6.3 Blend Templates

After completing the geometry adjustment and blend zone settings for an output or sub-output, save the parameters as a blend template. This template can be applied to other outputs or sub-outputs for quick adjustments.

Save Templates

Step 1 Navigate to **Output > Edge Blending > Output List**, and select the target output or sub-output.

Step 2 In the **Properties** section on the right, complete the geometry adjustment and blend zone settings for the selected output or sub-output.

Step 3 Click + in the **Template** section below to add a blend template.

The template can save one or more settings from the geometry adjustment and blend zone configuration.

Rename Templates

Right click the added template, select **Rename**, enter the new name, and click elsewhere or press Enter to confirm.

Load Templates

Step 1 Navigate to **Output > Edge Blending > Output List**, and select the target output or sub-output.

Step 2 Click the template to apply the saved template to the selected output or sub-output.

Delete Templates

- Delete single template: Right click the added template and select **Delete** to remove the selected template.
- Clear all templates: Right click the added template and select **Clear Templates** to remove all added templates.

4.6.4 Edge Blending Shortcuts

The system provides preset shortcuts for edge blending operations.

Table 4-10 Edge blending shortcuts

Shortcut	Function	Description
-, =	Output list navigation	• -: Move up in the output list. • =: Move down in the output list.
[,]	Geometry adjustment layer navigation	• [: Cycle up through geometry adjustment layers. •]: Cycle down.
Ctrl+[, Ctrl+]	Blend zone navigation	• Ctrl+[: Cycle up through blend zones. • Ctrl+]: Cycle down.

Shortcut	Function	Description
Enter, Esc	Advanced edit toggle	• Enter: Enter advanced edit mode. • Esc: Exit advanced edit mode.
Arrow keys	Anchor point movement	Move the selected anchor point up, down, left, or right in fixed stepping.
W, A, S, D	Anchor point selection	Move the selection of anchor points up, down, left, or right.

4.6.5 3D Editing

3D (three-dimensional) editing assists users in seamlessly adjusting the playback effect of panoramic content to fit various curved screens, such as domes, bowl-shaped, or curved screens. By simply adjusting the shape and mosaic position within the software, users can resolve image distortion without repeatedly altering the content. Adjustments can be previewed in real-time and directly output to projection or LED screens for an immersive experience.

Step 1 Navigate to **Output > Edge Blending** to enter the edge blending interface.

Step 2 In the output list on the left, select the desired output.

Step 3 In the properties area on the right, click  next to **Geometric Adjustment** to enable the output grid display.

Step 4 In the **Split** section, click  next to **Horizontal** and **Vertical** to increase anchor points.

More anchor points allow for more detailed adjustments, but require greater adjustment effort, depending on the complexity of the environment.

Step 5 Once grid settings are complete, select the adjustment mode.

- If the output edge is a curved area, set the mode to **Curved**.
- If the output edge is a straight area, set the mode to **Linear**.

Step 6 Repeat 2 to 5 complete settings for other outputs.

Step 7 Choose an optimal angle to photograph the output area to record the grid lines.

Step 8 Click  next to **3D Editing Area** or  on the right to expand the 3D editing interface.

Step 9 In the properties area on the right, click  next to **Grid Image** to add the photo taken in 7.

Step 10 Select the photo image and click  to apply the grid image to the 3D editing area.

If the photo is too large, click to crop the image in the 3D editing area by dragging vertices. Click **OK** to finish cropping.

Step 11 Select the output on the left and in the **Advanced** section on the right, toggle on the **Anchor Edit** function.

Step 12 In the 3D editing area, click and drag anchor points to modify their positions.

You can compare and modify according to the grid image. Anchor points can be modified in the following ways:

- Drag and edit the anchor points.
- In the **Advanced** section, fine tune the **X** and **Y** values of anchor points.
- If the **Curved** mode is set, select an anchor point and drag its handle to modify curvature.
- Auxiliary adjustment settings:
  - Anchor point line: Set the color of lines between anchor points.
  - Anchor point stepping: Adjust the stepping distance with keyboard arrow keys.
  - Guideline: Enable or disable boundary lines attached to selected anchor points. The guideline color and width settings are supported.

Step 13 Once one output connection is configured, click other outputs and adjust each one individually.

4.7 Edit Program Layers

Before starting program editing, media files need to be imported into the layers.

4.7.1 Add Program Media

Layers are used to store media files in the program. Click + in the top right corner of the **Program** area to add a layer.

Select the target media file in the media library, click and hold the left mouse button to drag it to the corresponding layer of the program to add the layer to the program.

Note

- The software has no limit on the layer numbers.
- If an encrypted video (.nvf) file is added to the media library, entering a decryption password is required to play the video when adding it to a program. If the encrypted video exceeds its encryption duration, it will not be playable.

4.7.2 Configure Program Media Properties

Configure the basic media properties, playback method, display settings, and image quality parameters.

Step 1 Click the media in the program to select it.

Step 2 Select the **Properties** tab on the right pane to enter the media properties interface.

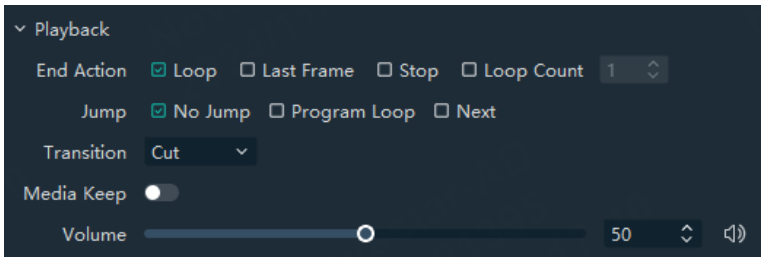
Basic

Figure 4-26 Media properties - basic

- Name: View or modify the media name.
- Media: View the media duration.
- Duration: Set the playback duration for this media.
  - If the playback duration is longer than the media duration, the media will automatically replay.
  - If the playback duration is shorter than the media duration, the media will play for the set duration, and any unplayed content will not be shown.
- Start Time: Set the start time for media playback. The start time value cannot be greater than the media duration value.
- End Time: Set the end time for media playback. The end time value must be greater than the start time value and cannot be greater than the media duration value.
- Delay Start: Set the delay duration for media playback, meaning how long after the program starts the media will begin to play.
- Click ↺ next to each parameter to reset the value to default.

Playback

Figure 4-27 Media properties - playback

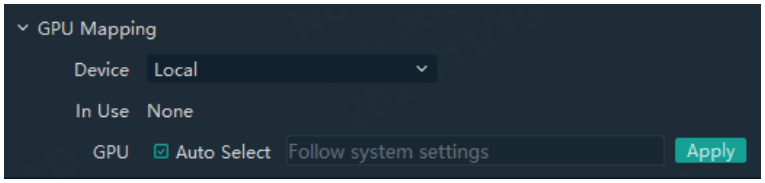


- End Action: Set how the current media plays after the program ends.
  - Loop: Loop the media in the current layer, with an icon displayed in the top right.
  - Last Frame: Stop at the last frame after one playback, with an icon displayed in the top right.
  - Stop: Stop playing after one playback, with an icon displayed in the top right.
  - Loop Count: Set the loop count for the current media, with an icon displayed in the top right.
- Jump: Set how the current media plays after finishing.
  - No Jump: Do nothing after the media finishes playing.
  - Program Loop: The media plays in a loop.
  - Next: Jump to the next program after playback, with an icon displayed in the top right.

  If a specific program is set for jumping, here the group's name and the program name after jumping will be displayed, with an icon displayed in the top right of the media.
- Transition: Set the transition effect for switching media in the program layer. Currently only supports **Cut**.
- Media Keep: When on, the program resumes from the last played position; when off, the media restarts from the beginning.
- Volume: Adjust the output volume of the media. Click to mute the media.

Graphics Card Mapping

Figure 4-28 Media properties – GPU mapping



- Device: The media is output from this device.
- In Use: View the graphics card currently used by the media.
- GPU: Set the graphics card for rendering the selected media.

  Check **Auto Select** for the system to choose automatically, or uncheck to manually select a graphics card. Click **Apply** to complete the graphics card switching.

Image

Figure 4-29 Media properties - image

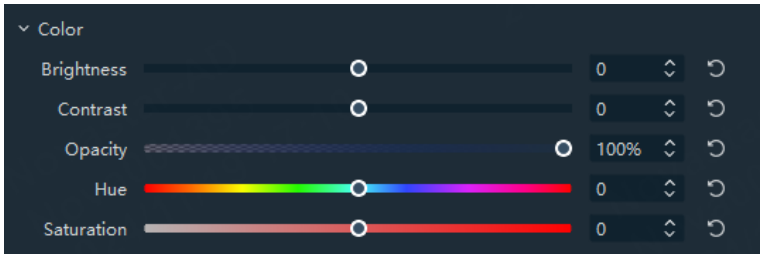
- Flip: Configure the media image flipping.

  Uncheck the checkboxes for **H** and **V** and the output image will be displayed normally without flipping.

  - H: Flip the output image horizontally.
  - V: Flip the output image vertically.
- Fill: Select the way how the content of a layer is displayed.
  - Fill: The media image fills the entire layer.
  - Proportional: The layer image is scaled proportionally and displayed within the layer.
- Accurate Seek: Enable this feature to quickly jump to a specific time point in a video or audio file without needing to gradually drag the progress bar to search.
- Y/C Stretch: When enabled, the bright areas of the output image become brighter, and the dark areas become darker.

Color

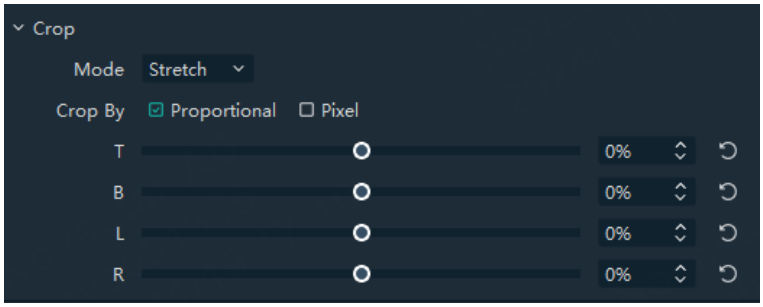
Figure 4-30 Media properties - color



- Brightness: Adjust the overall brightness of the output image. The value range is -100 to 100, with a default value of 0.
- Contrast: Adjust the overall contrast of the output image. The range of values is -100 to 100, with a default value of 0.
- Opacity: Adjust the opacity of the output image, with 0% being completely transparent and 100% being opaque. The default value is 100%.
- Hue: Adjust the color offset of the output image. The range of values is -100 to 100, with a default value of 0.
- Saturation: Adjusts the vividness of colors of the output image. The value range is -100 to 100, with a default value of 0.
- Click ↺ next to each parameter to reset the value to default.

Crop

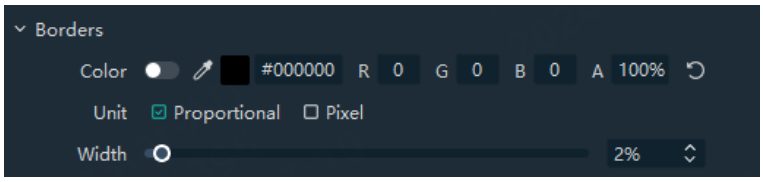
Figure 4-31 Media properties - crop



- Mode: Select the cropping method.
  - Stretch: Scale up or down the output image.
  - Crop: Crop the output image.
  - Proportional: Scale down the output image proportionally.
- Crop By: Set the parameter unit for cropping.
  - Proportional: The proportion of the image cropped from the entire image
  - Pixel: The pixel dimensions for cropping the image
- T: Set the size of the area at the top of the media image that is cropped.
- B: Set the size of the area at the bottom of the media image that is cropped.
- L: Set the size of the area at the left of the media image that is cropped.
- R: Set the size of the area at the right of the media image that is cropped.

Borders

Figure 4-32 Media properties - borders



- Color: Configure the border color of the media.

  Toggle the switch to activate the border function for the media.

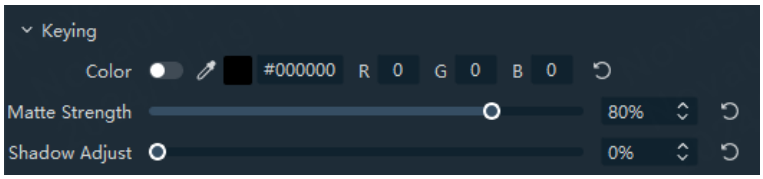
  Set the border color using the following four methods.
  - Click the color picker tool and click to select the desired color.
  - Click the color block and select a color in the pop-up box.
  - Enter the color code value after the # symbol.
  - Double click the values next the RGB values and enter the value for each RGB component to precisely specify the color.
  - Modify the value next to **A** to adjust the opacity of the borders.

    100 is fully opaque, and 0 is completely transparent.
- Unit: Set the size unit of the border.

  - Proportional: The border size as a percentage of the media size
  - Pixel: The border size in pixels
- Width: Set the width of the borders.
  - Proportional: Adjust the border width by setting the border size as a percentage of the media size, ranging from 0% to 100%.
  - Pixel: Adjust the border by specifying how many pixels it occupies to set the border width, ranging from 0px to half the minimum of either the width or height of the media.

Keying

Figure 4-33 Media properties - keying



- Color: Key out the specified color from the selected media.

  Toggle the switch to activate the keying function for the media.

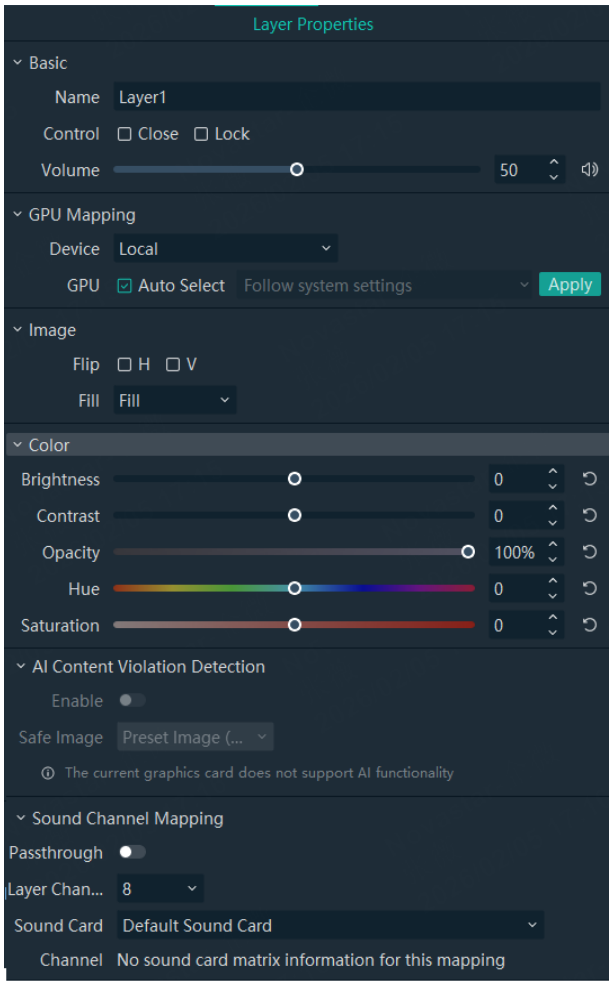
  There are four methods for specifying the keying color.
  - Click the color picker tool and click to select the desired color.
  - Click the color block and select a color in the pop-up box.
  - Enter the color code value after the **#** symbol.
  - Double click the values next the RGB values and enter the value for each RGB component to precisely specify the color.
- Matte Strength: The higher this value, the stronger the keying range/color correction. When you need to accurately key out a color in an image, it is recommended that this value is set to smaller than 10%; in other cases, more than 50% is recommended.
- Shadow Adjust: The higher this value, the cleaner the noise areas in the shadow of the foreground are keyed out.

4.7.3 Configure Program Layer Properties

Select a layer, and navigate to the **Properties** tab on the right side to configure the layer properties.

In the layer properties, the properties of all media within the layer can be adjusted.

Figure 4-34 Layer properties



Area	Function	Description
Basic	Layer name	View and modify the layer name.
	Layer control	Set whether the layer is visible or locked • Close: Close all media visuals in the layer and only play the media audio. • Lock: Once the selected layer is locked, you cannot add programs to, delete media from, or perform other actions on that layer for other programs.
	Layer volume	Adjust the media output volume of this layer. Click to mute the all media in that layer.
GPU Mapping	Device	The media is output from this device.
	GPU	Set the graphics card for rendering the selected media. Check **Auto Select** for the system to

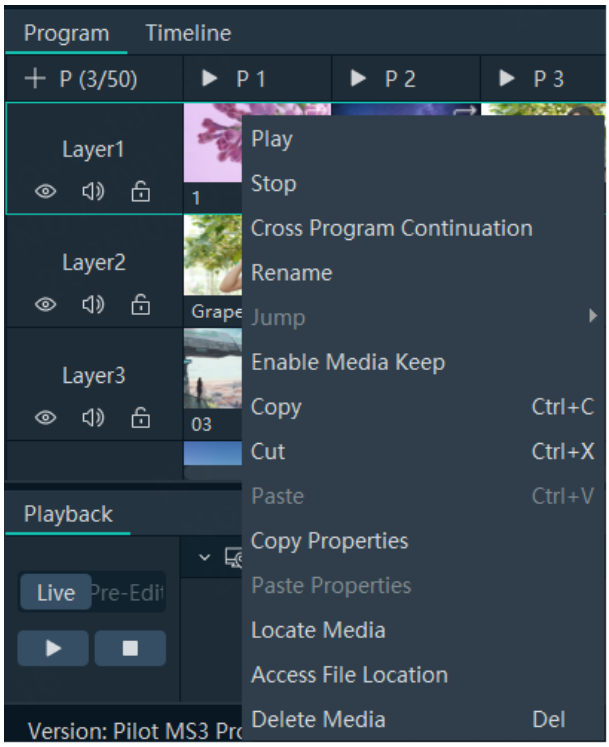
Area	Function	Description
		choose automatically, or uncheck to manually select a graphics card. Click **Apply** to complete the settings.
Image	Flip	Configure the all media image flipping within this layer. Uncheck the checkboxes for **H** and **V** and the media image will be displayed normally without flipping. • H: Flip the media image horizontally. • V: Flip the media image vertically.
	Fill	Select the way how the content of a layer is displayed. • Fill: The media image fills the entire layer. • Proportional: The layer image is scaled proportionally and displayed within the layer.
Color	Brightness	Adjust the overall brightness of the layer image. The value range is -100 to 100, with a default value of 0.
	Contrast	Adjust the overall contrast of the layer image. The range of values is -100 to 100, with a default value of 0.
	Opacity	Adjust the opacity of the layer image, with 0% being completely transparent and 100% being opaque. The default value is 100%.
	Hue	Adjust the color offset of the layer image. The range of values is -100 to 100, with a default value of 0.
	Saturation	Adjusts the vividness of colors of the layer image. The value range is -100 to 100, with a default value of 0.
Sound Channel Mapping	Passthrough	When the backend audio device is a surround sound system, **Passthrough** must be enabled. Once set, restart the software for changes to take effect. • On: In program management, select the media and choose the audio track under **Properties > Sound Channel Mapping > Sound Track**. Once turned on, non-Dolby audio media will be unable to output audio. • Off: No need to set the sound track, and

Area	Function	Description
		audio output proceeds directly. In this case, Dolby audio media will not output properly through the surround sound system.
	Layer Channels	Set the number of audio signal tracks in the layer.
	Sound Card	Choose which sound card on the current device to use for audio output.
	Channel	Control the signal mapping and mixing between channels. Click the corresponding cells in the audio matrix to map input and output channels.
Insert Layer Above		Insert a layer above the current layer.
Insert Layer Below		Insert a layer below the current layer.
Delete Layer		Delete the current layer and the data within it.
Clear Media		Clear all data in the layer.

4.7.4 Context Menu of Program Layer Media

Right click the layer media to display the context menu.

Figure 4-35 Layer media context menu



- Play: Play the media in the current layer.
- Pause: Pause the media playback.
- Stop: Stop the media playback.
- Cross Program Continuation: The same media file plays on the same layer across multiple consecutive programs. When switching programs within the continuous program range, the media plays normally without interruption or restarting.
- Cancel Continuation: Once **Cross Program Continuation** is set, this function becomes available, cancel media continuation across programs.
- Rename: Change the name of the media in the program.
- Jump: Set the switch mode after the current media has finished playing.
  - Media Loop: Loop the media in the current layer, with an icon displayed in the upper right corner of the layer.
  - Last Frame: When the current media playback is completed once, it stops at the last frame. After the setting is completed, an icon is displayed in the upper right corner of the layer.
  - Stop: After the current media plays once, stop playback and display an icon in the upper right corner of the layer.
  - Program Loop: When the media playback ends, the program restarts.
  - Next Program: After the current media finishes playing, it will automatically jump to the next program, with an icon displayed in the upper right corner of the layer.

- Jump to Specific Program: After the current media finishes playing, automatically jump to the specified program, with an icon displayed in the upper right corner of the layer.
- Apply to All: Apply the current media jump mode to all other media in the current layer.

Note

When a program has multiple media with different skip modes set, the skip mode of the media that finishes playing first will take precedence.

- Media Keep: Once enabled, when switching back to the program, this media will resume playing from where it left off.
- Cancel Media Keep: After cancelling the media keep, when switched to this program, the media will restart from the beginning.
- Copy: Copy the currently selected media and media properties. Shortcut key: **Ctrl+C**.
- Cut: Cut the currently selected media or media properties. After cutting, the layer media in this program will be deleted. Shortcut key: **Ctrl+X**.
- Paste: Paste the copied or cut media and media properties into the selected program. Shortcut key: **Ctrl+V**.
- Copy Properties: Copy the currently selected media properties, including media properties and media slice properties.
- Paste Properties: Quickly modify media properties in other programs by pasting the selected media properties to the media in other programs.
- Locate Media: Find the media in the media library.
- Access File Location: Open the storage location of the current media on the media server.
- Delete Media: Delete the currently selected media.

4.7.5 Configure Program Properties

In the program management area, select the desired program. On the right pane under **Properties**, you can modify the program properties.

Figure 4-36 Program properties

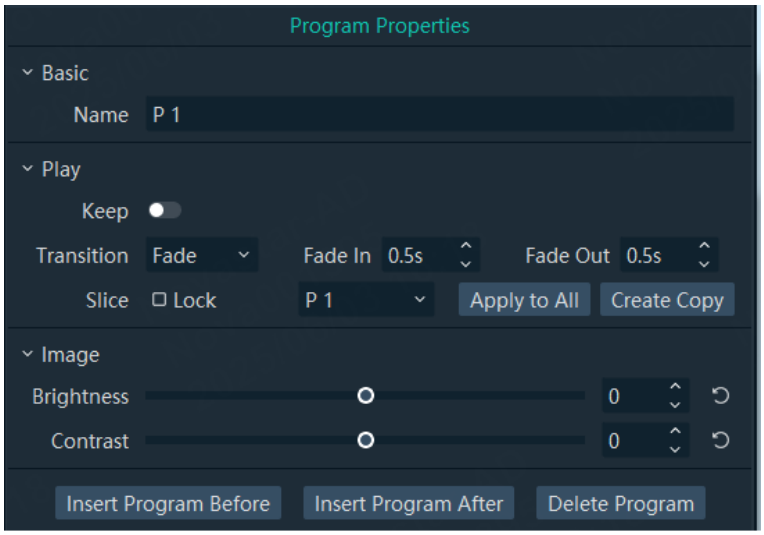


Table 4-11 Program properties

Area	Function	Explanation
Basic	Program name	View or modify the program name.
Play	Keep media	After enabled, when the program switches back, it will continue playing from the last position; after disabled, when the program switches back, the media will start playing from the beginning.
	Transition effect	Set the transition effect for program switching. The options include **Cut** and **Fade**. For the fade in and fade out transitions, you can set the fade duration, with the default value of 0.5s.
	Slice layout	• Lock: Lock the slice layout style in the selected program. • Apply to All: Apply the slice layout style from the selected program to all other programs. • Create Copy: Duplicate the slice properties from the current program, allowing other programs to load the slice by selecting the program.
Image	Brightness	Adjust the brightness of the output image in the program. The value range is -100 to 100, with a default value of 0.
	Contrast	Adjust the contrast of the output image in the program. The value range is -100 to 100, and the default value is 0.
Insert Program Before		Insert a program before the current

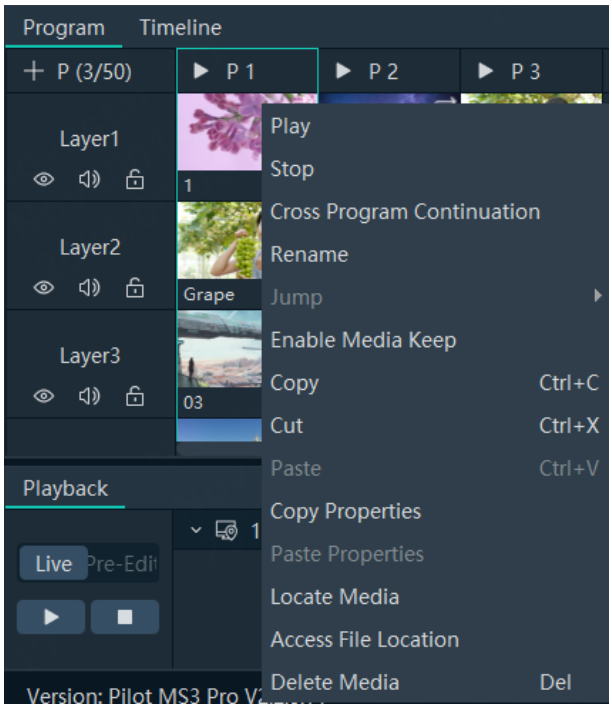
Area	Function	Explanation
		program.
Insert Program After		Insert another program after the current program.
Delete Program		Delete the currently selected program.

4.7.6 Cross Program Continuation

When the same media needs to be played at the same layer position for multiple consecutive programs, adding the same media to each program individually will cause the media file to start over upon switching programs. By using this feature, this issue can be perfectly resolved, allowing the continued media to play normally without restarting when switching programs.

Step 1 In the program management area, right click the media that needs to be continued, and select **Cross Program Continuation**.

Figure 4-37 Cross program continuation



Step 2 Click and hold the left mouse button on the media, then slide left or right to the target program where you want to continue.

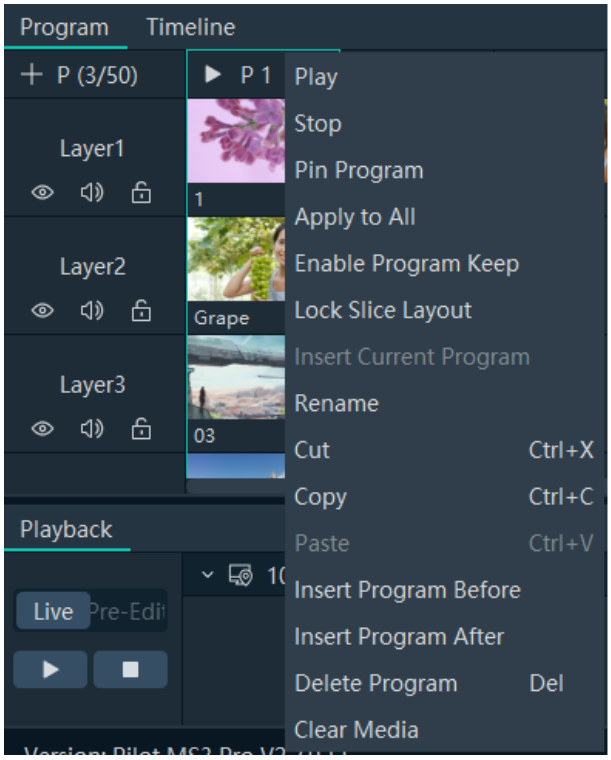
Note

After completing the media cross program continuation setup, right click the media across programs and select **Cancel Continuation** to remove the continuation setup.

4.7.7 Program Context Menu

Right click the program to display the program context menu.

Figure 4-38 Program context menu



- Play: Play the current program.
- Stop: Stop the program playback, and when played again, the media in the program will start from the beginning.
- Pin Program: Place the selected program on the left most of the program list. The pinned program always remains displayed on the left side of the program list.
- Cancel Pin to Top: Remove the current pinned program.
- Apply to All: Apply the configured properties of the current program to other programs.
- Enable Program Keep: After enabled, when switching back to the program, the program will continue playing from where it left off.
- Disable Program Keep: After disabled, when switching to this program, the program plays again from the beginning.
- Lock Slice Layout: Lock the current program's slice layout. Once locked, the slices in the editing area cannot be moved.
- Unlock Slice Layout: Unlock the slice layout in the current program, allowing the slice in the editing area to be freely moved once unlocked.
- Insert Current Program: Immediately play the current selected program and automatically pause the program that is currently playing. Once the interrupted program finishes, the paused program will automatically resume.
  - In the pre-edit mode, this function is not supported.

- This function is not supported during media collection playback.
- This function is not supported during cross program continuation playback.
- When multiple insertions are made, after the interrupted program finishes, it resumes playing from the program just before the last insertion, rather than returning to the program before the first insertion.
- After the insertion, the program will display the currently playing content and the program name area of the interrupted program will be marked with a different color.

- Rename: Change the name of the program.
- Cut: Cut the currently selected program, including media from all layers within the program. Shortcut key: **Ctrl+X**.
- Copy: Copy the currently selected program, including media from all layers within the program. Shortcut key: **Ctrl+C**.
- Paste: Paste the copied or cut content into the selected program. Shortcut key: **Ctrl+V**.
- Insert Program Before: Insert a program on the left side of this program.
- Insert Program After: Insert a program on the right side of this program.
- Delete Program: Delete the currently selected program.
- Clear Media: Clear all media in the selected program.

4.8 Edit Timeline Layers

4.8.1 Add Timeline Media

Step 1 Click **Timeline** to enter the timeline media management interface.

Step 2 Select the target media file in the media library, click and hold the left mouse button, then drag it to the media area below the timeline to add the layer and media to the timeline.

The timeline will show the current media start time. Drag leftward or rightward to quickly adjust the media playback start time.

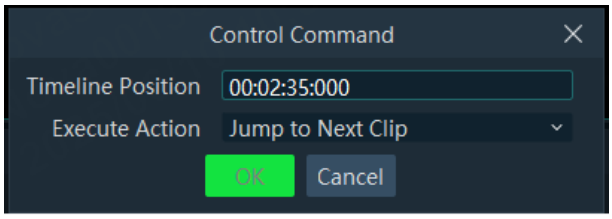
4.8.2 Edit Control Commands

Add Control Commands

Adding control commands allows timeline positions to trigger playback control command.

After adding timeline media, right click the timeline layer and select **Add Control Command** to open the control command interface.

Figure 4-39 Add control command



- Timeline Position: Set the specific time point on the timeline for the command trigger.
- Execute Action: When reaching the trigger point, initiate the next playback control. Options include **Jump to Next Clip**, **Jump to Specific Clip**, **Jump to Specific Time**, **Pause Playback**, **Loop Playback**, and **Play from Start**.

Modify Control Commands

After adding a control command, a shortcut icon appears on the timeline layer. Different actions show different icons. Right click the shortcut icon and select **Edit** to open the control command editing interface.

Modify command details and click **OK** to complete the changes.

Delete Control Commands

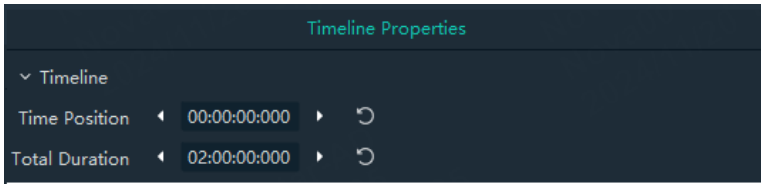
- Delete single command: Right click the shortcut icon and select **Delete** to delete the selected control command.
- Clear all commands:
  - Press and hold **Ctrl**, and select the shortcut icons on the timeline layer to select multiple command. Right click and select **Delete** to delete them.
  - Right click a shortcut icon on the timeline layer and select **Clear All Commands** to clear all commands.

4.8.3 Configure Timeline Properties

Step 1 Click **Timeline** to enter the timeline interface.

Step 2 Right click the timeline and select **Timeline Properties** to enter the timeline properties interface.

Figure 4-40 Timeline properties



- Time Position: Set the start position for the first play in the timeline.
- Total Duration: Set the overall length of the timeline.
- ↺: Reset the time value to default.

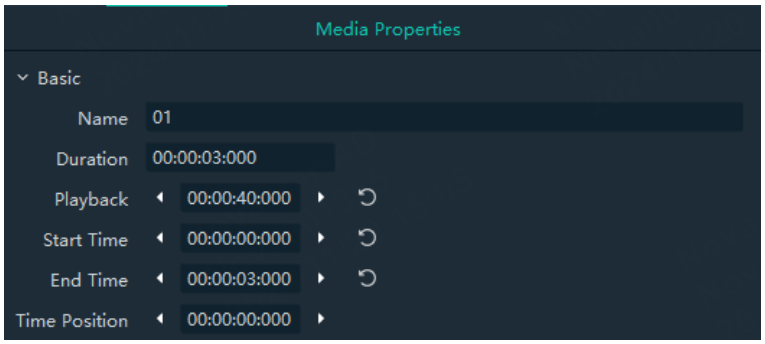
4.8.4 Configure Timeline Media Properties

Step 1 In the **Timeline** area, select the media.

Step 2 In the **Properties** area on the right pane, configure the timeline media properties.

Basic

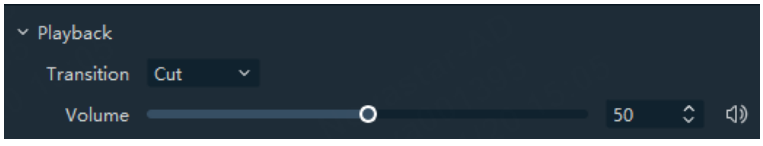
Figure 4-41 Media properties - basic



- Name: View or modify the media name.
- Duration: View the media duration.
- Playback: Set the playback duration for this media.
  - If the playback duration is longer than the media duration, the media will automatically replay.
  - If the playback duration is shorter than the media duration, the media will play for the set duration, and any unplayed content will not be shown.
- Start Time: Set the start time for media playback. The start time value cannot be greater than the media duration value.
- End Time: Set the end time for media playback. The end time value must be greater than the start time value and cannot be greater than the media duration value.
- Time Position: Set the start playback time for the media on the timeline.
- Click ↺ next to each parameter to reset the value to default.

Playback

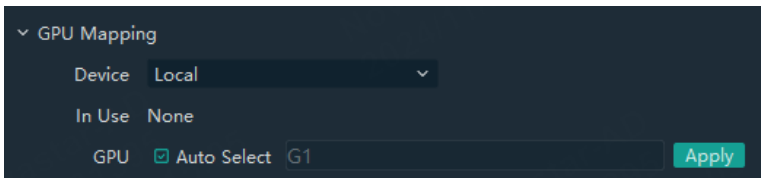
Figure 4-42 Media properties - playback



- Transition: Set the transition effect for switching media in the timeline layer. Currently only supports Cut.
- Volume: Adjust the output volume of the media. Click 🔊 to mute the media.

Graphics Card Mapping

Figure 4-43 Media properties - GPU mapping

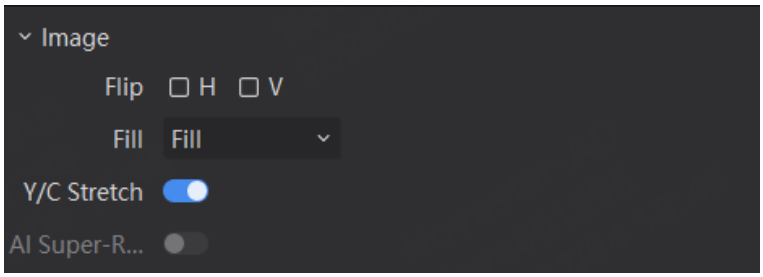


- Device: The media is output from this device.
- In Use: View the graphics card currently used by the media.
- GPU: Set the graphics card for rendering the selected media.

  Check **Auto Select** for the system to choose automatically, or uncheck to manually select a graphics card. Click **Apply** to complete the graphics card switching.

Image

Figure 4-44 Media properties - image



- Flip: Configure the media image flipping.

  Uncheck the checkboxes for **H** and **V** and the output image will be displayed normally without flipping.

  - H: Flip the output image horizontally.
  - V: Flip the output image vertically.
- Fill: Select the way how the content of a layer is displayed.
  - Fill: The media image fills the entire layer.
  - Proportional: The layer image is scaled proportionally and displayed within the layer.
- Accurate Seek: By enabling the function, users can quickly jump to a specific timestamp in a video or audio file without manually dragging the progress bar to search.
- Y/C Stretch: When enabled, the bright areas of the output image become brighter, and the dark areas become darker. It is turned off by default.

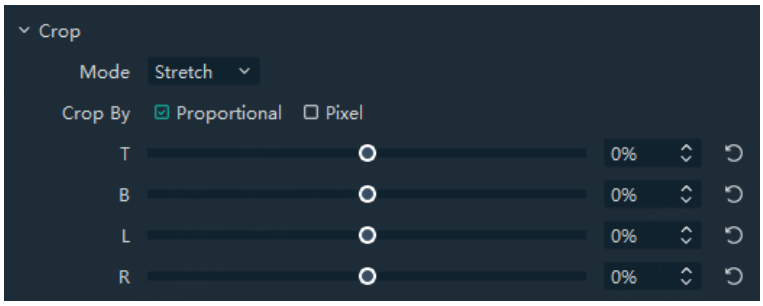
Color

Figure 4-45 Media properties - color

- Brightness: Adjust the overall brightness of the layer image. The value range is -100 to 100, with a default value of 0.
- Contrast: Adjust the overall contrast of the layer image. The range of values is -100 to 100, with a default value of 0.
- Opacity: Adjust the opacity of the layer image, with 0% being completely transparent and 100% being opaque. The default value is 100%.
- Hue: Adjust the color offset of the layer image. The range of values is -100 to 100, with a default value of 0.
- Saturation: Adjusts the vividness of colors of the layer image. The value range is -100 to 100, with a default value of 0.
- Click ↺ next to each parameter to reset the value to default.

Crop

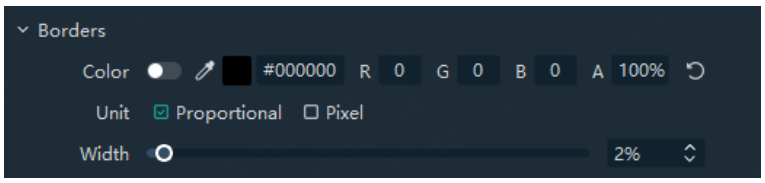
Figure 4-46 Media properties - crop



- Mode: Select the cropping method.
  - Stretch: Scale up or down the output image.
  - Crop: Crop the output image.
  - Proportional: Scale down the output image proportionally.
- Crop By: Set the parameter unit for cropping.
  - Proportional: The proportion of the image cropped from the entire image
  - Pixel: The pixel dimensions for cropping the image
- T: Set the size of the area at the top of the media image that is cropped.
- B: Set the size of the area at the bottom of the media image that is cropped.
- L: Set the size of the area at the left of the media image that is cropped.
- R: Set the size of the area at the right of the media image that is cropped.

Borders

Figure 4-47 Media properties - borders



- Color: Configure the border color of the media.

  Toggle the switch to activate the border function for the media.

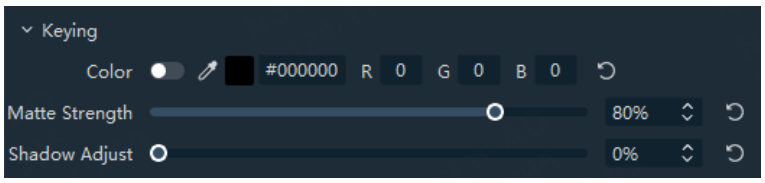
  Set the border color using the following four methods.

  - Click the color picker tool and click to select the desired color.
  - Click the color block and select a color in the pop-up box.
  - Enter the color code value after the # symbol.
  - Double click the values next the **RGB** values and enter the value for each RGB component to precisely specify the color.
  - Modify the value next to **A** to adjust the opacity of the borders.

    100 is fully opaque, and 0 is completely transparent.
- Unit: Set the size unit of the border.
  - Proportional: The border size as a percentage of the media size
  - Pixel: The border size in pixels
- Width: Set the width of the borders.
  - Proportional: Adjust the border width by setting the border size as a percentage of the media size, ranging from 0% to 100%.
  - Pixel: Adjust the border by specifying how many pixels it occupies to set the border width, ranging from 0 px to half the minimum of either the width or height of the media.

Keying

Figure 4-48 Media properties - keying



- Color: Key out the specified color from the selected media.

  Toggle the switch to activate the keying function for the media.

  There are four methods for specifying the keying color.

  - Click the color picker tool and click to select the desired color.
  - Click the color block and select a color in the pop-up box.
  - Enter the color code value after the # symbol.

- Double click the values next the **RGB** values and enter the value for each RGB component to precisely specify the color.

- Matte Strength: The higher this value, the stronger the keying range/color correction. When you need to accurately key out a color in an image, it is recommended that this value is set to smaller than 10%; in other cases, more than 50% is recommended.
- Shadow Adjust: The higher this value, the cleaner the noise areas in the shadow of the foreground are keyed out.

4.9 Edit Timeline

4.9.1 Edit Clips

Split Clips

Pilot MS3 Pro supports splitting the timeline for playback, with individual clip looping supported.

Step 1 Place the mouse on the timeline, right click to select the start point, and choose **Split Clip** to set the clip start time.

Step 2 Right click to select the end point, choose **Split Clip** to set the end time.

Step 3 Repeat the above steps to split additional clips.

Merge Clips

Merge adjacent clips.

- Merge Forward: Right click the clip, and select **Merge Forward** to combine it with the previous clip.
- Merge Backward: Right click the segment, select **Merge Backward** to combine it with the next clip.

Lock Clips

Lock split clips. The clips cannot be merged after locked.

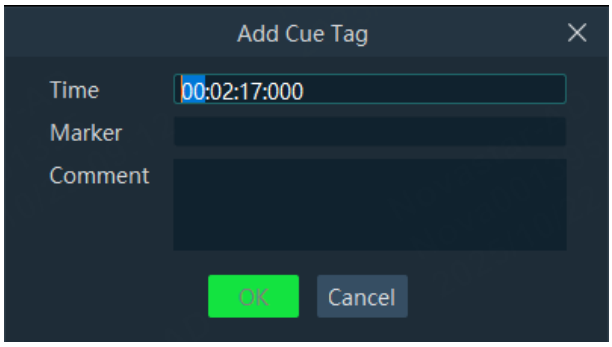
Right click the clip, select **Lock** to lock the clip.

4.9.2 Add Cue Tags

Pilot MS3 Pro allows adding Cue tags on the timeline for visualizing specific points or events, aiding in navigation and timing control.

Step 1 Right click the timeline and select **Add Cue Tag** to enter the tag addition interface.

Figure 4-49 Add Cue tags



Step 2 Enter the start time for the tag in the **Time** field, configuring the Cue tag position. By default, the timeline time at the mouse-click position is displayed by default.

Step 3 Enter the tag name in the **Marker** field. The name can contain 1 to 10 characters.

Step 4 Enter the comments in the **Comment** field. The comment support 1 to 50 characters.

Note

- After adding a Cue tag, it appears on the timeline. Right click the tag and select **Edit** or **Delete** as needed.
- Press and hold the **Alt** key to move the tag left or right. Changes will sync automatically to the Cue table.
- The Cue table displays the tag type, marker, and comment in real time.
- If the timeline is locked, tags cannot be deleted or moved.

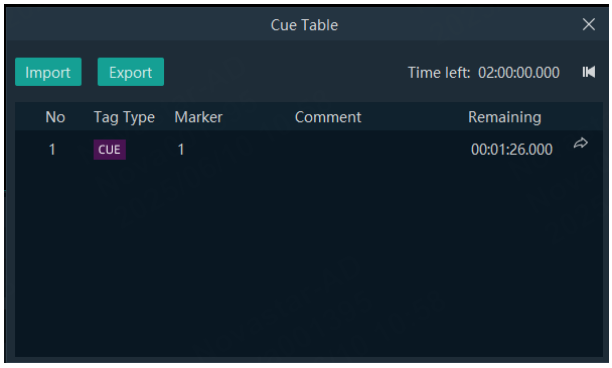
4.9.3 Configure Cue Tables

Import and export tag configuration tables.

Import Cue Tables

Step 1 Right click the timeline, and select **Configure Cue Table** to access the Cue table interface.

Figure 4-50 Configure Cue tables



Step 2 Click **Import**, choose a pre-existing configuration file (.txt), and click **Open** to import.

Export Cue Tables

In the Cue table interface, click **Export**, select the storage path and file (.txt), and **Save**.

Switch Cue Tags

In the Cue table interface, click to switch playback between Cue tags. The Cue table provides real-time feedback, such as the remaining time.

Note

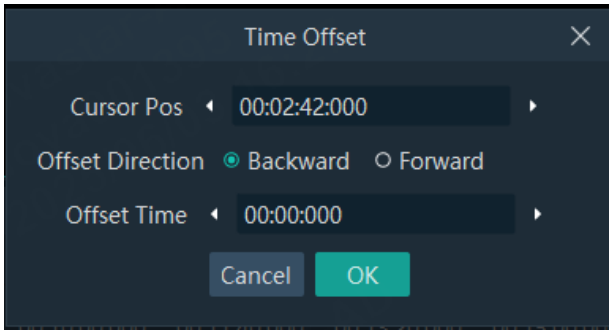
- Only one Cue table can be active per project file.
- Only one Cue table can be imported or exported at a time.

4.9.4 Configure Offset Time

Time offset allows adjusting a media's starting position on the timeline by specifying a time value and offset direction (left/right). This operation provides accurate control over media placement by increasing or decreasing the defined offset time.

Step 1 Right click the timeline, and select **Offset Time**.

Figure 4-51 Configure offset time



Step 2 Set the specific time in **Cursor Position**.

Step 3 Select **Backward** or **Forward** in the **Offset Direction** section.

- Backward: Media to the right of the cursor position moves to the right.
- Forward: Media to the left of the cursor position moves to the left.

Step 4 Set the offset time.

Step 5 Click **OK** to apply the offset time settings.

4.9.5 Configure Clip Properties

Right click a clip, and select **Clip Properties** to view properties on the right.

Figure 4-52 Configure clip properties

- Name: Enter or change the clip name.
- Duration: View the clip duration time. The value updates automatically when the start time or end time of the clip is modified.
- Start Time: The start time of the clip
- End Time: The end time of the clip

Note

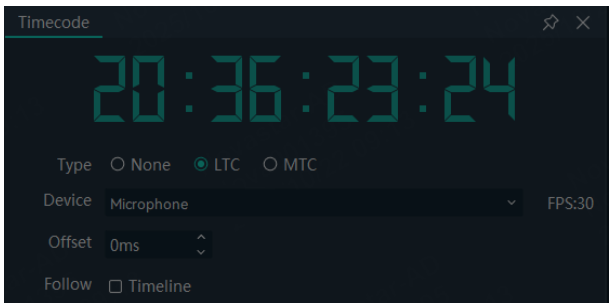
On the timeline, you can also drag the left or right ends of a clip to adjust its start time and end time.

4.9.6 Configure Timecode

The Pilot MS3 Pro supports external timecode for controlling timeline media playback, with LCT and MTC timecodes available.

Navigate to **Window > Timecode** to open the timecode configuration interface.

Figure 4-53 Configure timecode



- Format: 00:00:00:00 represents HH:MM:SS:FF, meaning Hours: Minutes: Seconds: Frames.
- Type: Configure the timecode type, supporting **LTC** and **MTC**.
- Device: Choose the device in the system for playback control. After selection, the frame rate of the timecode will be automatically read.
- Offset: Set the timecode offset in milliseconds (ms).
- Follow: Enable or disable the follow function between the timecode and timeline.
  - When enabled, playback controls on the timeline are disabled, and the system automatically follows the timecode time for playback.
  - When disabled, playback and control via the timeline are possible.

4.10 Configure Effects

4.10.1 Add Effects

Click **Effects Library** on the right to open the effects interface. Drag an effect onto the media in slices, programs, or the timeline to add the effect. You can modify the effects in **Properties** >**Effects**.

- Hover the mouse over an effect icon to preview its visual effect.
- When applying multiple effects to the same object, the final result is affected by the order in which the effects are applied.

Note

Audio media and native-mode webpage media do not support the addition of effects.

4.10.2 Configure Effect Properties

After adding effects, click the media with effects in the **Program** area. In **Properties > Effects**, you can set and modify detailed effect parameters.

- Uncheck the box before the effect name to stop showing the effect.
- Click next to the effect's name to delete the effect.
- Click next to the effect name to reset all effect parameters to their default values.

Fisheye

The fisheye distortion effect allows the display to mimic the ultra-wide-angle, edge-distorted visuals of a fisheye lens, suitable for spherical screens.

Figure 4-54 Fisheye effect

- Center X: Adjusts the horizontal center position of the fisheye effect on the selected media for precise effect placement.

  The value range is 0% to 100%, and it defaults to 50%.

- Center Y: Adjusts the vertical center position for precise effect placement.

  The value range is 0% to 100%, and it defaults to 50%.

- Radius: Control the fisheye effect's area size, with a default value of 20%, meaning the effect impacts 20% of the object's width and height.

  The value range is 0% to 50%, with 0% indicating no effect and 50% indicating it covers half the width or height.

- Distortion: This calculates the embossing effect for the fisheye special effect, controlling its strength and visual impact. By adjusting this parameter, the fisheye effect can manifest varying degrees of concavity or convexity, enhancing the image's three-dimensionality and visual appeal.

  The value range is 0.00 to 5.00, and it defaults to 3.00. The larger the value, the more pronounced the concavity and convexity.

Strobe

This create a flickering effect through rapid on-and-off imagery, designed to capture attention and create a dynamic atmosphere.

Figure 4-55 Strobe effect

- Color: Set the strobe color.
  - : Click the eyedropper to select the desired color.
  - Click the default white color block to open the color picker and choose a color.
  - Enter a hexadecimal color code in the text box to set a precise color.
  - Set the color by adjusting the RGB values in the text box.
- Freq/min: Configure how many times the strobe occurs per second.

  The higher the value, the faster the strobe. The value range is 1 to 100, and it defaults to 10.

- Duration: Determine how long the opacity change lasts for the strobe color.

  The value range is 0 to 100, and it defaults to 50%.

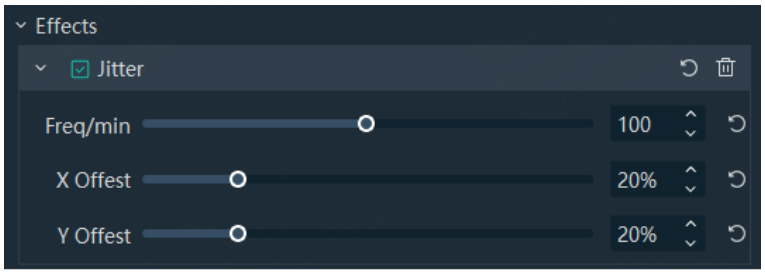
- Gradient: Set the proportion of time that the color fades in and out during the duration.

The value range is 0 to 100, and it defaults to 50%.

Jitter

Jitter is a visual effect that adds a dynamic feel to the image through slight or rapid vibration, enhancing vitality and realism.

Figure 4-56 Jitter effect



- Freq/min: Set the default speed of movement per unit time.

  The value range is 1 to 200, and it defaults to 100.

- X Offset: Set the horizontal displacement for the jitter based on the original media width.

  The value range is 0 to 100, and it defaults to 20%, meaning a single displacement value is 20% of the media's original width or height.

- Y Offset: Set the vertical displacement for the jitter based on the original media width.

  The value range is 0 to 100, and it defaults to 20%, meaning a single displacement value is 20% of the media's original width or height.

Scroll

During playback, media scrolls according to the configured direction, and the scrolling speed is adjustable.

Step 1 Select the media layer in the program that you wish to configure for scrolling playback.

Step 2 In **Direction**, set the media scrolling direction. The options include **Left to Right**, **Right to Left**, **Top to Bottom**, and **Bottom to Top**.

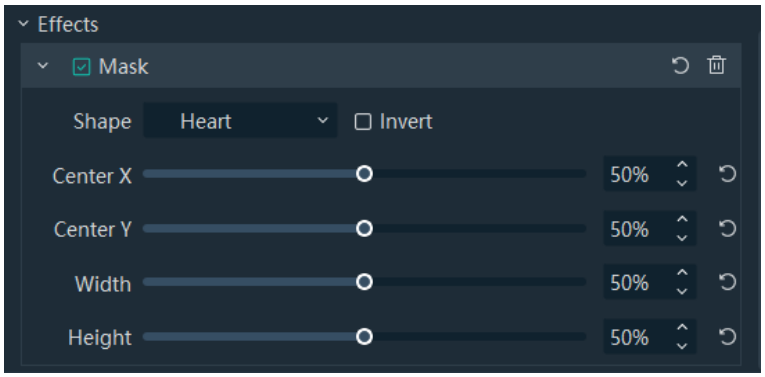
Step 3 In **Speed**, set the media scrolling speed. The value range is 1 to 100, and it defaults to 5.

Scrolling speed can be adjusted by dragging the slider left or right, or by entering a specific number in the textbox on the right.

Mask

A layer mask uses a specific shape (such as a heart, triangle, oval, or rectangle) to obscure parts of the image, displaying only the content within the mask shape, creating a uniquely personalized visual effect.

Figure 4-57 Mask effect



- Shape: Choose the mask shape. The options include **Heart**, **Circle (Ellipse)**, **Triangle**, and **Custom Image**.

  If you check **Invert**, the image outside the shape is displayed, while the inside is not.

  When the mask shape is set to **Custom Image**, click **Upload** to manually choose a custom mask image.

- Center X: Set the X coordinate for the center of the mask's bounding rectangle based on the original media width.

  The value range is 0 to 100, and it defaults to 50, meaning 50% of the media's original width or height.

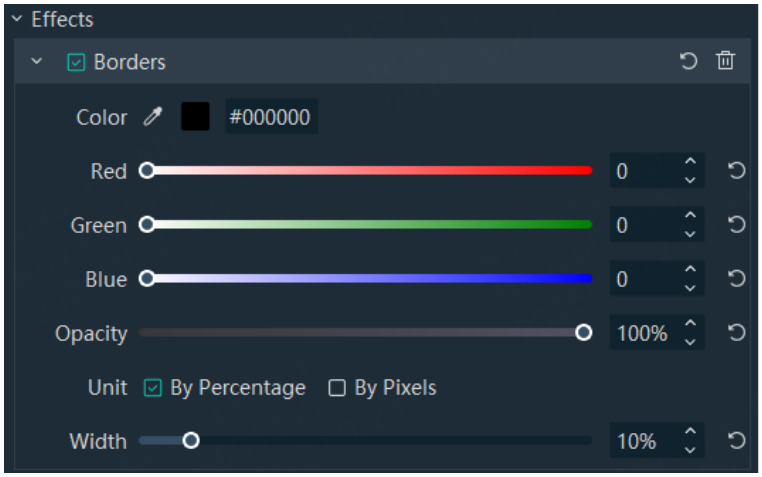
- Center Y: Set the Y coordinate for the center of the mask's bounding rectangle Based on the original media width.

  The value range is 0 to 100, and it defaults to 50, meaning 50% of the media's original width or height.

- Width: Set the width of the mask's bounding rectangle.
- Height: Set the height of the mask's bounding rectangle.

Border

Figure 4-58 Border effect



- Color: Configure the media's border color.

Enabling the checkbox activates the border. You can set the border color in four ways:

- Click the color pick tool next to **Color** and select the desired color on the screen.
- Click the color block next to **Color**, and choose a color from the pop-up color selection.
- Enter a hexadecimal color code next to #.
- Enter values for the **Red**, **Green**, and **Blue** components to precisely set the color.

- Opacity: Adjust the border's opacity. 100 is fully opaque, and 0 is fully transparent.
- Unit: Set the size unit for the border.
  - By Percentage: Border size as a percentage of media size.
  - By Pixels: Border size in pixels.
- Width: Adjust the border's width.

Keying

Figure 4-59 Keying effect

- Key Color: Remove a specific color from the selected media.

  Enabling the checkbox activates the keying function to remove the selected color.

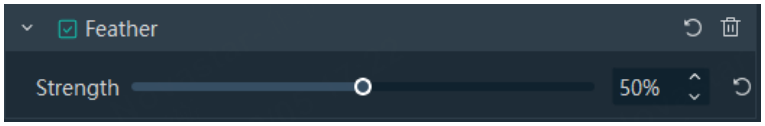
  The selection methods include:

  - Click the color pick tool to select the unwanted color on the screen.
  - Click the color block and choose a color.
  - Enter the hex code of the color to be removed next to #.
  - Input specific values for the **Red**, **Blue**, or **Green** components for precise color setting.
- Strength: Higher values increase the range and correction strength. For precise color keying, use an intensity below 10%. In other cases, above 50% is recommended.

- Shadow: Higher values clean noise areas in shadows more effectively.

Feather

Figure 4-60 Feathering effect



Strength: Set the intensity of the feathering effect on the media edges. A higher value results in a stronger feathering effect.

Other Settings

- Enable or disable effects

  Check or uncheck the box to enable or disable the added effect.

- Delete effects

Click  next to the effect's name to delete the effect.

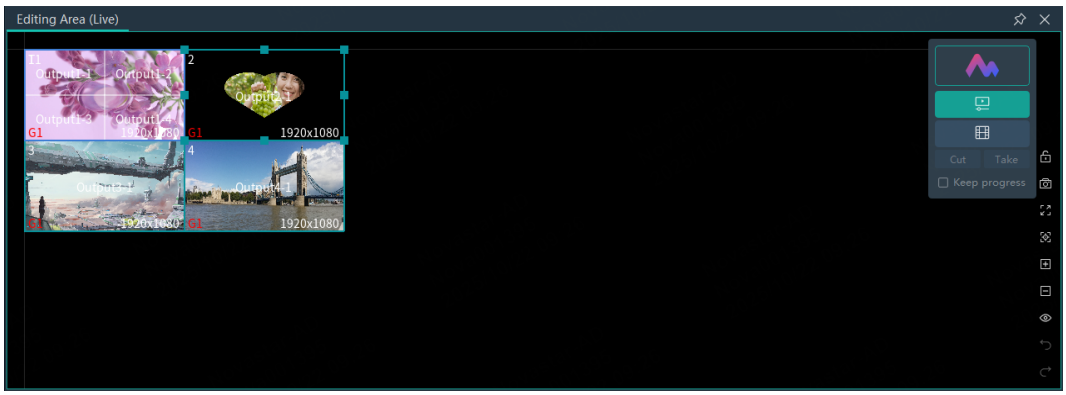
- Restore defaults
  - Click  next to the effect name to reset all effect parameters to their default values.
  - Click  next to a single effect parameter to reset it to the default value.

4.11 Edit Output Slices

The output of Pilot MS3 Pro is in the form of slices, with the slice replicating the corresponding layer image for output.

In the stage editing area, select the slice, and then you can make adjustments to it. Drag the slice to different outputs to adjust its output position.

Figure 4-61 Slices



- The top left corner number, such as 1, 2, or 3, indicating that this slice is a layer slice in the program.

- The top left corner identifier **T+number**, such as T1, T2, indicating that this slice is a layer slice in the timeline.
- The bottom left corner number, such as G1 or G2, indicating that this slice is bound to the layer. If the graphics card number is not displayed, it means the slice is not bound to the layer.
- Adjust the slice size: Hover the mouse over the slice edges, hold the left mouse button and drag to resize the slice.
- When the slice is within an output, click  in the bottom right corner or double click the slice, and the slice will fill the entire output connector.
- When the slice crosses multiple output connectors, click  in the bottom right corner, and the slice will fill the output connectors it crosses.
- When you select a slice, click  in the bottom right corner to capture the current playback image and save the captured image into the media library.
- Right click the slice to access the following options:

Table 4-12 Slice context menu

Menu Item	Description
Rectangle Slice	Add a rectangular slice. Please refer to Add Slices for instructions.
Polygon Slice	Add a polygon slice. Please refer to Add Slices for instructions.
Delete Media	Delete the media on the current slice.
Lock Slice	Lock the selected slice.
Delete Slice	Delete the selected slice.
Clear All Slices	Remove all slices from the editing area.
Clear All Media	Clear the media from all slices.
Layer Overlay	Set the priority of the overlay layers. – Show timeline on top: The timeline is displayed on the top layer. – Show program on top: The program management is displayed on the top layer.

4.11.1 Add Slices

Note

- The slices can be added to the timeline automatically only, but cannot be manually added or removed.
- The slices added to the timeline will automatically bind to the timeline layer, and modifying the binding between the slices and the timeline layer is not supported.
- If all media in a timeline layer are deleted, the current timeline layer will be automatically removed, and the corresponding timeline layer slice will also be automatically deleted.

Add Rectangular Slices

Each time a layer is added, an output slice is automatically added. When a layer needs to be displayed on multiple output screens and the output needs to be synchronized, multiple output slices can be used for output.

Step 1 In the stage editing area, right click the blank area and select **Rectangle Slice** to add a slice.

Step 2 Select the newly added slice.

Step 3 Select **Properties** on the right to enter the slice properties interface.

Step 4 Select the layer for the slice from the drop-down menu next to **Bind Input**.

Add Polygon Slices

The editing area supports adding polygon slices, including triangular and trapezoidal slices, with a default size of 1920x1080. It also supports custom shapes using the mouse.

Step 1 In the stage editing area, right click the blank area and select **Polygon Slice**.

- Select the triangle or trapezoid next to **Polygon Slice** to directly add a polygon slice.
- Click **Polygon Slice** and the cursor will change to  . You can customize anchor points by clicking in the editing area, with a minimum of 3 anchor points.

Step 2 After drawing a polygon, double click the left mouse button or press **Enter** to finish. The polygon will automatically close and display a bounding rectangle, with the slice number shown in the top-left corner.

Note

- Polygon slice drawing can be canceled by pressing the **Esc** key.
- Polygon slices support advanced editing, and advanced editing automatically exits when the mouse clicks the layer or non-editing area.
- During the advanced editing, double click the anchor line to add anchor points and press the **Delete** key to remove anchor points.

- During the advanced editing, press and hold the **Ctrl** key to select multiple anchor points, and drag the mouse to edit multiple anchors simultaneously.

4.11.2 Slice Properties

Select a slice and make precise adjustments in the **Properties** area on the right pane.

Figure 4-62 Slice properties

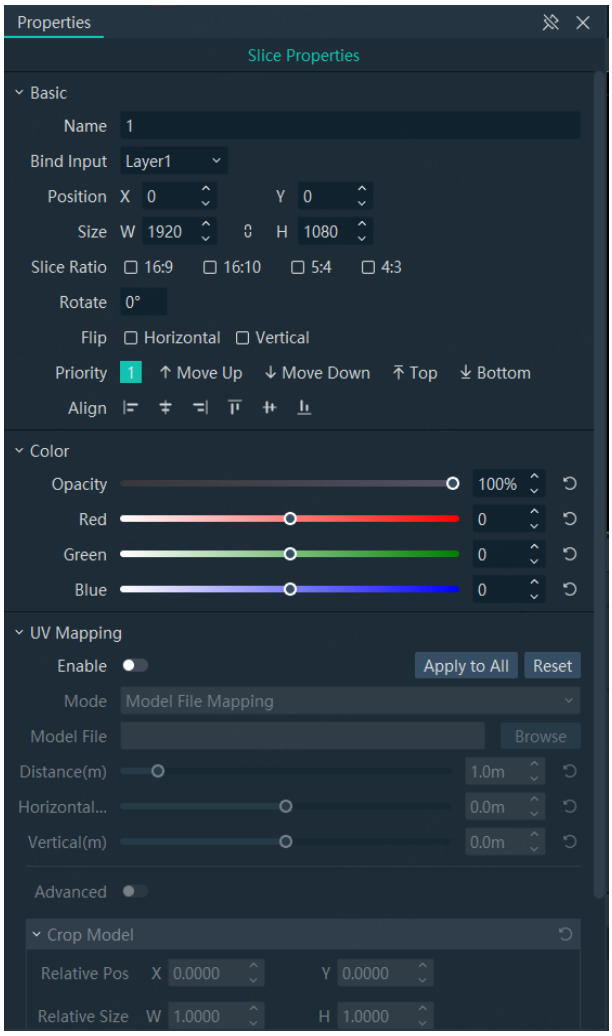


Table 4-13 Slice properties

Area	Function	Description
Basic	Slice name	View and modify the slice name.
	Bind input	Select the input source for the slice. The input sources only include the layer media in the current program.
	Position	Set the position of the output slice on the current screen using the top-left corner of the screen as the reference point.

Area	Function	Description
		• X: The horizontal distance from the top-left corner of the slice to the top-left corner of the screen output area. • Y: The vertical distance from the top-left corner of the slice to the top-left corner of the screen output area.
	Size	Set the slice size. • W: The horizontal width of the slice • H: The vertical height of the slice
	Slice ratio	Quickly adjust the aspect ratio of the slice. The options include **16:9**, **16:10**, **5:4**, and **4:3**.
	Rotate	Rotate the slice clockwise, using the center point of the slice as the reference for rotation.
	Flip	Flip the output slice image. The options include **Horizontal** and **Vertical**. • Horizontal: The slice image is flipped horizontally. • Vertical: The slice image is flipped vertically. • If neither option is selected, the slice image is displayed without flipping, playing normally.
	Priority	View and adjust the slice priority. • View: Display the slice priority using a number. The larger the number, the higher the priority. Slices with higher priority are displayed first. • Adjustment: Click the arrow icons to adjust the slice priority.
	Align	Select the alignment method between the slice and the output connector. The options include left align, horizontal center, right align, top align, vertical center, and bottom align. The alignment operation only takes effect when the slice and the output connector have an overlapping area. When the slice intersects multiple output connectors, align it to the largest bounding rectangle of the output connectors.
Color	Opacity	Adjust the opacity of the output image. 0%

Area	Function	Description
		is fully transparent, 100% is opaque, and the default value is 100%.
	Red	Adjust the output image quality by modifying the red color.
	Green	Adjust the output image quality by modifying the green color.
	Blue	Adjust the output image quality by modifying the blue color.
Advanced	Anchor edit	Enable or disable the anchor point editing function.
	Live update	Enable or disable the live update feature. Note Only when **Anchor edit** is enabled, this function can be turned on or off.
	Adjustment	Set the adjustment mode of the polygon slice. The options include **Flat**, **Linear**, and **Curved**. Currently, only non-rectangular quadrilateral slices can be set to **Curved**.
	Position	Set the coordinates of the currently selected anchor point, with X representing the horizontal coordinate and Y representing the vertical coordinate, and support four adjustment methods. • Select and drag the anchor point with the mouse. **X**, **Y** values change in real time. • Select the anchor point, and press the arrow keys on the keyboard. **X**, **Y** values change in real time, with stepping value consistent with the vertex stepping. • Select the anchor point, double click the values in the **X**, **Y** sections to manually input the coordinates, ranging from -65535 to 65535. • Select the anchor point, click ⌃⌄ next to **X**, **Y** to adjust the coordinates, with stepping value consistent with the vertex stepping.
	Anchor	Enable or disable the on screen display function of anchors. Set whether the anchor point editing process is

Area	Function	Description
		simultaneously displayed on the output screen.
	Anchor count	Split the connector screen horizontally and vertically, and after splitting, you can edit the anchor points in each direction respectively.
	Line color	Set the color of the lines between the anchor points. The default color is , and the color switching takes effect in real time.
	Anchor step	Adjust its position using the arrow keys on the keyboard. Each keystroke moves the anchor point a distance ranging from 1 to 10, with a default value of 10.
	Guideline	Enable or disable the guideline between the anchor point and its adjacent anchor points. • Set the line color using the following methods. – Click the color block and select a color from the pop-up window. – Enter the color code value in the text box next to the color block. • Set the line width. The value range is 1 to 10 and with a default value of 1. One-click reset to default value is supported.
	Grid lines	Display the grid lines on the slice. The options include **Canvas Display** and **Screen Display**.
UV Mapping	Function switch	• On: Enable the feature. • Off: Disable the feature. Click **Apply to All** to apply all parameters to rectangular output slices of all programs. Click **Reset** to restore parameters, except **Mode**, to their default values.
	Mode	Currently only model file mapping is supported (UV mapping based on model files).
	Model File	Select and apply a model file for mapping.
	Distance	Adjust the distance between the camera and the model center in 3D space.

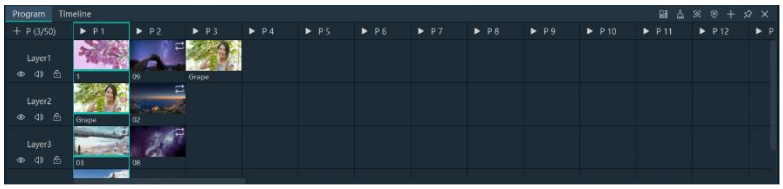
Area	Function	Description
		• Smaller values bring the camera closer (zooming in the screen image). • Larger values move the camera farther away (zooming out the screen image).
	Horizontal	Adjust the camera's horizontal offset relative to the model center in 3D space. • Smaller values shift the camera left (image pans right). • Larger values shift the camera right (image pans left).
	Vertical	Adjust the camera's vertical offset relative to the model center in 3D space. • Smaller values shift the camera downward (image pans upward). • Larger values shift the camera upward (image pans downward).
	Advanced	• On: Enabled • Off: Disabled
	Crop Model	Position and size of the crop area relative to the original model.
	Media Area	Position and size of the selected area relative to the original media.

4.12 Play Programs

Once the program editing is completed, you can play the programs.

- Control the program playback
  - Click ▶ on the program name to start playing.
  - After the program is being played, click ⏸ to pause the program, and ▶ will show when the program is paused.
  - Click ▶ to resume playback from the paused position.
- During the program playback, it is possible to switch the content of the layers being played. For example, while program 1 is being played, you can switch the content of the layer by double clicking the media in Program 2 > Layer 2, as shown below.

Figure 4-63 Control program playback



- In the playback control area, you can control the playback of individual media or the entire set.

  Figure 4-64 Control media playback

  - Click  or  on the left to play or pause all media in the program.
  - Click  on the left to stop all media playback in the current program.
  - Click  or  before each media name to play or pause the selected media playback.
  - Click  in the top right corner, and the program media timer will display the playback in forward timing.
  - Click  in the top right to display the program media timer countdown playback.
  - Click  in the top right corner, select the programs you need to synchronize, drag the media progress bar, and complete the synchronized playback of the media.
- Control the timeline playback.

  Figure 4-65 Control timeline playback

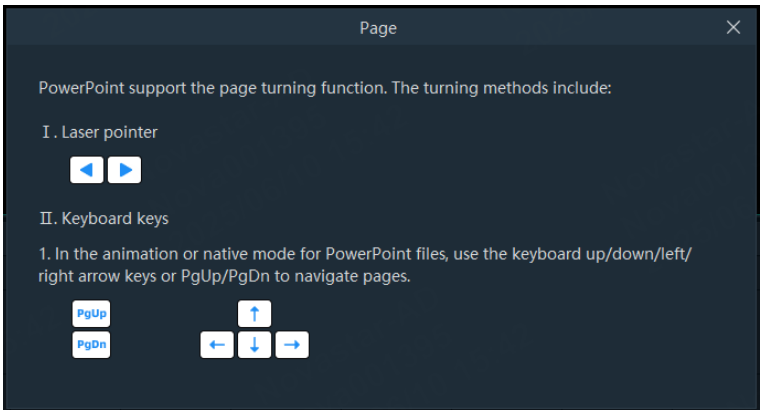
  

  -  : Click to stop timeline playback, and once stopped, the timeline position will automatically move to the start position on the far left.
  -  : Click to start timeline playback. Once the timeline is playing,  will be displayed, and you can click to pause playback.
  -  : Click to replay from the beginning of the timeline.
- Turn pages.

  When media files such as PowerPoint slides are added to the program, you can control playback using keyboard arrow keys. Click  on the menu bar to enable keyboard page-turning playback; once enabled, the icon changes to  .

Click on the menu bar to view key prompt information for page-turning.

Figure 4-66 Page turning

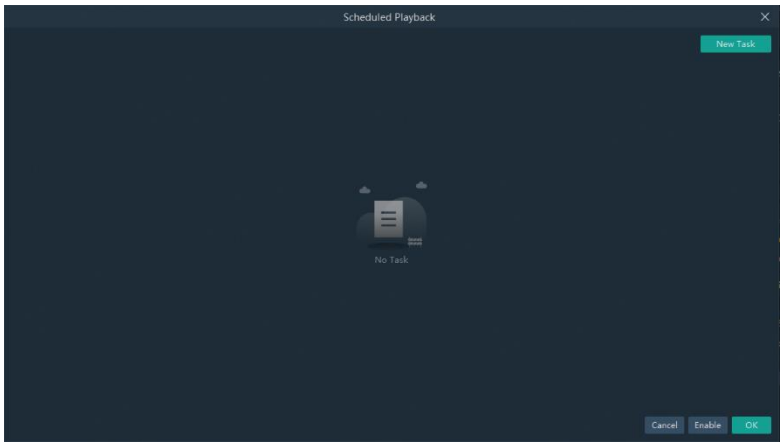


4.13 Configure Scheduled Playbacks

After the program editing, you can realize automatic playback of the programs according to the scheduled time and times.

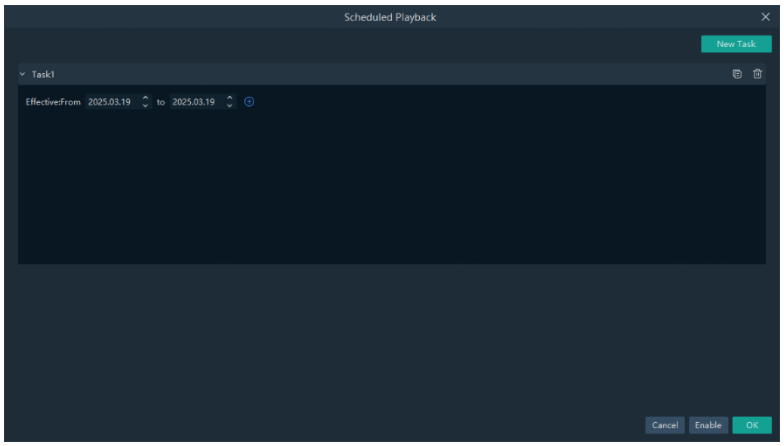
Step 1 Navigate to **> Edit Scheduled Playback** to open the scheduled playback interface.

Figure 4-67 Scheduled playbacks



Step 2 Click **New Task** at the top right of the window to create a new playback task.

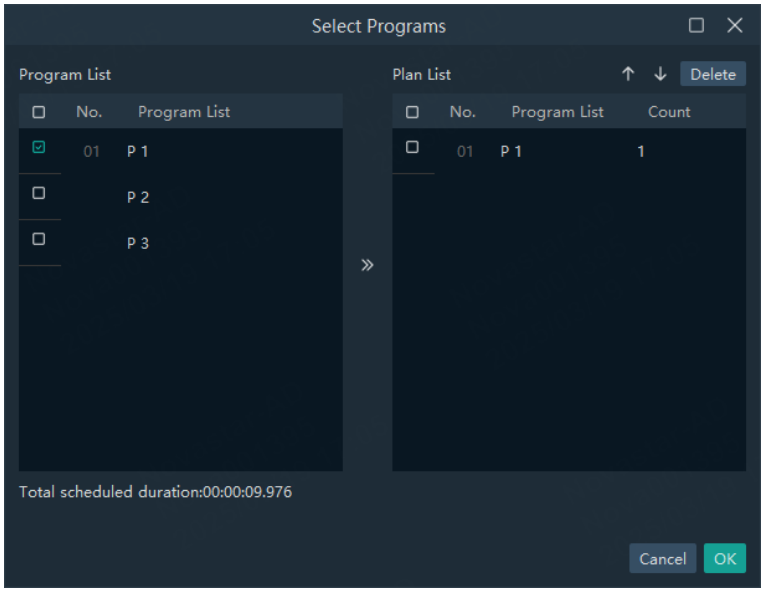
Figure 4-68 Playback tasks



Step 3 Set the start date and end date of the task in the **Effective** area.

Step 4 Click + next to the effective time to add a new playback task.

Figure 4-69 Configure scheduled programs



a. Select the desired programs in the **Program List** area on the left.

b. Click → to add the selected programs to **Plan List**.

The programs will be played according to the sequence (from the top to the bottom) in the **Plan List** area. If you want to adjust the playback sequence, check the box next to the desired program and click ↑ or ↓ to adjust the sequence of the selected program. Only one program sequence can be adjusted at a time.

c. Double click the play count on the right side of the program to set the playback count.

After the setting, the software will automatically rearrange the program playback order according to the set count to minimize consecutive playbacks of the same program.

The play count range is 1 to 999.

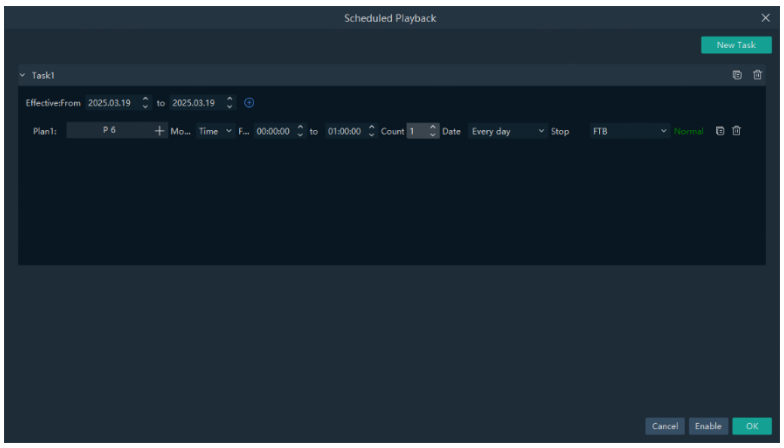
If a program play count exceeds 1, the system will first play programs in order. After completion, for programs with a play count greater than 1, the system will automatically loop through the list until the set play count is reached.

After the setting, the system will automatically calculate the total duration of the planned programs. If the total duration exceeds 24 hours, program configuration cannot be completed.

d. Click **OK** to complete the settings.

Step 5 Click **OK** to return to the scheduled playback interface.

Figure 4-70 Configure playback tasks



Step 6 Select the program playback mode next to **Mode**. The options include **Time** and **Count**.

- Time: The programs will be played by the set duration circularly.
- Count: The programs will be played according to the set playback count.

Step 7 Set the start and end time within the schedule range.

a. Set the automatic start time of the program in the **From** section.

b. Set the automatic end time of the program in the **to** section.

When the playback mode is set to **Count**, the end time of the program playback is determined by the start time plus the total duration of the current scheduled program. This end time cannot be modified.

Step 8 Set the program playback count.

Click the number next to **Count** to activate the function. Enter the desired value and then the program will be played automatically according to the set count. When the playback mode is set to **Time**, the playback count of the program is 1 by default and cannot be changed.

Step 9 Set the program playback date. The options include **Every day**, **Monday**, **Tuesday**, **Wednesday**, **Thursday**, **Friday**, **Saturday** and **Sunday**.

- Every day: The plan will be played every day automatically according to the schedule within the effective time range.
- Monday to Sunday: The plan will be active on the selected days of the week within the specified time range, and the content will be automatically played according to the configured schedule and playback plan.

Step 10 Set the action after the program stops. The options include **FTB** and **Current Frame**.

- FTB: After the program playback ends or the playback time reaches the end, the output image fades to black.
- Current Frame: FTB: After the program playback ends or the playback reaches the end time, the output image displays the frame when the program stops.

Step 11 Repeat 4 to 10 to add more plans under the current task.

Step 12 Repeat 2 to 10 to add more tasks and plans.

Step 13 Click **OK** to finalize the program scheduling.

Click **Enable** to activate the current program schedule. Once the program schedule is enabled, the scheduled playback icon on the menu bar changes to .

Step 14 Navigate to **> Enable Scheduled Playback** to enable the function.

Note

- Different plans cannot have the overlapping time slots.
- Different tasks cannot have the overlapping time slots.

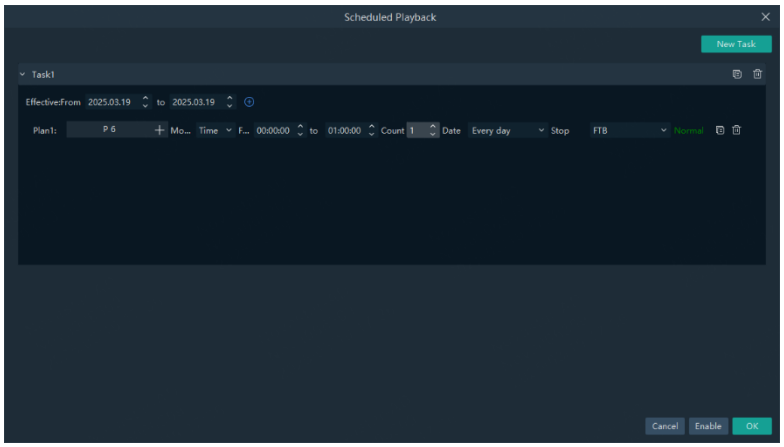
Insert Programs

Once the scheduled playback is activated, it supports the program insertion. This insertion can be executed either immediately or with a delay.

- Immediate Insert: Play the next selected program instantly.
- Delayed Insert: Wait for the current program to finish before playing the selected program.

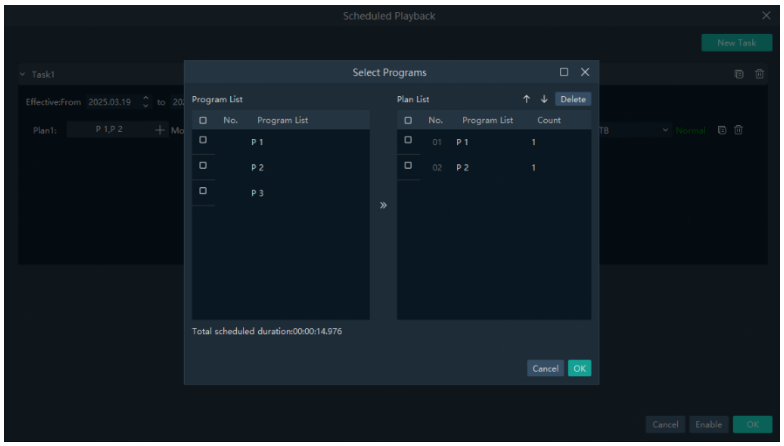
Step 1 Navigate to **> Edit Scheduled Playback** to enter the scheduled playback interface.

Figure 4-71 Edit scheduled playbacks



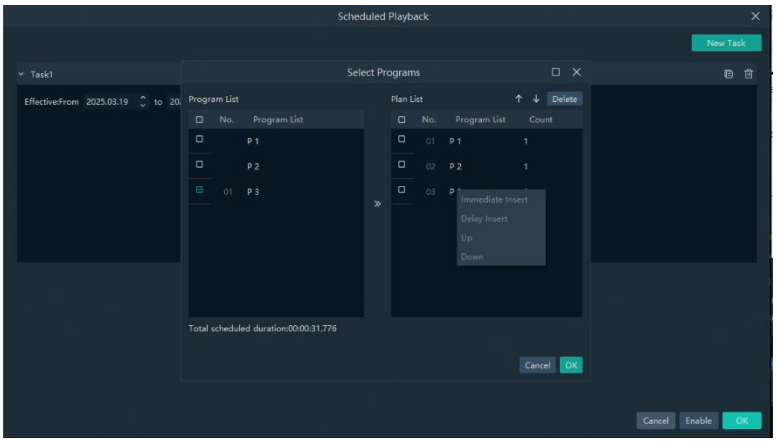
Step 2 Click the program name next to the plan that requires insertion to open the program selection window.

Figure 4-72 Select programs



Step 3 Right click the desired program name in **Plan List** and select either **Immediate Insert** or **Delay Insert** to proceed with the program insertion.

Figure 4-73 Insert programs



Rules for program insertion:

- Only programs that are currently being played or have not yet begun support program insertion. The programs that have already been played do not support insertion.
- For a schedule plan that is being played, the insertion can alter the order of the program sequence.
- If an insertion spans different plans, after the insertion, the playback will switch to the plan that contains the inserted program and continue until the end of the new plan.
- If an insertion spans different tasks, after the insertion, the inserted task will play first; once completed, the playback will revert back to the pre-insertion plan and continue.

More Operations

- Delete plans

  In the **Scheduled Playback** interface, click next to the desired plan to delete the plan.

- Delete tasks

In the **Scheduled Playback** interface, click  next to the desired task to delete the task.

- Edit plans

  Navigate to  **> Edit Scheduled Playback**. You can add, edit or delete the plans or tasks in the pop-up.

- Create task copies

  Click  next to the task to create a task copy. By expanding the copied task, you will be able to modify the related information.

- Create plan copies

  Click  next to the plan to create a plan copy. By expanding the copied plan, you will be able to modify the related information.

- Disable scheduled playbacks

  Navigate to  **> Disable Scheduled Playback** to halt the scheduled playback.

4.14 Save Projects

Once the project editing is complete, it can be saved as a separate file for easy access and use in future projects.

- Navigate to **File > Save/Save As** to save the current project file locally.
- Click  in the top left corner of the main interface to create a new project.
- Click  in the top left corner of the main interface to save the current project file.
- Click  in the top left corner of the main interface to package the media in use or all media and project files. The packaged project files can be used directly.

5 Link

About This Chapter

This chapter introduces you on how to link the devices.

Overview

- Link Settings
- Update to Secondary or Backup
- Unlock

5.1 Link Settings

Application Scenarios

- Primary and backup output: When the primary control device encounters issues or its connection lines fail, the backup device takes over the role, ensuring uninterrupted work and preventing anomalies such as a black screen.
- Primary and secondary output: If the primary control device cannot independently drive the display, one or more secondary devices can be configured to assist, with unified settings managed by the primary device, ensuring seamless display management.

Prerequisites

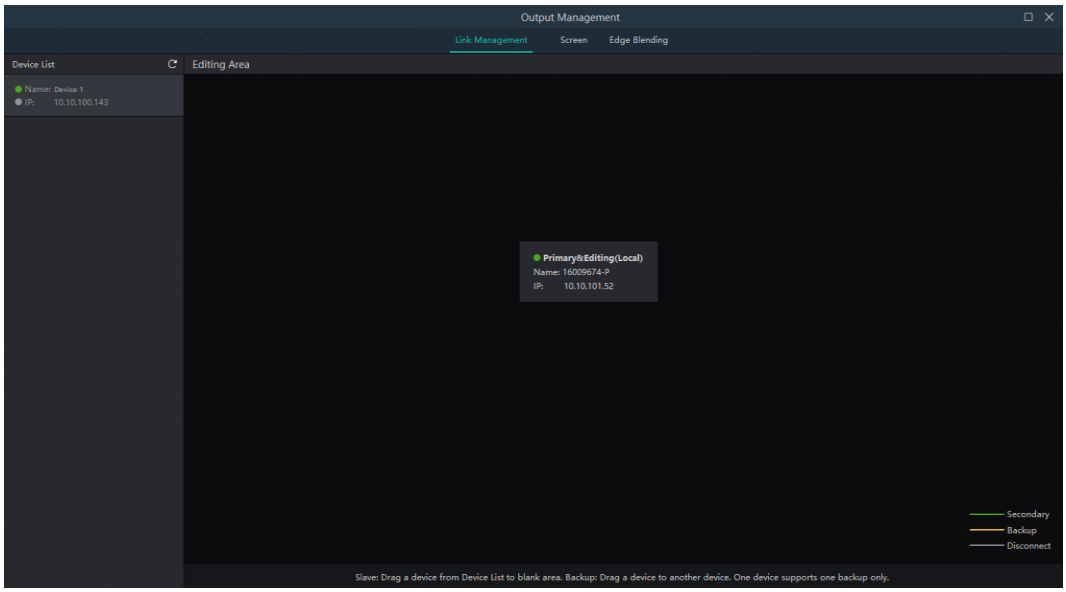
- The devices (primary and secondary, or primary and backup) must be on the same network segment. If they are not, you need to manually add the IP address of the secondary/backup device via **Systems > System > General**.
- The sync card must be installed in all devices.

Operation Entry

Navigate to **Link > Link Management** from the menu bar.

The system will automatically search for the IP addresses of devices on the current network segment that have the software running and display them in the device list. IP addresses manually added via **Systems > System > General** that can communicate normally will also be displayed in the device list.

Figure 5-1 Link management

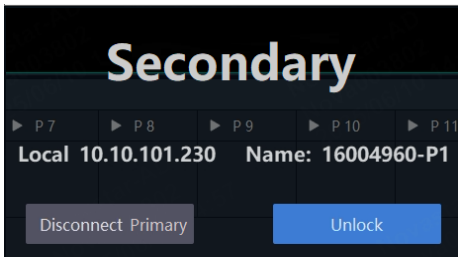


Add Secondary Devices

Drag a device to be used as a secondary device from the list to the blank area on the right to complete adding the secondary device.

After the addition is completed, the secondary device's UI will display the secondary information, and the user interface cannot be edited.

Figure 5-2 Secondary device interface info



- Disconnect Primary: Click to disconnect the primary and secondary devices.
- Unlock: Click to disable the current interface lock, allowing edits to the secondary device's interface. To lock again, navigate to **Link > Lock**.

Add Backup Devices

Drag a device to be used as a backup device from the list to the blank area on the right to complete adding the backup device.

After the addition is completed, the backup device's UI will display the backup information, and the user interface cannot be edited.

Figure 5-3 Backup device interface info

- Disconnect Primary: Click to disconnect the primary and backup devices.
- Unlock: Click to disable the current interface lock, allowing edits to the backup device's interface. To lock again, navigate to **Link > Lock**.
- Switch to Primary: Switch the backup device to the primary one.

Manage Devices

On the topology, select the secondary or backup device. Right click it to open the context menu.

- Connect: Manually connect the devices if they are not properly connected.
- Disconnect: Manually disconnect the devices as needed.
- Power On: Remotely start a powered-off secondary or backup device.

  Ensure that the hardware and network of the media server support and are properly configured for remote wake-up.
- Power Off: Remotely power off the secondary or backup device.
- Restart: Remotely restart the secondary or backup device.

- Restart Application: Remotely restart the software on the secondary or backup device.
- Retrieve Logs: Obtain running logs of the software from the secondary or backup device.
- Start VNC: Enable VNC remote connection for the secondary or backup device. The connection password is 123456.
- Delete: Remove the binding relationship between the devices.

Note

To disconnect all linked devices, right click **Primary & Editing (Local)** and select **Disconnect All**.

5.2 Update to Secondary or Backup

On the primary device's Pilot MS3 Pro interface, navigate to **Link > Update to Secondary** or **Link > Update to Backup** to manually synchronize all data from the primary and secondary devices or the primary and backup devices.

At the bottom right of the primary device's Pilot MS3 Pro interface, click **Update** to view the update progress.

5.3 Unlock

Locking the local device secures the interfaces of both the secondary and backup devices, making them inoperable.

- Secondary Device: Navigate to **Link > Lock**, and the main interface of the secondary device will display the information seen in Figure 5-2.
- Backup Device: Navigate to **Link > Lock**, and the main interface of the backup device will display the information seen in Figure 5-3.

6 Settings

About This Chapter

This chapter introduces you to various settings of the software.

Overview

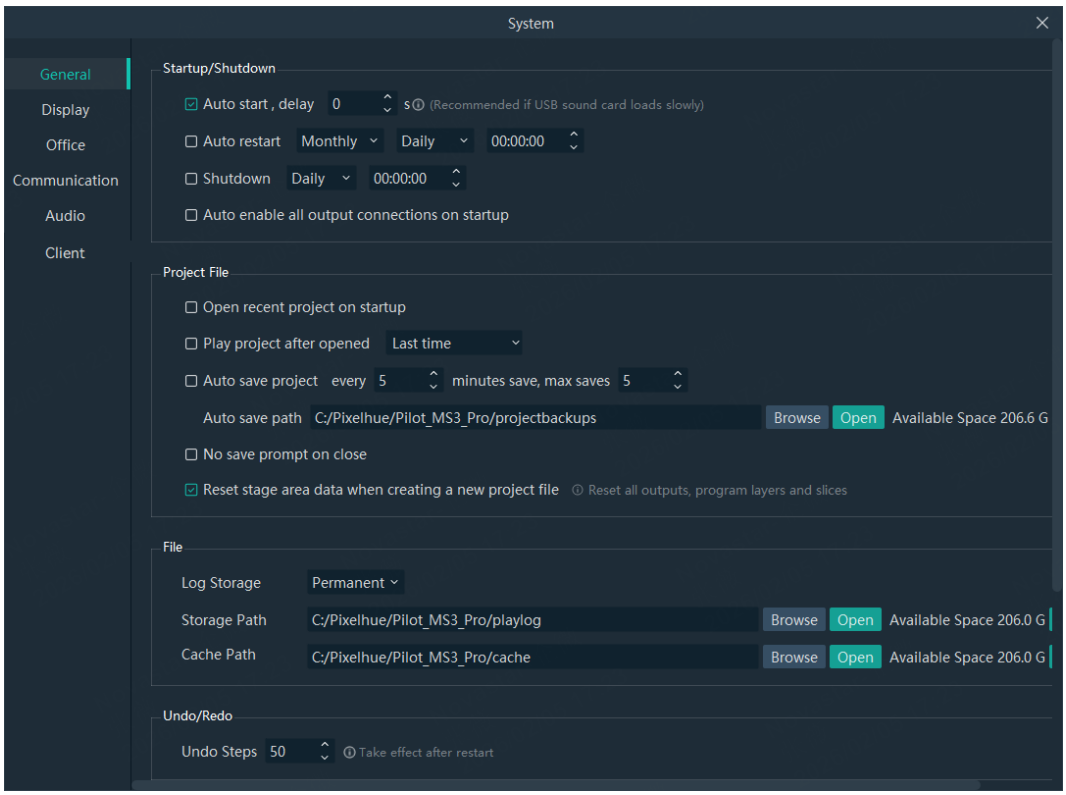
- System Settings
- Shortcut Binding
- Configure MIDI and DMX Shortcuts
- Configure OSC Bindings
- Clear Shortcut Bindings
- Signal Monitoring

6.1 System Settings

6.1.1 General

Set the status after the system starts. Navigate to **Settings > System** to enter the system settings interface. The **General** tab interface is displayed by default.

Figure 6-1 System settings



Startup/Shutdown

- Auto start
  - Checked: The software automatically starts after delay when the system boots. Set delay if USB sound card is added.
  - Unchecked: The software does not automatically start on boot.
- Auto restart: Set a time for the software to automatically restart. If the software runs for an extended period, it is recommended to schedule a restart to ensure its optimal long-term performance.
  - Checked: The software automatically restarts at set time.
  - Unchecked: The software does not automatically restart.
- Shutdown: Set the automatic shutdown time.
  - Checked: The software shuts down at the set time.
  - Unchecked: The software does not automatically shut down.

- Auto enable all output connections on startup: Enable all the output connections automatically once the software is started.
  - Checked: Automatically enable all output connections when the software starts.
  - Unchecked: Do not enable the output connection when the software starts.

Project file

- Open recent project on startup
  - Checked: The software opens the last edited project on start.
  - Unchecked: The software shows default interface on start.
- Play project after opened
  - Checked: The software automatically plays content on opening the project file.

    Last: The software plays last closed content.

    Program List: The software plays selected content from the list.
  - Unchecked: Manual play required after software startup.
- Auto save project: Set the save interval and max number of auto-saved project files. The save interval ranges from 1 to 30 minutes and defaults to 5 minutes. The auto-saved files range from 1 to 20 and defaults to 5.
  - Checked: Enable auto-save at set intervals.
  - Unchecked: Disables auto-save.
- Auto save path: Set the path for auto-saved projects.
  - Browse: Select the save path.
  - Open: Access the save location.
  - Clear: Clear the save location info.
- No save prompt on close
  - Checked: The software closes without a save prompt.
  - Unchecked: The software prompts for save on close.
- Reset stage area data when creating a new project file
  - Checked: When creating a new project, reset all data such as layers and slices for all outputs and program management.
  - Unchecked: Data is not reset when creating a new project.

File

- User Operation, Media Playback, Program Playback:
  - Checked: The software records the corresponding logs during operation.
  - Unchecked: The software will not record the corresponding logs during operation.
- Log Storage: Set the storage duration for playback logs. Options include **Permanent**, **1 Month**, **3 Months**, **6 Months**, and **12 Months**.
- Storage Path: Set the storage location for playback logs.

- Click **Browse** to select a storage location.
- Click **Open** to open the folder where logs are stored.
- Click **Clear** to delete all cached playback logs.

- Cache Path: Set the storage location for media files downloaded from the primary device.
  - Click **Browse** to select a storage location.
  - Click **Open** to open the folder where cache files are stored.
  - Click **Clear** to delete cached information.

Undo/Redo

Undo Steps: Set the maximum number of undoable and restorable steps. Exceeding this limit prevents further undo or redo actions. This feature requires a restart to take effect.

General

Configure the background and text color information for the stage editing area.

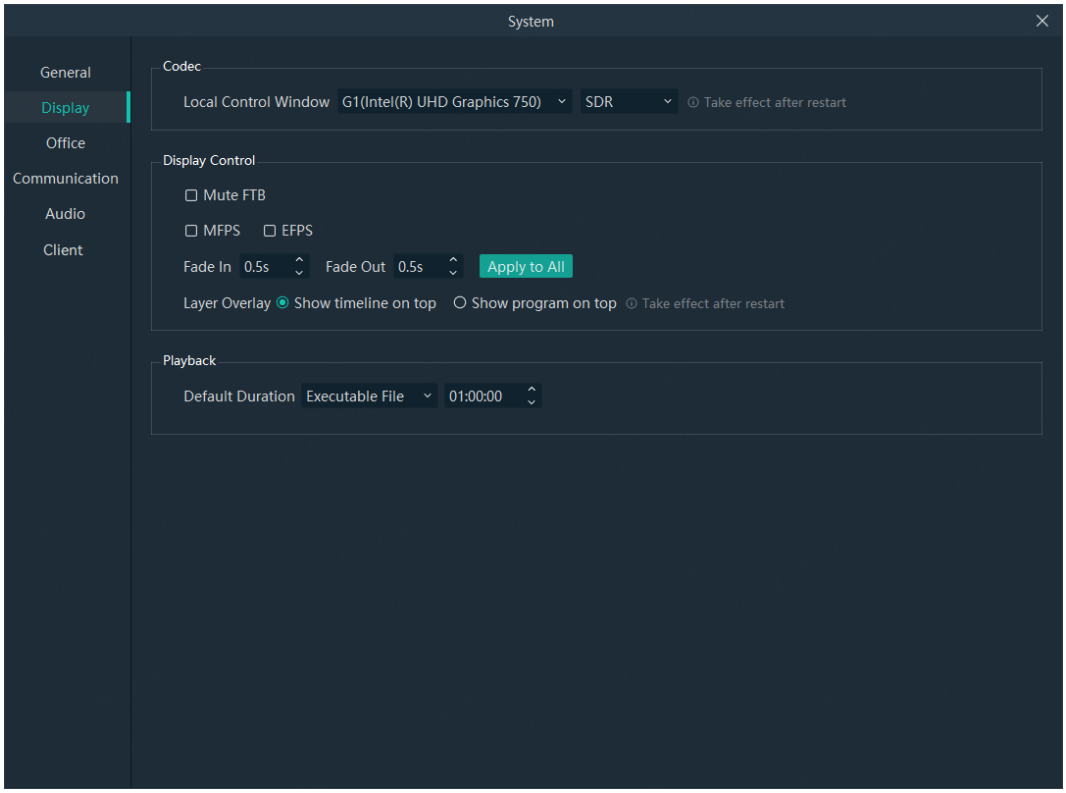
- In the **Canvas Color** section, modify the background color by selecting a preset color or customizing a color.
- In the **Text Color** section, modify the text color by selecting a preset color or customizing a color.
- For custom colors, you can set color information in the following ways:
  - Use the color picker next to **Canvas Color** to select a color from the screen.
  - Click the color block to open the color picker and choose a color.
  - Enter the hexadecimal color information in the text box on the right.
  - Input the color values in the **R**, **G**, and **B** text boxes to set the color.

Link

- Automatically updates to all slave and backup devices:
  - Checked: All information configured on the primary device will be automatically synchronized to the secondary and backup devices.
  - Unchecked: After the primary device information configuration is completed, the system will not perform automatic synchronization. Manual synchronization is required via **Link > Update to Secondary/Update to Backup**.
- Add IP: During the link configuration, if the primary device and the secondary/backup device are not on the same network segment, click **Add IP** to manually add the IP address of the secondary/backup device. To delete an IP address, click  .

6.1.2 Display

Figure 6-2 Display settings



Codec

Local Control Window: Set the graphics card for rendering the software main interface. After the configuration, a software restart is required.

Display Control

- Mute FTB
  - Checked: Mute all audio when the screen goes black.
  - Unchecked: Audio continues when the screen goes black.
- MFPS:
  - Checked: The software shows the real-time frame rate at bottom left of preview window in the stage editing area.
  - Unchecked: No frame rate display
- EFPS:
  - Checked: The frame rate is shown at bottom left of output.
  - Unchecked: No frame rate display
- Fade In: Set the time length for transitioning between programs, from the start of the transition to the full display of the program. The default is 0.5 seconds, with a range of 0 to 10 seconds. A value of 0 means a direct cut.
- Fade Out: Set the time length during the program transition, from the start of the program switch to the point where the program is no longer displayed. The

default is 0.5 seconds, with a range of 0 to 10 seconds, where 0 represents a direct cut.

- Apply to all: Clicking this will apply the set fade in and fade out durations to all the programs. If you set the fade in and fade out durations and do not click **Apply to All**, it will only affect programs without added media; programs with added media will not be affected.
- Layer Overlay: Set the display order for program layer slices and timeline slices. Changes take effect after restarting the software.
  - Show timeline on top: Timeline slices are displayed over program layer slices.
  - Show program on top: Program layer slices are displayed over timeline layer slices.

Playback

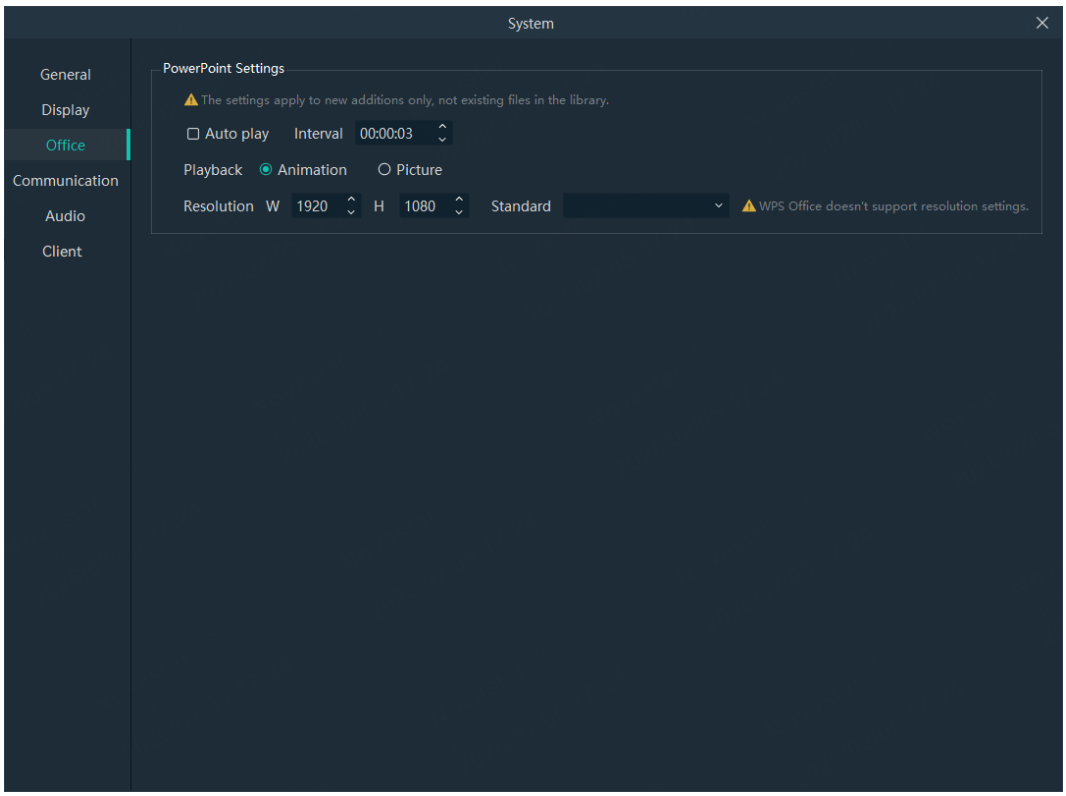
Default duration: Set different default playback durations for various media.

6.1.3 Office

The software supports the playback of PowerPoint documents, but you need to configure the basic information of the PowerPoint document before playing it.

In the **System** interface, click **Office** to enter the Office settings interface.

Figure 6-3 Office settings



PowerPoint Settings

- Auto play: Set whether the PowerPoint file in the program plays automatically.
- Interval: Set the time interval for automatic PowerPoint playback.
- Playback: Set the transition method for each slide in the file.
  - Animation: Display the animations within the slide during playback.
  - Picture: Do not display the animations within the slide, but display them during slide switching.
- Resolution: Configure according to the resolution displayed in the PowerPoint document, supporting individual width and height settings, or setting through preset resolutions.

Note

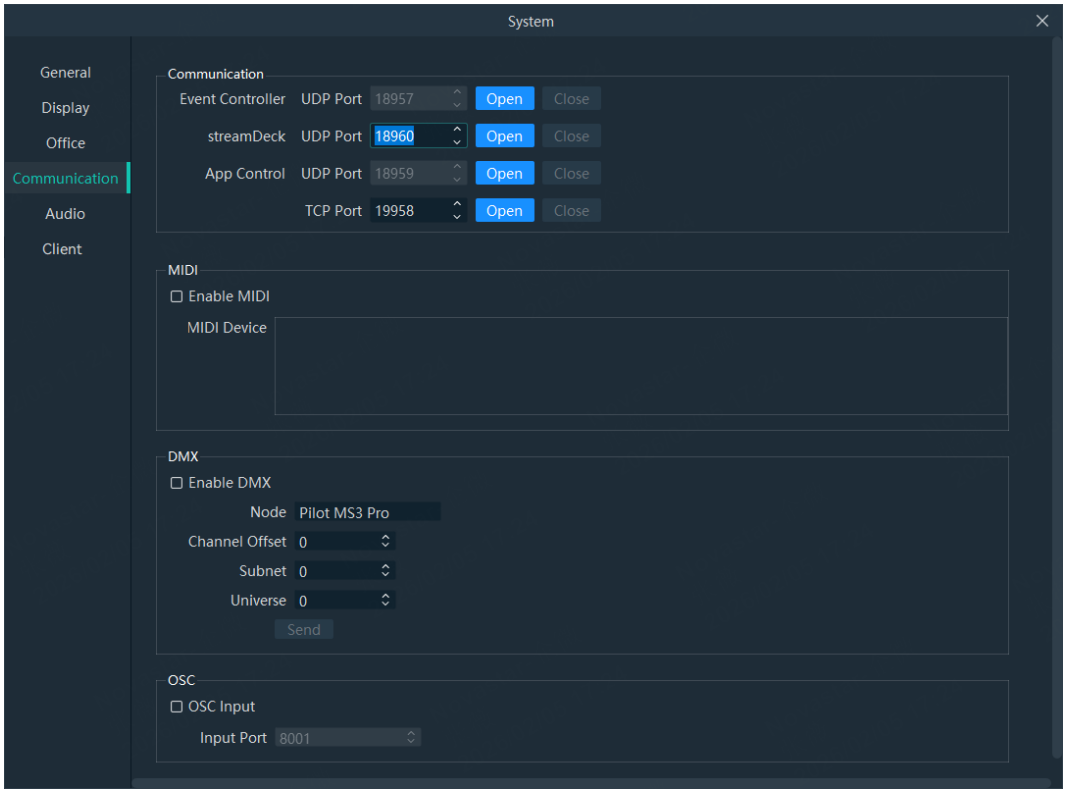
- After modifying the PowerPoint settings, the changes only apply to newly added files, and not to those already added to the program.
- If the media server has WPS Office, the resolution settings are not supported.

6.1.4 Communication

The software supports remote control or control through a central control device, allowing users to play and control the software more conveniently.

Navigate to **Settings > System > Communication** to enter the communication interface.

Figure 6-4 Communication



UDP/TCP

In the text field, enter the port number for UDP/TCP communication with the peer device, then click **Open** or **Close**.

Once opened, the software will automatically check if the entered port number is already in use.

MIDI

Check **Enable MIDI** to activate MIDI control. Once enabled and connected to the media server, the system will automatically detect and list MIDI devices.

Navigate to **Settings > MIDI Binding** to enter the MIDI binding interface and assign functions to MIDI buttons.

DMX

Before controlling via DMX, complete the DMX configuration.

Step 1 Check **Enable DMX** to activate DMX control.

Step 2 Select the node name for DMX control under **Node**.

Step 3 Set the offset in **Channel Offset**.

Step 4 Configure the subnet information for DMX devices in **Subnet**.

Step 5 Set the domain information in **Universe**, ensuring it matches the media server's domain.

Step 6 Click **Send** to complete the configuration between DMX and the media server.

Navigate to **Settings > DMX Binding** to enter the DMX binding interface and assign functions to DMX buttons.

OSC

After enabling OSC input, connect and configure the OSC device.

Step 1 Check **OSC Input** to activate OSC control.

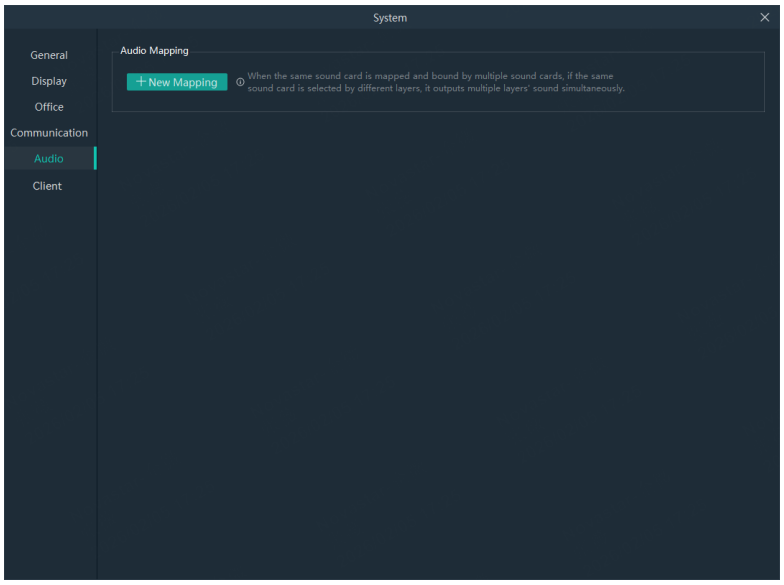
Step 2 Set the input port to match the port in the touchOSC control software (default 8001).

6.1.5 Audio

Sound card mapping refers to creating a mapping relationship between virtual and physical sound cards. One virtual sound card (i.e., sound card mapping) can be bound to multiple physical sound cards, and the same physical sound card can be bound to multiple sound card mappings simultaneously.

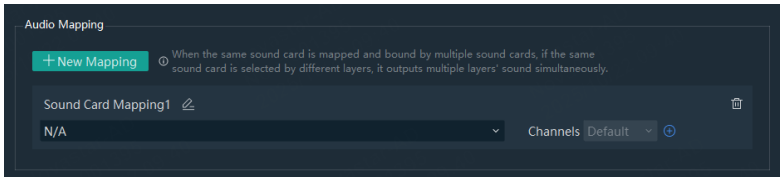
Step 1 Navigate to **Settings > System > Audio** to access the audio settings interface.

Figure 6-5 Audio settings



Step 2 Click **New Mapping** to create a new sound card mapping.

Figure 6-6 Add sound card mappings



Step 3 Click  next to **Sound Card Mapping 1** to rename the sound card mapping.

Step 4 Click the dropdown menu below the sound card mapping to select the corresponding sound card.

Step 5 Select the number of channels for the current sound card in **Channels**.

- Click  on the right to add a sound card to the current mapping and configure its channel count.
- Click  next to an added sound card to delete it.

  Once sound card mapping is configured, select a layer and choose the newly added sound card mapping in the **Sound Card Mapping** option in the layer properties.

  Click  next to **Sound Card Mapping** to delete the added sound card mappings.

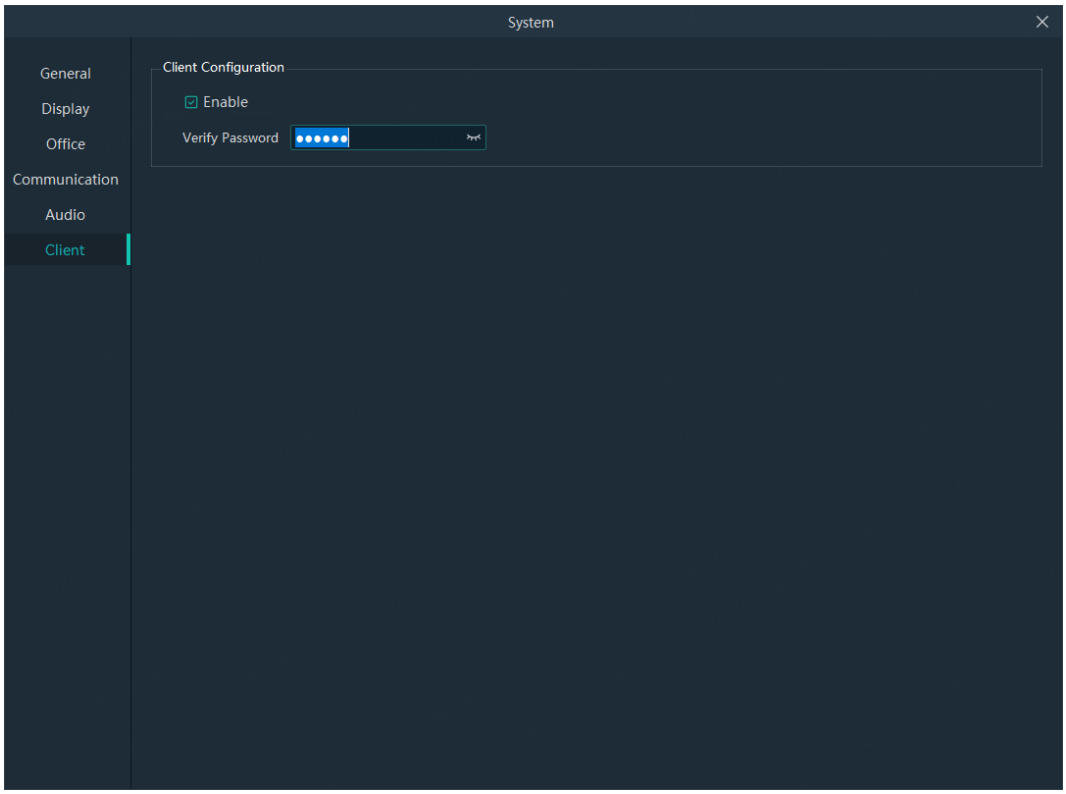
6.1.6 Client

When the management console connects to the client, the connection password is required. The connection will only be successful after the password is verified.

Navigate from the menu bar to **Settings > System**. In the dialog box that appears, select the **Client** tab, where you can enable or disable the verify password and set the connection password.

Click or show or hide the entered content.

Figure 6-7 Client



6.2 Shortcut Binding

The software supports adding custom shortcuts, allowing users to operate it quickly through personalized shortcuts. By navigating to **Settings > Shortcut Binding**, you can access the shortcut binding settings interface, and the function areas where shortcuts can be added will be highlighted.

- Click the target function area, then press the desired letter or number key combination on the keyboard to add the shortcut key.
- After adding the shortcut, navigate to **Settings > Complete Binding** or use the built-in shortcut **Ctrl+Shift+K** to activate the set shortcut and exit the shortcut binding interface.

Note

When setting function shortcuts, the system built-in global shortcuts cannot be used.

For example, set the shortcut for Program 1 to "w".

1. In the shortcut binding interface, click **P 1** to select the program 1.
2. Pressing **W** on the keyboard will display the shortcut on the program 1.

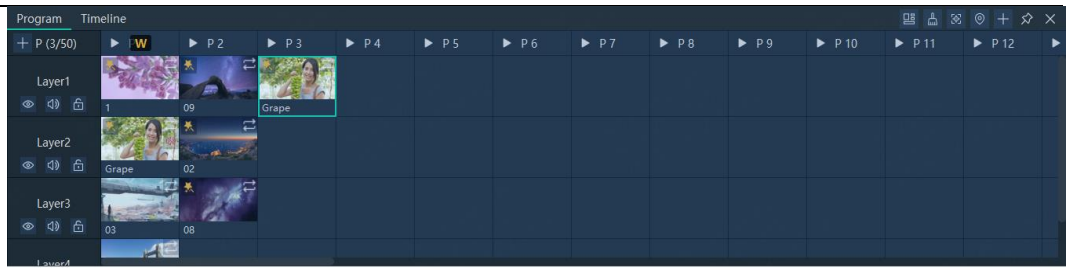


Table 6-1 Built-in shortcuts

Keys	Description
Ctrl+H	The mouse quickly returns to the center of the software interface.
Ctrl + Left/Right arrow keys	In the case of multiple monitors, adjust which monitor displays the main interface.
Arrow keys, PgUp, PgDn	When playing the PowerPoint slides, flip through the slides up and down.

6.3 Configure MIDI and DMX Shortcuts

Prerequisites

- For MIDI control, complete the MIDI configuration in section Communication.
- For DMX control, complete the DMX configuration in section Communication.

Procedure

Step 1 Navigate to **Settings > MIDI Binding** or **Settings > DMX Binding** to enter the MIDI or DMX binding settings interface. The areas where shortcut binding can be applied will be highlighted.

Step 2 Click the highlighted area to select the function to be bound.

Step 3 Press the corresponding button on the MIDI or DMX device panel to complete the shortcut binding configuration.

Step 4 Repeat the above steps to bind additional functions.

6.4 Configure OSC Bindings

Step 1 Ensure the PC has TouchOSC Editor and TouchOSC Bridge installed, and the mobile device has TouchOSC installed.

Step 2 Run TouchOSC Editor and TouchOSC Bridge on the PC.

Step 3 Open TouchOSC on the mobile device.

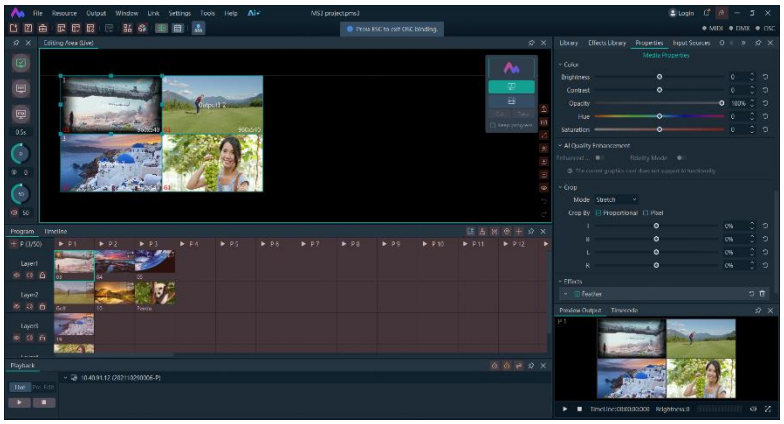
Step 4 In TouchOSC Editor on the PC, design a shortcut keyboard and save it.

Step 5 In Pilot MS3 Pro, navigate to **Settings > OSC Binding** to enable OSC binding.

Highlighted areas for shortcut binding will appear.

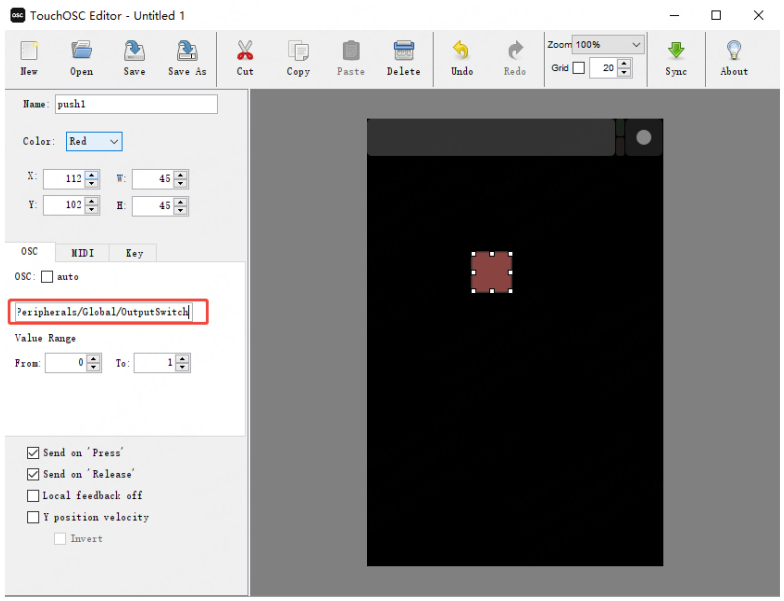
Step 6 Click a highlighted area to select the function to be bound. The **OSC Parameter** will appear in the bottom right corner, and copy the parameter.

Figure 6-8 Select binding functions



Step 7 In TouchOSC Editor on the PC, select the designed shortcut and paste the copied OSC parameter into the corresponding button's URL in the TouchOSC software.

Figure 6-9 OSC parameter settings



Step 8 Repeat steps 6 and 7 to bind additional functions.

Step 9 Sync the designed keyboard from TouchOSC Editor to the mobile device.

Step 10 Open the designed keyboard and input the shortcut to send control commands to Pilot MS3 Pro.

6.5 Clear Shortcut Bindings

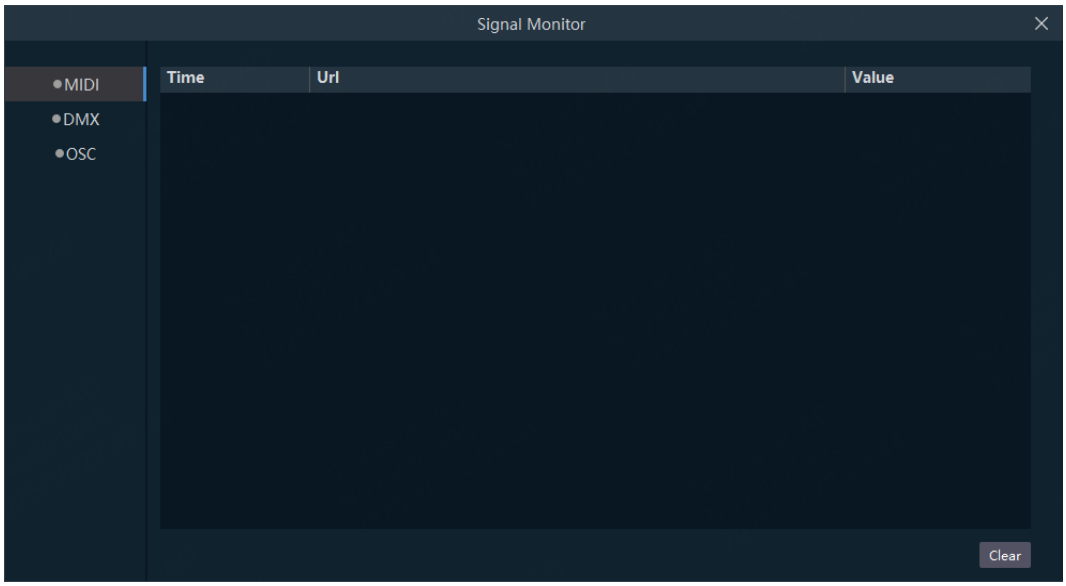
The clear shortcut function allows you to remove all configured shortcuts.

- Navigate to **Settings > Clear Binding > Clear Shortcuts** to delete all keyboard shortcuts at once.
- **Settings > Clear Binding > Clear MIDI** to delete all MIDI shortcuts at once.
- **Settings > Clear Binding > Clear MIDI** to delete all DMX shortcuts at once.

6.6 Signal Monitoring

In the main interface, click **MIDI**, **DMX**, or **OSC** in the upper right corner to enter the signal monitoring interface. Click the peripheral control name on the left to view the execution process of different peripheral control commands, including the time, url and value.

Figure 6-10 Signal monitoring



- Time: The timestamp of peripheral control
- Url: The control command executed
- Value: The final adjusted parameter value

7 Tools

About This Chapter

This chapter introduces you the built-in tools.

Overview

- Playback Control Assistant
- GPU Configuration Assistant
- Port Check
- System Restore
- Log Management
- Export Runtime Log

7.1 Playback Control Assistant

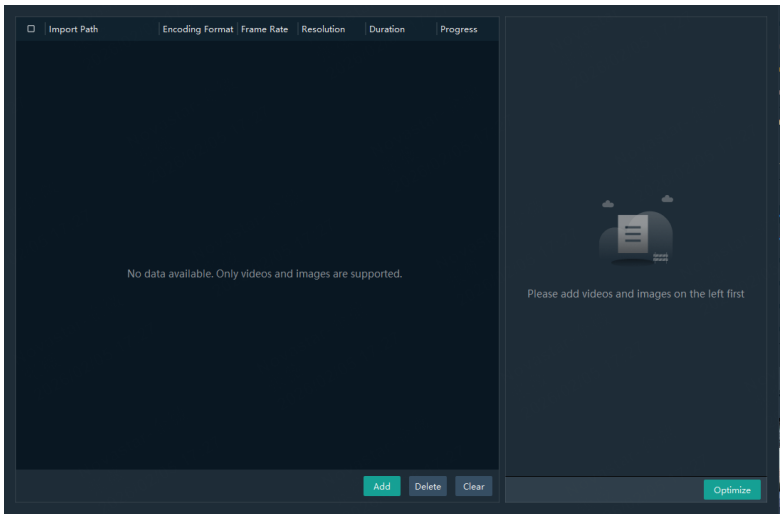
Pilot MS3 Pro supports transcoding, encryption, optimization, cropping, and splitting of videos and images to meet various playback scenario requirements.

Operating Procedure

Step 1 Navigate to **Tools > Playback Control Assistant** to access the interface.

Step 2 In the window shown below, click **Add** at the bottom or click the icon in the middle area.

Figure 7-1 Playback control assistant



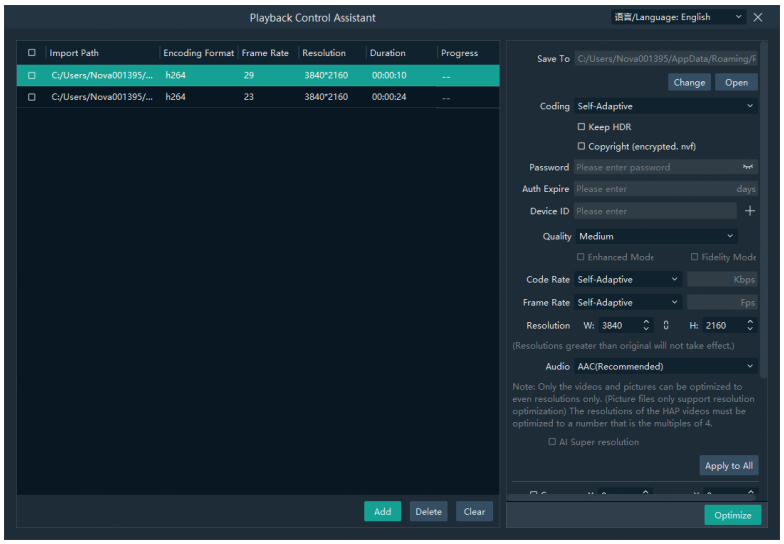
Note

At the top right corner, you can switch the preferred language.

Step 3 In the dialog box, select video or image files and click **Add**, or drag and drop selected files into the file list.

To delete a specific file, select it and click **Delete**. To clear the entire list, click **Clear**.

Figure 7-2 File list



Step 4 Click to select the video or image you wish to transcode.

Step 5 On the right side, click **Change**. In the new dialog, select the output path for the files and click **Change**.

Step 6 Configure the transcoding parameters for the image or video as needed.

Table 7-1 Image transcoding parameters

Name	Description
Coding	The image encoding format When set to **Self-Adaptive**, the original image encoding is used.
Quality	The image quality
Resolution	The image resolution, which must be an even number

Table 7-2 Video transcoding parameters

Name	Description
Coding	The video encoding format • When set to **Self-Adaptive**, the original image encoding is used. • If set to **hap**, the related parameter **Keep Alpha Channel** appears.
Keep Alpha Channel	Configure how to handle the source video's alpha channel. This parameter is available only when **Coding** is set to **hap**. • Checked: Keep the alpha channel from the source video. • Unchecked: Discard the alpha channel, and the system fills it automatically.
Keep HDR	Configure how to handle the source video's HDR data.

Name	Description
	• Checked: Keep the HDR data. • Unchecked: Discard the HDR data, converting the video to SDR.
Copyright	The copyright protection strategy • Checked: Encrypt the video into an .nvf file, playable only in Pilot MS3 Pro. Parameter priority (high to low): Device ID > Auth Expire > Password. Password: Set a video password. Playback requires password verification. Auth Expire: Set a valid duration. Videos expire afterward. Device ID: Enter a device ID (found via Help > Device ID). Limits playback to the specified device. • Unchecked: No encryption is applied.
Quality	The image quality
Code Rate	The video bitrate • Self-Adaptive: Match the source video's bitrate. • Custom: Use a user-defined bitrate.
Frame Rate	The video frame rate • Self-Adaptive: Match the source video's frame rate. • 24/30/60: Convert to 24 Hz, 30 Hz, or 60 Hz. • Custom: Use a user-defined frame rate.
Resolution	The video resolution, which must be an even number or a multiple of 4 if **Coding** is **hap**
Audio	Configure how to handle the video's audio track. • AAC: Encode audio to AAC format. • Copy: Copy the original audio stream without re-encoding. • No Audio: Remove all audio.

Step 7 Click **Apply to All** to use the current parameter settings for all images/videos in the file list for a quick, batch setup. If not needed, just skip this step.

Step 8 Configure the following parameters as needed.

- Crop: Enable cropping and define the starting position and size (width/height) of the crop area.
- Split: Enable splitting and set the number of rows and columns to divide a single video/image into multiple parts.
- Enable GPU Acceleration: once enabled, uses the GPU to speed up the transcoding process.

Step 9 After configuring all parameters, click **Optimize**. Upon completion, a checkmark will appear in the **Progress** column, and the converted files will be saved to the output path automatically.

Step 10 Click **Open** below the output path to access the transcoded files.

7.2 GPU Configuration Assistant

For NVIDIA professional graphics cards, this assistant supports resolution settings, EDID management, connector mosaic, as well as viewing graphics card information and authorization status. Users don't need to open third-party tools, and they can directly complete graphics card-related operations through our software.

7.2.1 Configure Resolution

Customize the resolution and frame rate for the GPU's output connectors. Supports modifying settings individually or in bulk. Setting the resolution of the mosaic monitor is not supported.

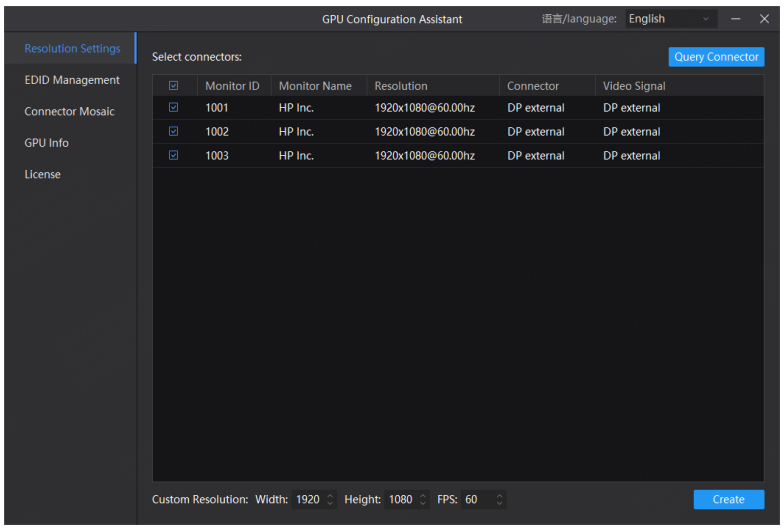
Step 1 Navigate to **Tools > GPU Configuration Assistant** to open its dialog box.

Step 2 In the **Resolution Settings** tab, select one or multiple connectors.

The software will automatically query and display the connector information. If you need to retrieve the information again, you can click **Query Connector**.

Monitors that are in a mosaic state are not shown in the list. Only the mosaic monitors are shown. In the **Monitor Name** column, a mosaic monitor refers to the mosaic monitor, and Mosaic-n is the monitor identifier.

Figure 7-3 Configure resolution



Step 3 Set the target connector resolution and frame rate, and click **Create**.

The target resolution must be set to a resolution supported by all selected connectors. If the connector does not support the target resolution, setting failures or black screens may occur.

7.2.2 Manage EDID

Navigate to **Tools > GPU Configuration Assistant** to open its dialog box. Select the **EDID Management** tab to perform the operation as needed.

Note

For NVIDIA graphics cards, the driver version must be 531 or later.

Export EDID

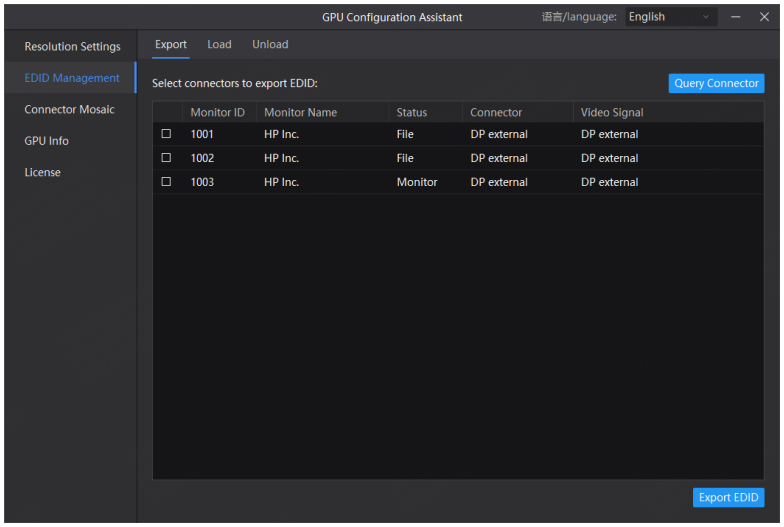
Save the EDID as a .txt file to a specified path. Exporting the EDID of the mosaic monitors is not supported.

Step 1 Select the **Export** tab.

The software will automatically query and display the connector information. If you need to retrieve the information again, you can click **Query Connector**.

In the query result, a **File** status indicates the connector has an EDID loaded. In the **Monitor Name** column, Mosaic-n is the monitor identifier.

Figure 7-4 Export EDID



Step 2 Select the connectors and click **Export EDID**.

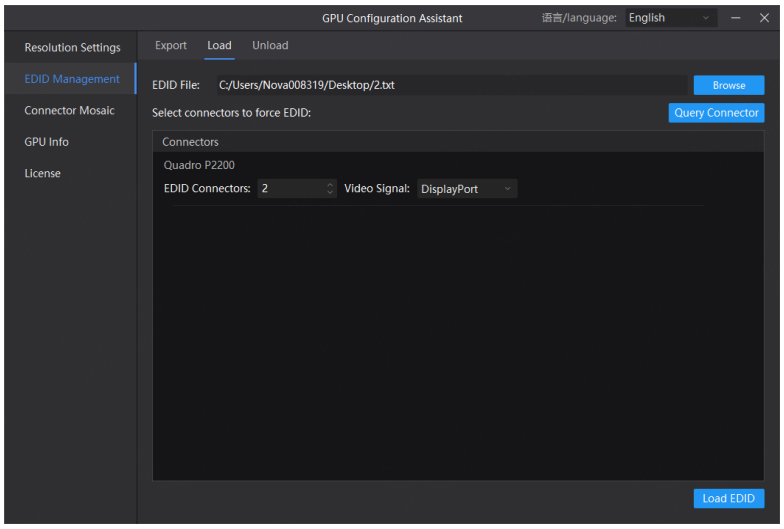
Step 3 In the dialog box that appears, select the export path and click **Save**.

Load EDID

The EDID is loaded by default to the connector located closer to the front in physical position. Please prepare the EDID file before loading. If you need to load to a specified connector, you can load the EDID in NVIDIA Control Panel.

Step 1 Select the **Load** tab.

Figure 7-5 Load EDID



Step 2 Click **Browse**, select the EDID file in the dialog box, and click **Open**.

Step 3 Click **Query Connector** to query the connector EDID information.

Step 4 Set the number of target connectors and the video signal type, then click **Load EDID**.

1 ≤ Number of EDID connectors must be ≤ Number of physical connectors

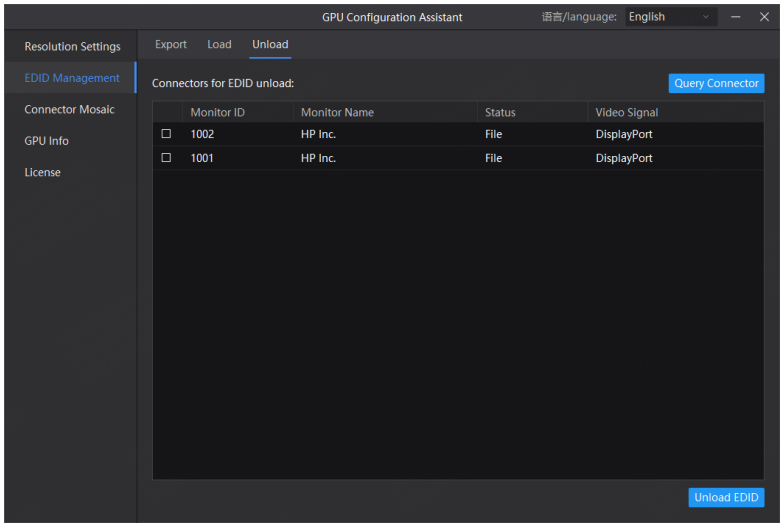
Unload EDID

Restore the EDID to factory defaults for connectors, whether the EDID was loaded via this assistant or a third-party tool.

Step 1 Select the **Unload** tab.

The software will automatically query and display the connector information. If you need to retrieve the information again, you can click **Query Connector**.

Figure 7-6 Unload EDID



Step 2 Select the connectors and click **Unload EDID** to restore factory settings.

7.2.3 Configure Connector Mosaic

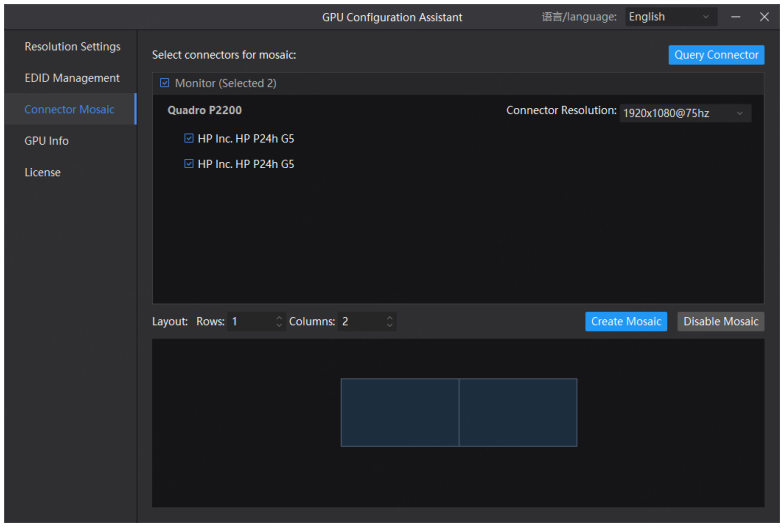
Output connectors of the same type on a GPU support mosaic on a single large display surface. The mosaic can be within a single GPU or across multiple GPUs.

Step 1 Navigate to **ToolsGPU Configuration Assistant** to open its dialog box.

Step 2 Select the **Connector Mosaic** tab and click **Query Connector** to query connector information.

- If multiple graphics cards are detected, options for Internal GPU and Cross GPU will appear.
- If a single graphics card is detected, **Internal GPU** is used by default.

Figure 7-7 Query connectors



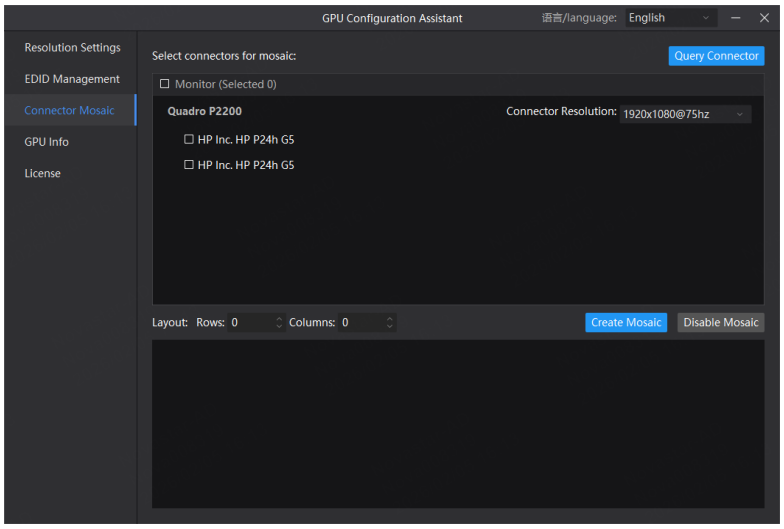
Step 3 Select the connectors to be mosaicked and select the target resolution from the dropdown menu.

- For the internal GPU mosaic, if configuring one graphics card, select all its desired connectors. For the cross-GPU mosaic, the number of selected connectors must be identical for each graphics card.
- The connector resolution applies to all selected graphics card. In cross-GPU mosaic, the resolution is determined by the first graphics card selected.

Step 4 Set the grid layout (rows x columns) and click **Create Mosaic**.

The product of rows and columns must be less than or equal to the number of selected connectors.

Figure 7-8 Create mosaic



Note

To remove the mosaic, click **Disable Mosaic**.

7.2.4 View GPU Information

View the graphics card details, such as name, driver version, memory capacity, temperature, and power consumption.

Step 1 Navigate to **Tools > GPU Configuration Assistant** to open its dialog box.

Step 2 Select the **GPU Info** tab and click **Query GPU** to query GPU information.

Figure 7-9 GPU info

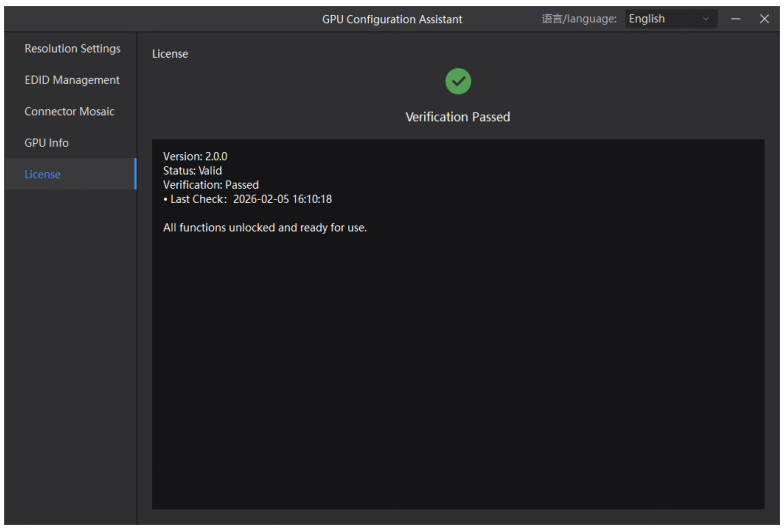
7.2.5 View License Status

This assistant is fully functional after the software is successfully licensed.

Step 1 Navigate to **Tools > GPU Configuration Assistant** to open its dialog box.

Step 2 Select the **License** tab to view the tool's authorization status.

Figure 7-10 License management

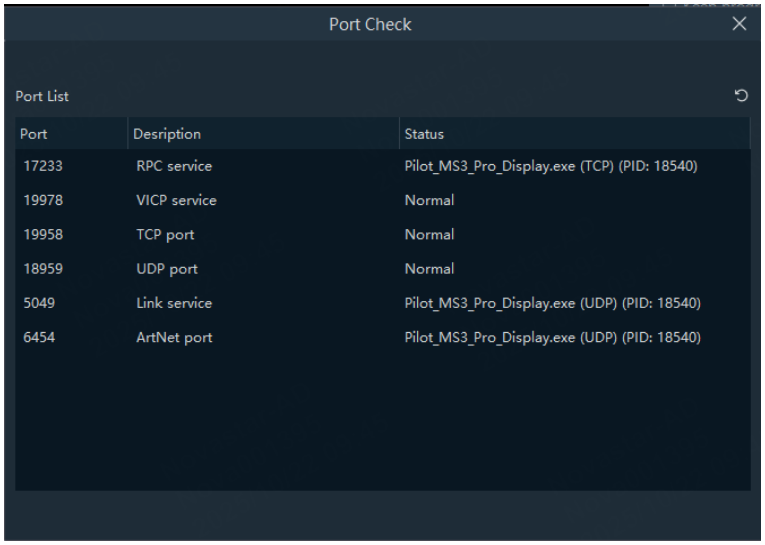


7.3 Port Check

The port check tool is used to scan and query the port information of Pilot MS3 Pro.

Navigate to **Tools > Port Check** to enter the port check interface and view the port details of the software.

Figure 7-11 Port check



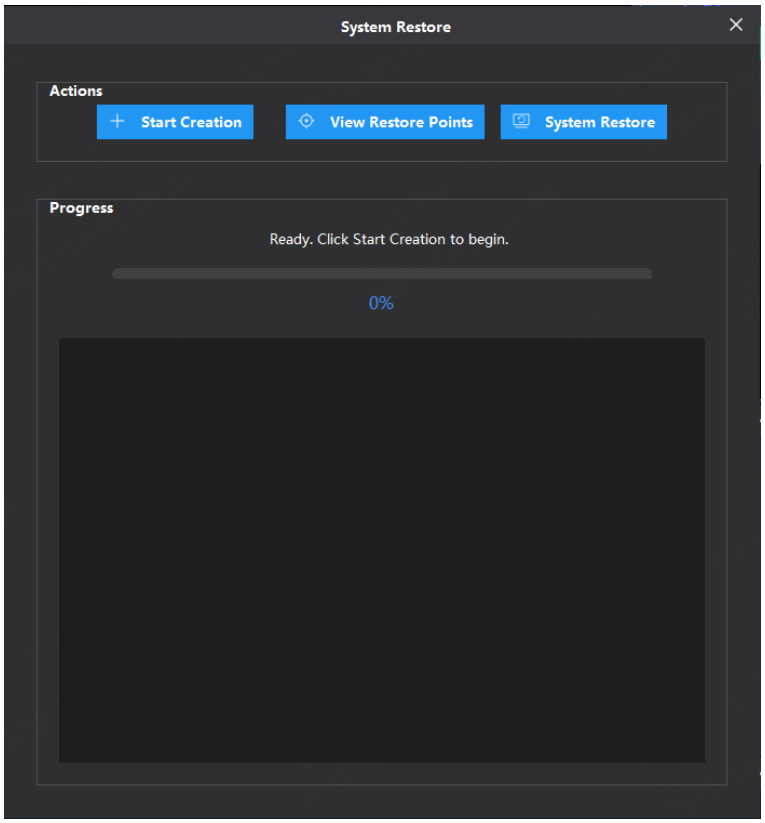
TCP and UDP ports can be modified and configured in the **Settings > System > Peripheral**.

7.4 System Restore

This feature allows you to create a system restore point, enabling quick system recovery at a later time.

Step 1 Navigate to the menu bar and select **Tools > System Restore**.

Figure 7-12 System restore



Step 2 In the dialog box that appears, perform one of the following operations as needed.

- Create restore points

  Click **Start Creation** and wait for the process to complete.

- View restore points

  Click **View Restore Points** to display a list of existing restore points in the text box.

- Restore system

  Click **System Restore**. In the Windows System Restore dialog that opens, follow the on-screen instructions to select a restore point and complete the restoration process.

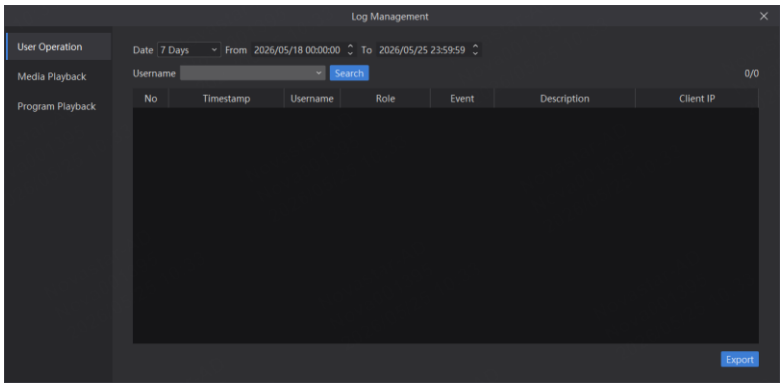
7.5 Log Management

Pilot MS3 Pro supports querying and exporting user operation logs, media playback logs, and program playback logs. This operation requires that in **Settings > System**, the options **User Operation**, **Media Playback**, and **Program Playback** are selected.

Step 1 Navigate to **Tools > Log Management** to open the interface.

Step 2 In the pop-up dialog box, select **User Operation**, **Media Playback**, or **Program Playback**.

Figure 7-13 Log management



Step 3 From the **Date** dropdown, select a preset log query time range, or customize the query time range.

When the log query time range exceeds the **Log Storage** time set in **Settings > System**, the query results can only display logs for the time period corresponding to the log storage time.

Step 4 Select a username from the drop-down list, enter the media name, or enter the program name.

Step 5 After setting the query conditions, click **Search** and view the query results.

Step 6 If you need to export logs, click **Export** to export the logs to the specified path; otherwise, this step is not required.

7.6 Export Runtime Log

Export the software's runtime logs to facilitate troubleshooting and issue diagnosis.

Step 1 Navigate to the menu bar and select **Tools > Export Runtime Log**.

Step 2 In the dialog box that appears, select the desired export path and click **OK**.

8 Help

About This Chapter

This chapter introduces you the software-related and company-related information that may help you during the use.

Overview

- User Manual
- Language
- Device ID
- About Us

8.1 User Manual

Navigate to **Help > User Manual**. In the pop-up window, scan the QR code or click the link to get the software user manual.

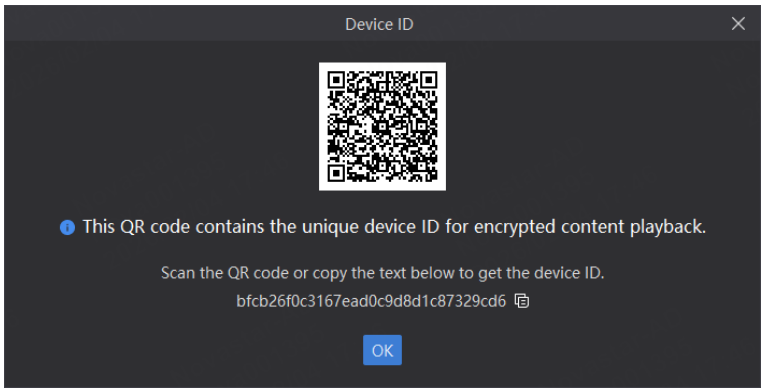
8.2 Language

Navigate to **Help > 语言/Language** to switch the software UI language.

8.3 Device ID

Navigate to **Help > Device ID** to obtain the device identification code. In the dialog box that appears, scan the QR code to retrieve the device ID, or click to copy it to the clipboard.

Figure 8-1 Device ID



8.4 About Us

View the software version, license duration, licensing agreement, and more information.

9 AI Assistant

About This Chapter

This chapter introduces you the AI Assistant.

Overview

- AI Assistant
- Register Account
- Log In Account
- AI Assistant Operations

9.1 AI Assistant

AI Assistant is a versatile AI tool providing accurate AI chat services to quickly answer questions and offer software operation guidance. Additionally, it allows users to generate personalized images by entering prompts, selecting image ratios, and styles. The integrated web search feature enables users to access real-time internet information, catering to diverse needs.

Prerequisites

- You have completed the software authorization.
- You have logged in the software.

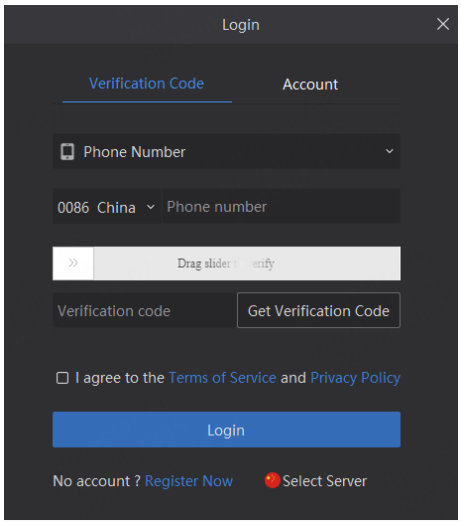
Limitations

- Each account is limited to 100 AI chat operations and 10 image generation operations per day.
- Only one image is generated per operation, consuming one image generation count.

9.2 Register Account

Step 1 Click **Cloud Account** at the top right to open the login window.

Figure 9-1 Login window

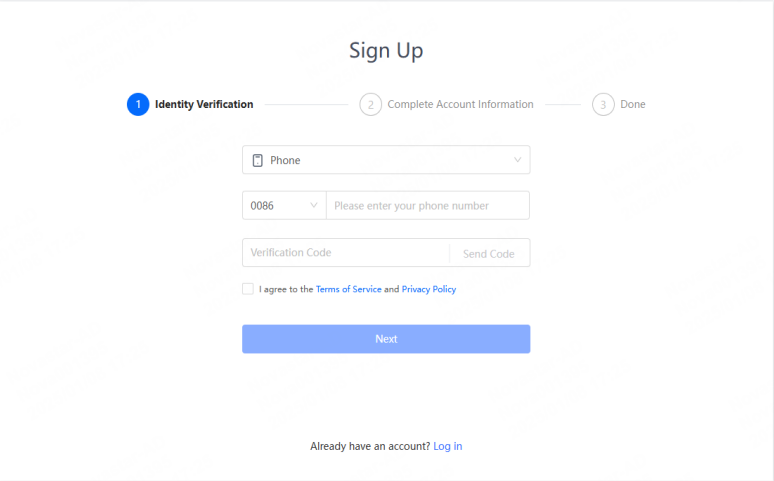


Step 2 Click **Select Server** to enter the server selection interface.

Step 3 Choose a server node, then click **OK**.

Step 4 Click **Register Now** to enter the registration interface.

Figure 9-2 VNNOX registration



Step 5 Choose the registration method. The options include **Phone** and **Email**.

Step 6 Enter your phone number or email.

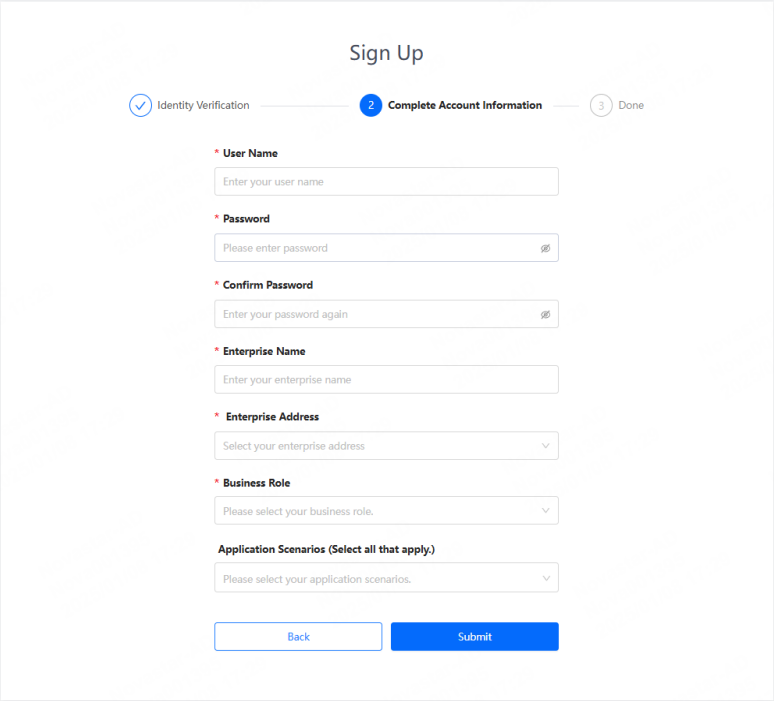
Step 7 Check **I agree to Terms of Service and Privacy Policy**.

Step 8 Click **Send Code** and complete the slider verification in the pop-up.

Step 9 Enter the received verification code into the text box.

Step 10 Click **Next** to enter the **Complete Account Information** interface.

Figure 9-3 Complete account information

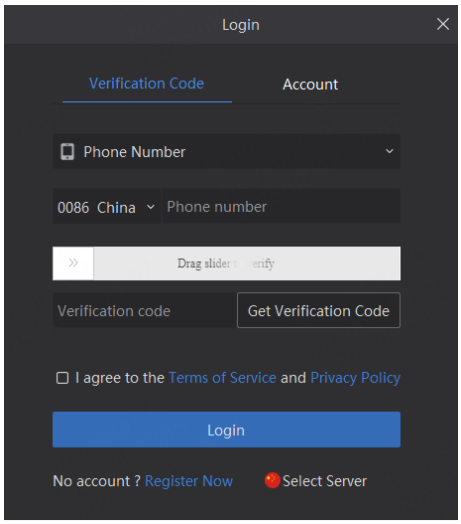


Step 11 Fill in the user name, password, and enterprise information, then click **Submit** to complete registration.

9.3 Log In Account

Step 1 Click **Cloud Account** at the top right to open the login window.

Figure 9-4 Login interface



Step 2 Click **Select Server** to enter the VNNOX server selection interface.

Step 3 Choose a server node, then click **OK**.

Step 4 Click **Verification Code** or **Account** to select login method.

Step 5 Enter the account information.

For verification code login, after entering your email, drag the slider to the far right and get a code, and then enter the received code into the text box on the left.

For account login, after entering your user name and password, drag the slider to the far right to complete verification.

Step 6 Check **I agree to the Terms of Service and Privacy Policy**.

Step 7 Click **Login** to enter the device authorization verification interface.

Step 8 Drag the slider to the far right to receive the verification code by email or phone.

Step 9 Enter the received verification code in the text box.

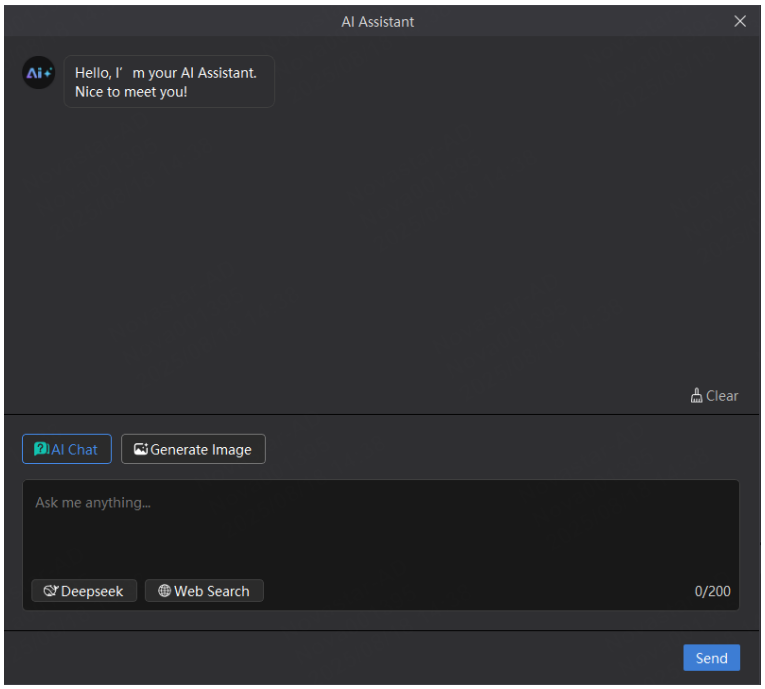
Step 10 Click **OK** to complete the login.

9.4 AI Assistant Operations

9.4.1 AI Chat

Step 1 Click Ai to open the **AI Assistant** interface.

Figure 9-5 AI assistant



Step 2 Click **AI Chat** to select the AI Q&A function.

Step 3 Enter your question in the text box below.

To ensure accurate answers, it is recommended to ask specific, clear, and unambiguous questions with sufficient context. A maximum of 200 characters is supported.

Step 4 Set the AI thinking mode, supporting **DeepSeek** and **Web Search** modes.

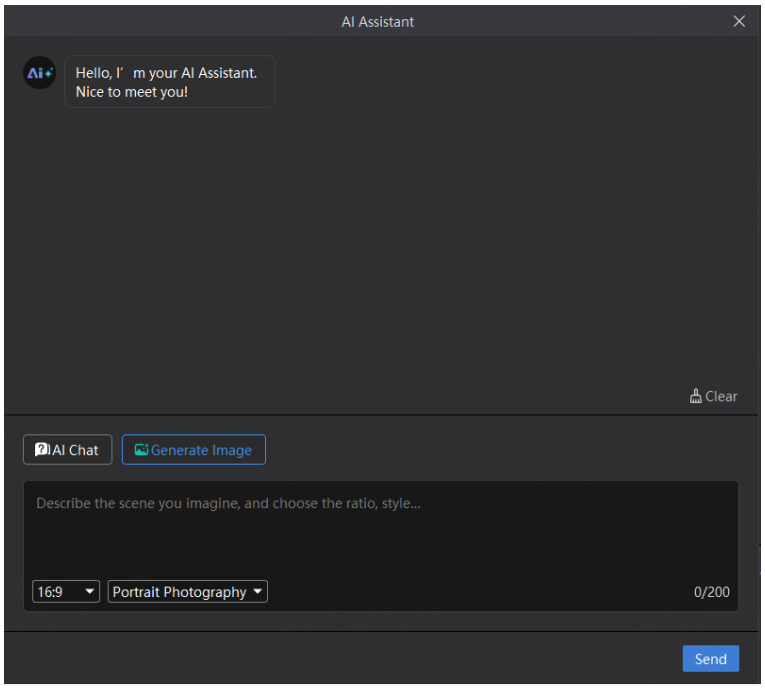
- DeepSeek:
  - On: If the user's question is not found in the current product knowledge base, the system will use the DeepSeek model to provide suggestions.
  - Off: If the user's question is not found in the current product knowledge base, the system will use the default model to provide suggestions.
- Web Search:
  - On: Web search is enabled, and the system will search the internet based on the user's question to provide suggestions.
  - Off: The system will not perform a web search and will rely on the current product knowledge base and the selected large model for reasoning.

Step 5 Click **Send** to let the system process the question and provide an answer.

9.4.2 Image Generation

Step 1 In the **AI Assistant** interface, click **Generate Image** to enable the text-to-image function.

Figure 9-6 Image generation



Step 2 Enter the basic requirements for the image in the text box below.

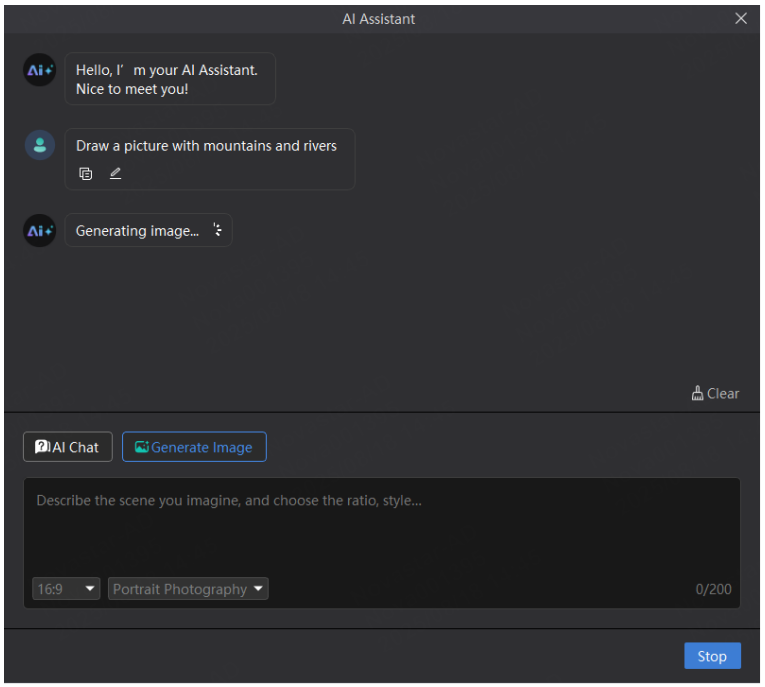
When using AI to generate images, please provide clear and detailed text descriptions, including the theme, details, style, emotion, and any specific requirements, to help the AI accurately understand and create images that meet expectations. A maximum of 200 characters is supported.

Step 3 Select the desired image aspect ratio from the default **16:9** options.

Step 4 Select the desired image style from the default **Portrait Photography** options.

Step 5 Click **Send** to let the system generate an image based on the input text. Only one image is generated per operation.

Figure 9-7 Generate images

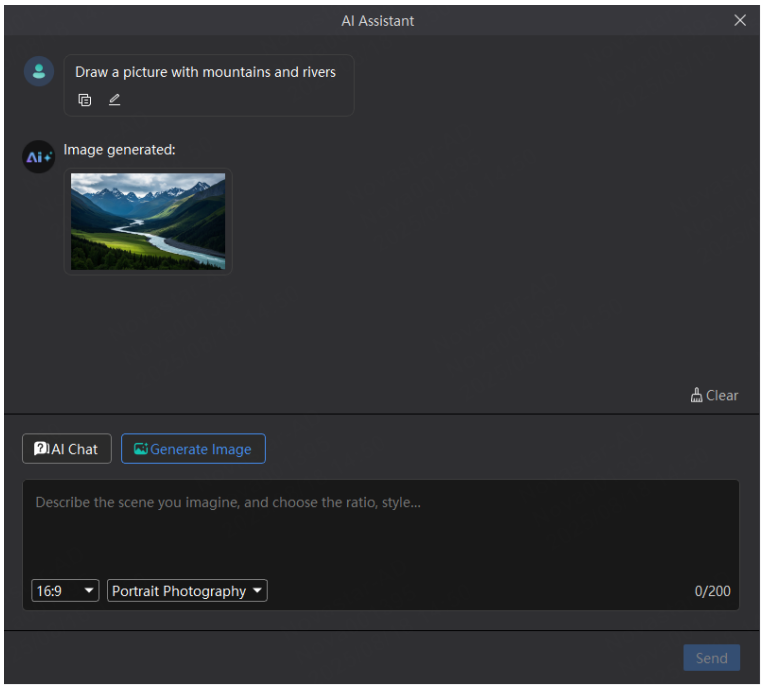


If generation is not needed, click **Stop**.

9.4.3 View and Download Images

After the image is generated, hover over the image to display the image tools.

Figure 9-8 View images



- : Click to zoom in the image, and click **Download Image to Media Library** to save the generated image to the media library.
- : Click to download the generated image directly to the media library.
- : Click to automatically fill the description used to generate the image into the text box below, allowing for modifications and regeneration.

9.4.4 More Operations

- Copy: Copy the question or AI result.
- Edit: Fill the description used to generate the image into the text box below.
- Try Again: If no result is received, click **Try Again** to reattempt the question.
- Clear: Clear all information in the dialog box.

10 Message Center

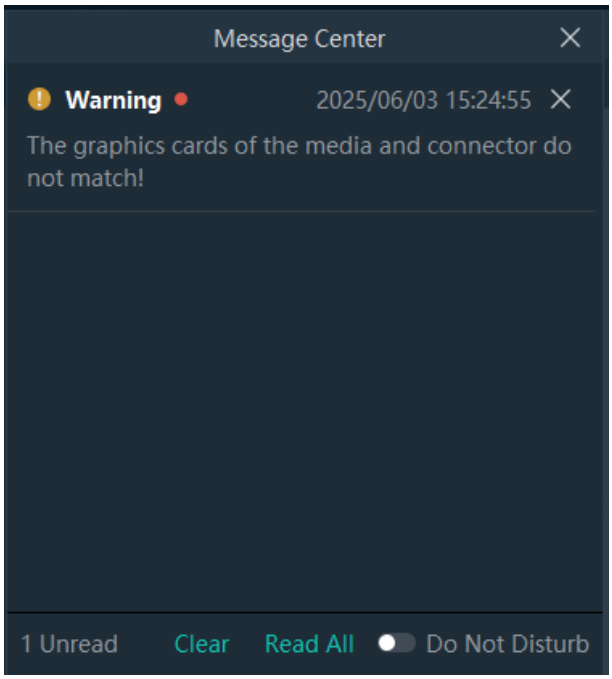
The system will provide alarms or messages in **Message Center**.

- Upon opening the project, the system will verify the status of the EDID lock and sync card, issuing an immediate warning in the message center if any issues arise.
  - If the EDID is not locked, click **Lock** on the right of the message, and the system will lock the device EDID using the EDID shortcut tool.
  - If not synchronized, clicking **Sync** on the right of the sync message will direct the system to the graphics card control panel for synchronization settings.
- While the software is in running, the system will continuously monitor the usage of CPU, GPU, and memory. If usage reaches or exceeds 85% for 30 consecutive seconds, an alert will be issued.

  In the event of an abnormal graphics card usage alert, clicking **View** on the right of the alert will navigate to the **Task Manager** to examine and address the abnormal processes.
- If the media materials in the network path added on the primary device cannot be accessed by the client, a corresponding message will appear in the device's message center.
- When the software has been running continuously for two months, a corresponding message will appear in the message center.

Click  at the top right corner to open the **Message Center** interface.

Figure 10-1 Message center



- Clear: Clear all messages.
- Read All: Set all messages as read.
- Do Not Disturb: Toggle message notifications on or off. When enabled, the system will not display message alerts, but will log them in the message center.
- ✕ : Click the icon next to each message to delete it. Click ✕ next to **Message Center** to close the message center window.

11 User Settings

Overview

- Lock User Interface
- Manage Local Users

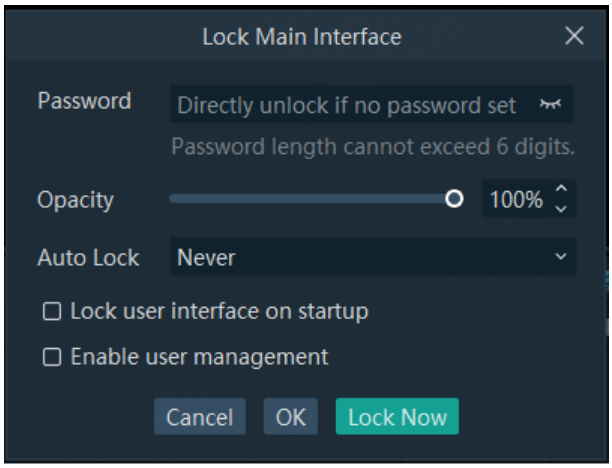
11.1 Lock User Interface

Locking the user interface prevents unauthorized access to the editing environment, particularly when the operator is away.

Step 1 Click  at the top right of the main interface.

Step 2 In the pop-up dialog box, set the password to unlock the screen after it is locked. Click  or  to show or hide the characters you entered.

Figure 11-1 Lock user interface



Step 3 Adjust the opacity of the lock screen.

An opacity setting of 100% means it is completely opaque, obscuring the editing interface and showing only the lock screen background.

Step 4 Select the timed lock duration from the drop-down options, which determines how long the system can remain inactive before it automatically locks the screen.

If **Never** is selected, the screen will not lock automatically no matter how much time passes.

Step 5 Decide whether to lock the user interface upon software launch.

- Select **Lock user interface on startup** to default to the lock screen when the software starts up.
- Deselect it to display the main software interface after startup.

Step 6 Click **OK** to save the settings. If **Lock Now** is clicked, the system will enter the lock screen and save the settings.

Note

If the password is forgotten, please contact our technical support engineer for assistance.

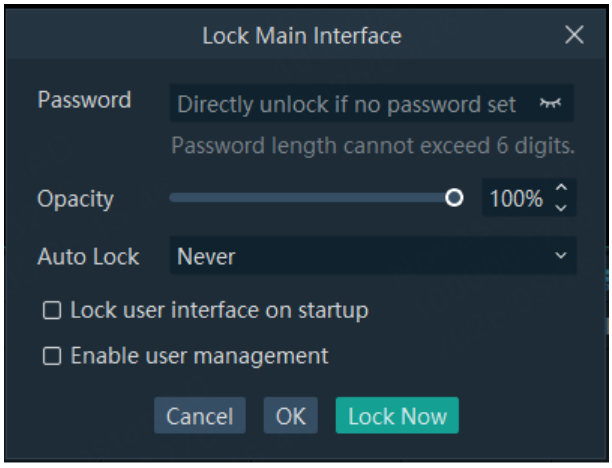
11.2 Manage Local Users

The software automatically creates an admin user, who is the Super Administrator. This account has user management privileges, including adding users (up to 20), modifying usernames and passwords, and assigning functional operation permissions. When the main interface is locked, logging in with a different user grants the functional permissions associated with that account.

Step 1 Click the icon in the top-right corner of the main interface.

Step 2 In the dialog box that appears, check the box for **Enable local user management**.

Figure 11-2 Lock main user interface



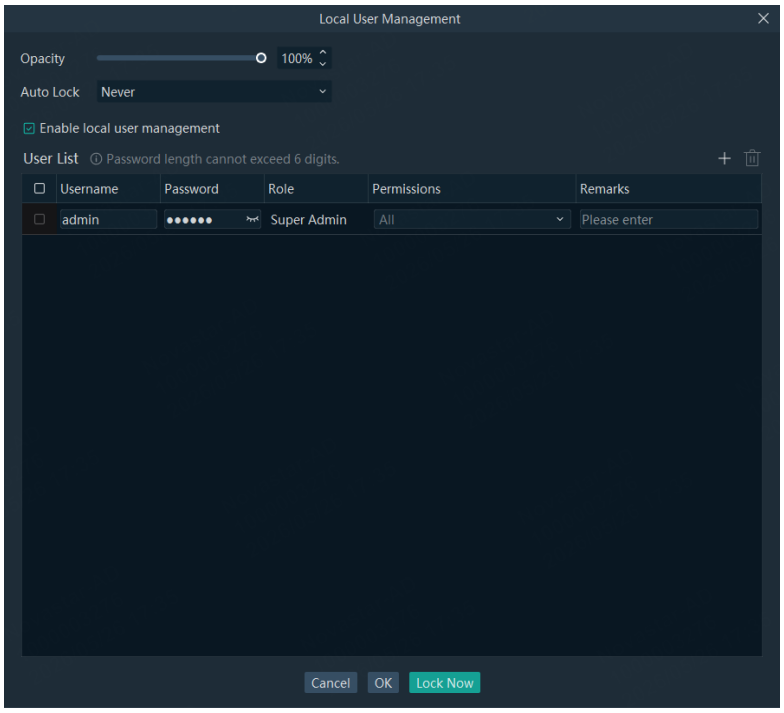
Step 3 In the **Local User Management** dialog box, perform the corresponding operation as needed.

- Add users
  - Click  to add a standard user, and set the username, password, and functional operation permissions.
  - Click  to show or hide the entered characters.
  - A  icon in front of a permission name indicates it is assigned; the absence of  indicates it is not assigned.
- Modify users

  In the user list, modify the target user's username, password, and functional operation permissions as needed.
- Delete users

  Select the users and click  .

Figure 11-3 Local user management



Step 4 Click **OK** to save the settings. Clicking **Lock Now** will lock the screen and simultaneously save the settings.

12 Other Control Options

About This Chapter

This chapter introduces you alternative methods for controlling the software.

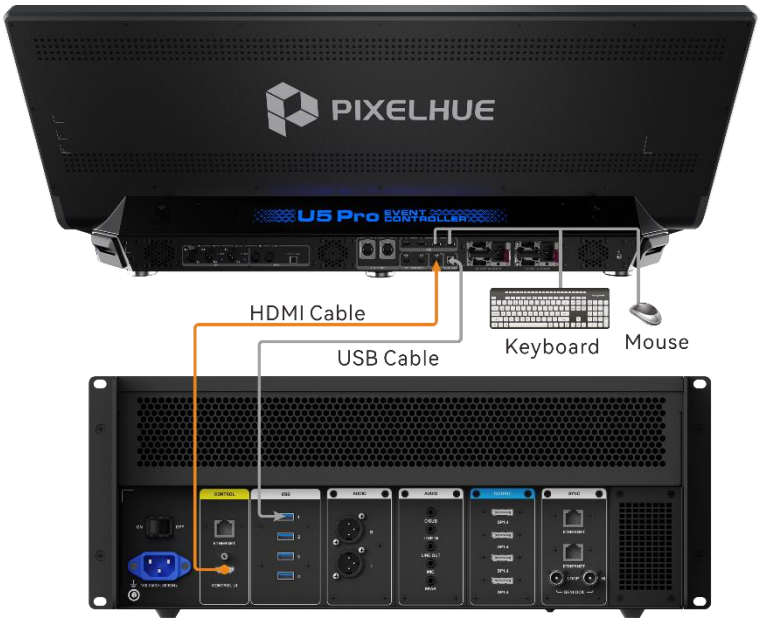
Overview

- Event Controller Control
- Management Console

12.1 Event Controller Control

The Pilot MS3 Pro supports control via an event controller, where the event controller's screen serves as the editing interface for Pilot MS3 Pro.

Control Connections



- Video cable: Connect the **CONTROL UI** connector of the media server to the event controller's input connector with a video cable for displaying the software editing interface.
- USB cable: Use a USB Type-B to Type-A cable to connect the event controller and the media server.
  - Connect USB Type-B to the KVM connector on the event controller.
  - Connect USB Type-A to the media server's USB connector.
- Keyboard and mouse connections: Connect the mouse and keyboard to the USB connectors of the event controller.

Event Controller Operations

In the event controller's **FUNCTION** area, briefly press the **MVR** or **MEDIA** button, and the corresponding button lights turn green. At this time, the event controller screen functions as the editing interface for Pilot MS3 Pro.

Move the mouse to the editing interface to begin editing.

Note

Control methods vary depending on the event controller. Please refer to the specific event controller user manual for detailed instructions.

12.2 Management Console

The management console is designed for centrally managing multiple multimedia playback and control software instances within a local area network. It enables operators to manage multiple screens simultaneously and perform one-click control of all displays. Any playback and control software on the same LAN can act as the management console, actively discovering and connecting to other instances (or clients).

Prerequisites

The management console and all clients must be on the same LAN with normal network communication.

Notes

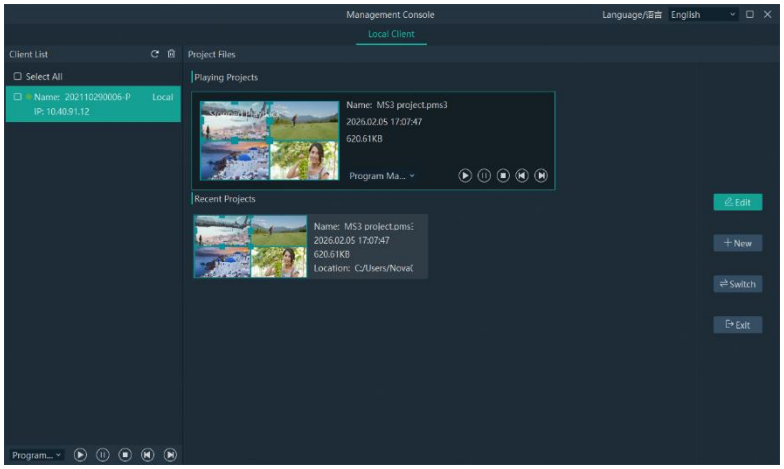
- A single client can be discovered by multiple management consoles, but can only be connected to by one management console.
- If a client's device operates in a primary/backup mode, the management console will only take over the client on the primary device.
- The management console requires significant disk space to store project files and associated media assets.

Operating Procedure

Step 1 On the software startup interface, click **Console** on the right, or click the management console icon in the main interface's toolbar.

Step 2 In the management console dialog box, locate and select the target clients you wish to manage from the client list, identifying them by name and IP address.

Figure 12-1 Management console



The console will automatically detect clients in the local area network and display them in the client list. On the right side of the name, **Local** indicates the local client used as the management console.

Connection statuses:

- : Not connected

- : Connected
- : Offline

Related actions:

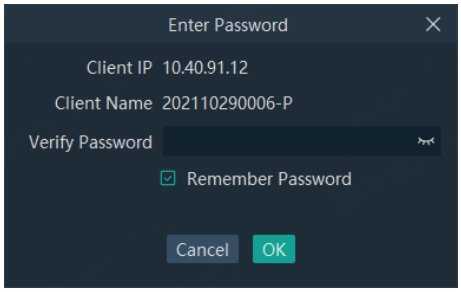
- Rename clients: Right click the client, and select **Rename** from the pop-up menu. Enter a new name in the text box and press the Enter key, or click anywhere else in the interface.
- Refresh list: Click to retrieve the client information in the local area network again.
- Delete clients: Select the connected clients and click to remove them from the list and disconnect them from the management console. Select a client in the list and press the Delete key to delete the client. The software does not support deleting the local client.

Note

- The interface language can be switched via the dropdown in the top-right corner of the dialog.
- Right click the client to pop up the context menu and you can select to connect, rename, refresh or delete.

Step 3 Click , enter the password and click **Connect**.

Figure 12-2 Enter password



Navigate from the menu bar to **Settings > System**. In the dialog box that appears, select the **Client** tab, where you can enable or disable the verify password and set the connection password.

Click or show or hide the entered content.

For a client that has been taken over, its interface will display **Connected to Management Console**.

Step 4 Perform the following operations as needed.

- Control playback state

Select the scope of control from the dropdown, then click the function icons (Play, Pause, Stop) to control playback. This supports batch operations on multiple selected clients.

- Edit projects

  Select a project, click **Edit** to enter the client's project operation interface.

- Create new projects

  Click **New** to create a new project.

- Switch projects

  Select a project from the list and click **Switch** to change the client's currently playing project to the selected one.

Step 5 After client management ends, click the close button. In the pop-up dialog box, check or uncheck **Disconnect all connections simultaneously**, and click **OK**.

- Checked: Closing the dialog box will simultaneously disconnect all connections to the clients.
- Unchecked: When the dialog box is closed, the console will maintain its connections to the clients. After reopening the dialog box, you can continue to manage the client without re-entering the connection password.

Related Operations

After the client is taken over, if you need to disconnect from the management console, you can perform any of the following operations:

- Click **Disconnect from Console** in the client interface.
- On the desktop taskbar, right click  and select **Show Main Window** from the pop-up menu. In the pop-up dialog box, click **Disconnect from Console**.

13 Graphics Card Mosaic

About This Chapter

This chapter helps you to configure the graphics card mosaic function.

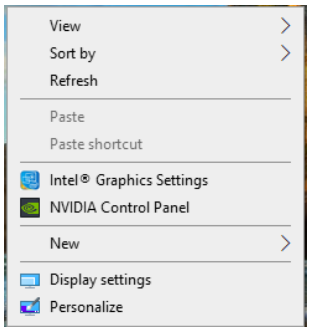
Overview

- Set Main Display
- Change Resolutions
- EDID Management
- Output Mosaic

13.1 Set Main Display

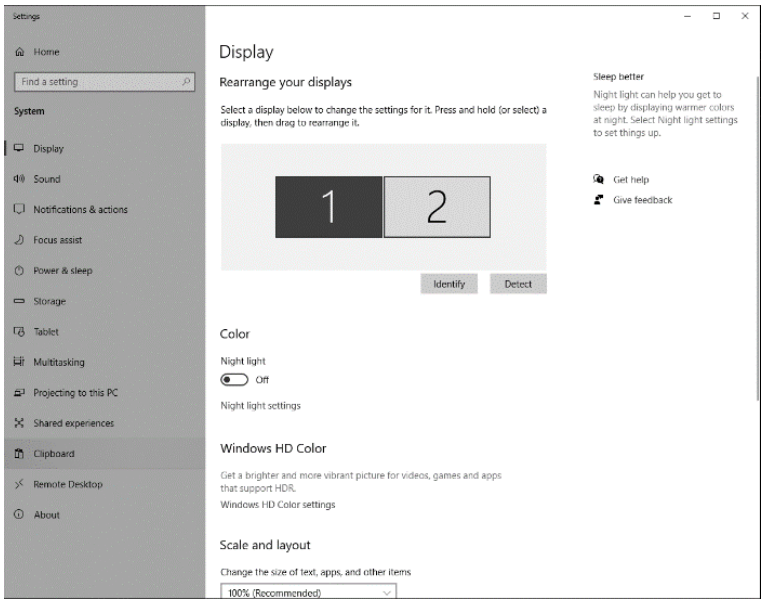
Step 1 Right click on your desktop and select **Display settings**.

Figure 13-1 Display settings



Step 2 Select a display to set it as the main display.

Figure 13-2 Multiple displays-1

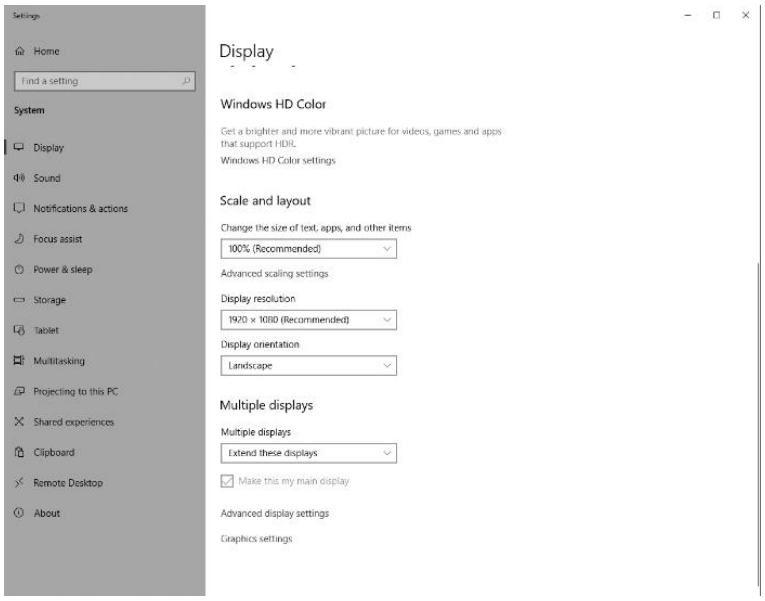


Note

When multiple displays are connected, you can click **Identify** to show the number at the bottom left corner on each display.

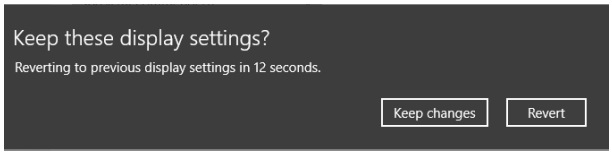
Step 3 For the **Multiple displays** item, select **Extend these displays**.

Figure 13-3 Multiple displays-2



Step 4 On the window that appears, select **Keep changes**.

Figure 13-4 Confirmation



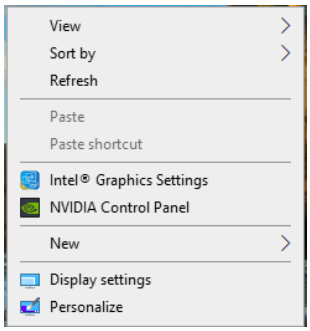
Step 5 Check the box next to **Make this my main display**.

13.2 Change Resolutions

13.2.1 Set Standard Resolutions

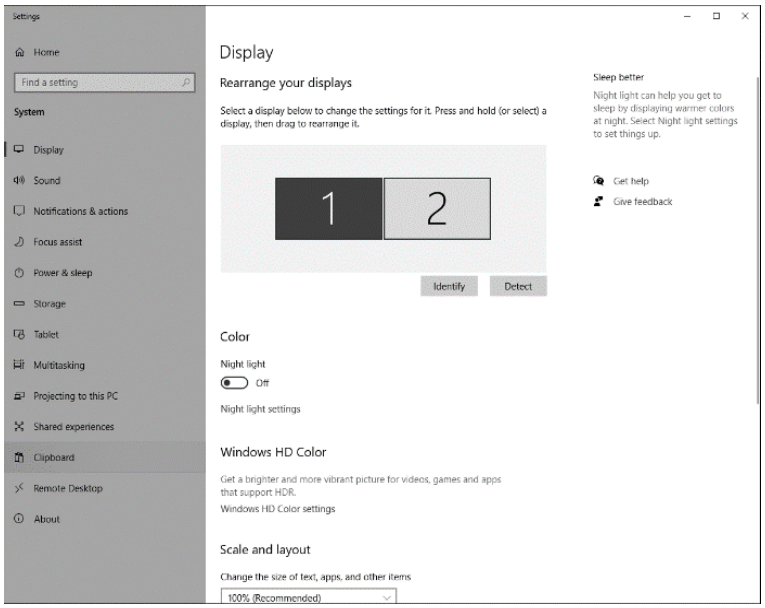
Step 1 Right click on your desktop and select **Display settings**.

Figure 13-5 Display settings



Step 2 Select a display to set it as the main display.

Figure 13-6 Multiple displays-1

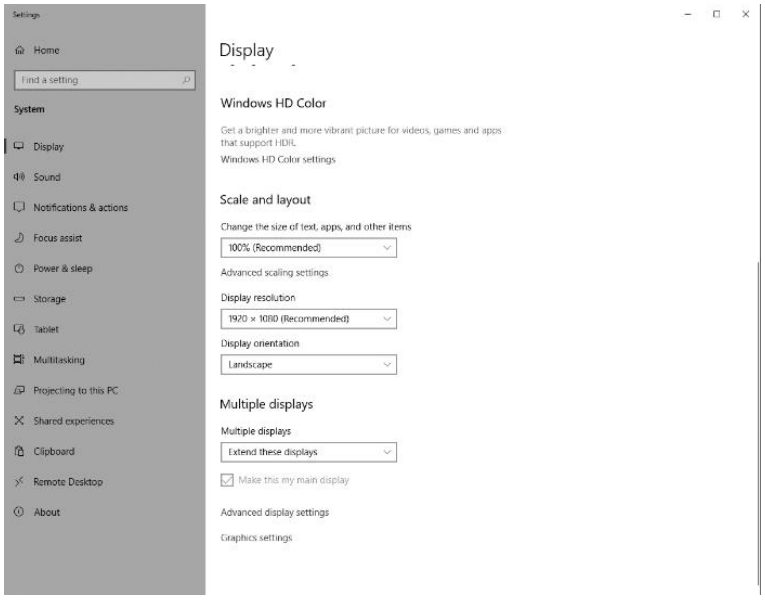


Note

When multiple displays are connected, you can click **Identify** to show the number at the bottom left corner on each display.

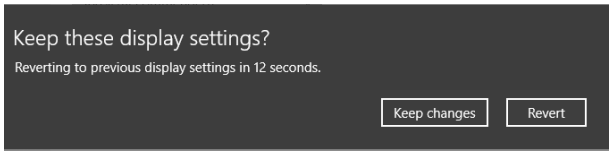
Step 3 For the **Display resolution** item, select the desired output resolution.

Figure 13-7 Multiple displays-2



Step 4 On the window that appears, select **Keep changes**.

Figure 13-8 Confirmation

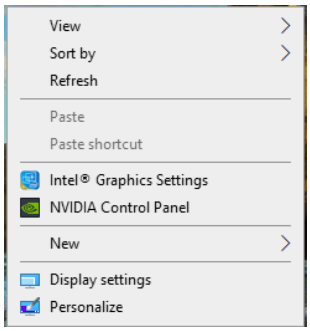


Step 5 Repeat the above steps to complete the resolution settings for other displays.

13.2.2 Set Custom Resolutions

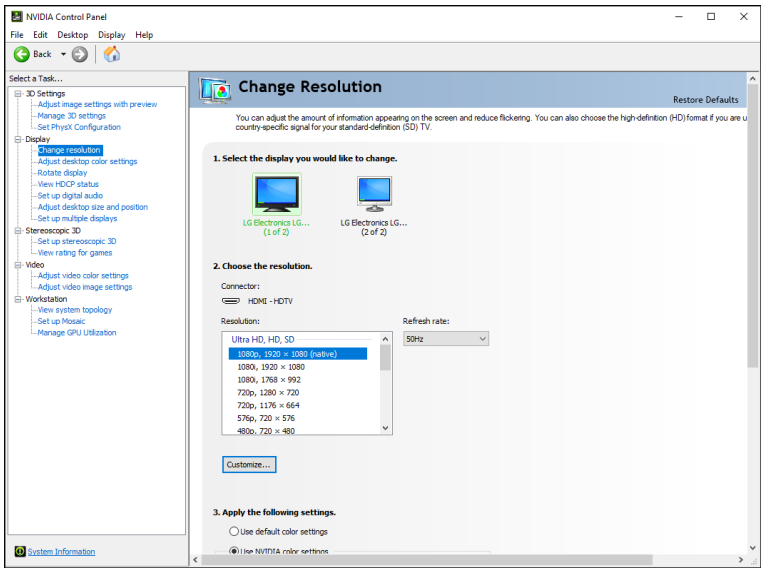
Step 1 Right click on your desktop and select **NVIDIA Control Panel**.

Figure 13-9 NVIDIA control panel



Step 2 On the **NVIDIA Control Panel** interface, go to **Display** > **Change resolution**.

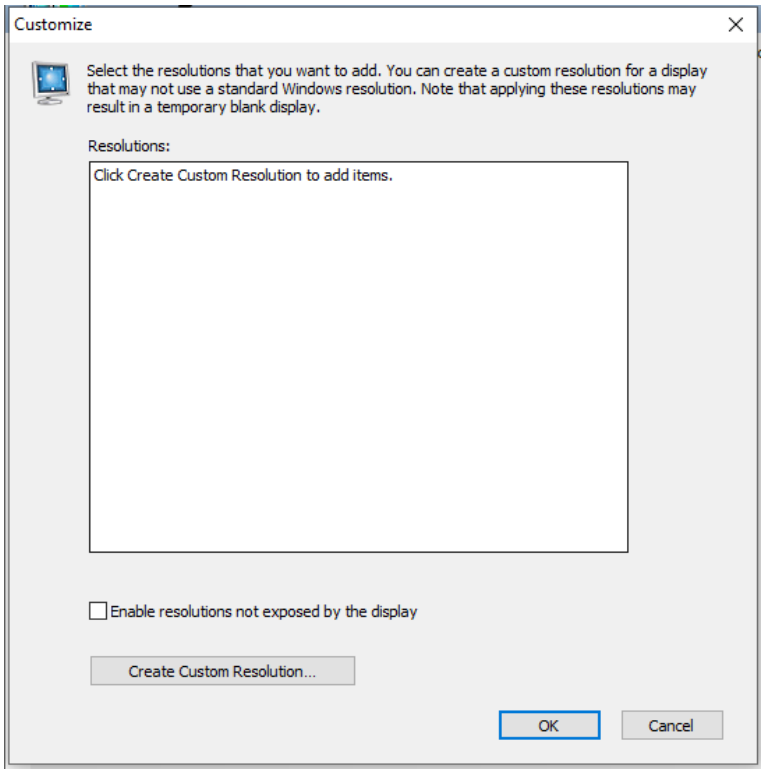
Figure 13-10 Change resolutions



Step 3 Select the desired display.

Step 4 Click **Customize** to show the customize window.

Figure 13-11 Custom resolution-1

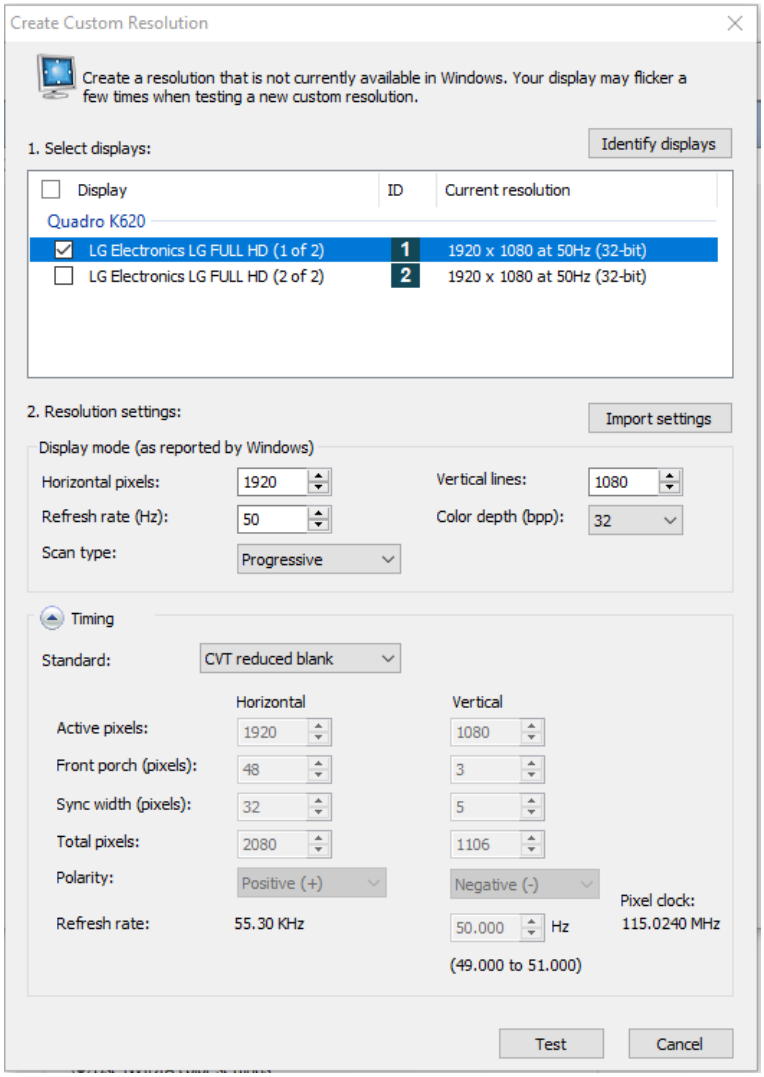


Step 5 Click **Create Custom Resolution**.

Step 6 Read the disclaimer information carefully and click **Accept** to show the **Create Custom Resolution** window.

Step 7 Select the desired display.

Figure 13-12 Custom resolution-2



Step 8 Set the horizontal pixels, vertical lines, refresh rate and scan type.

Step 9 Click **Test** and then click **Yes** on the window that appears.

Figure 13-13 Confirmation

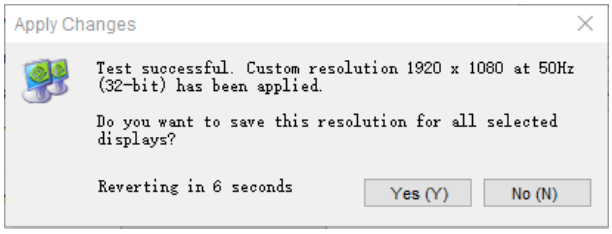
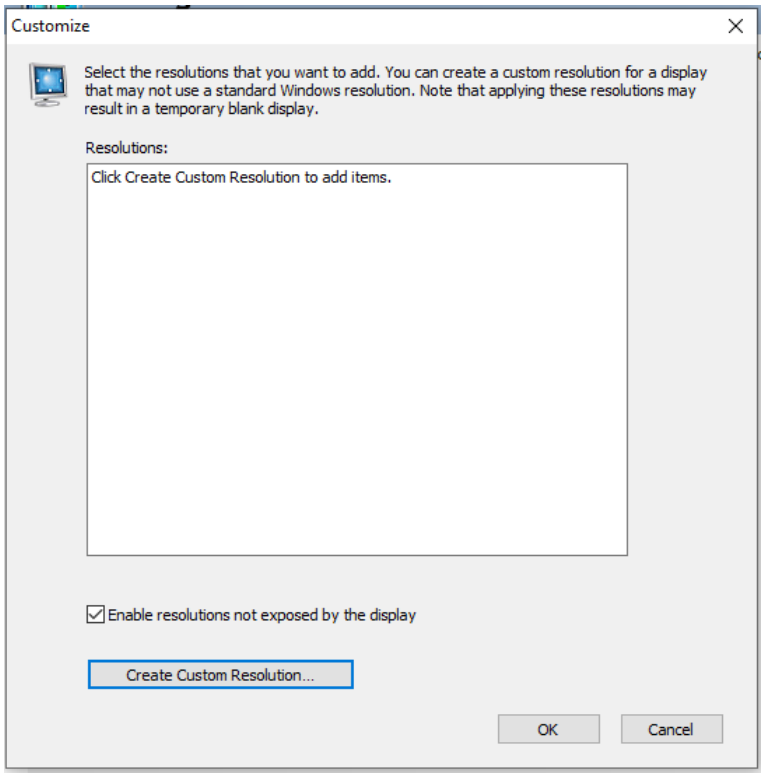


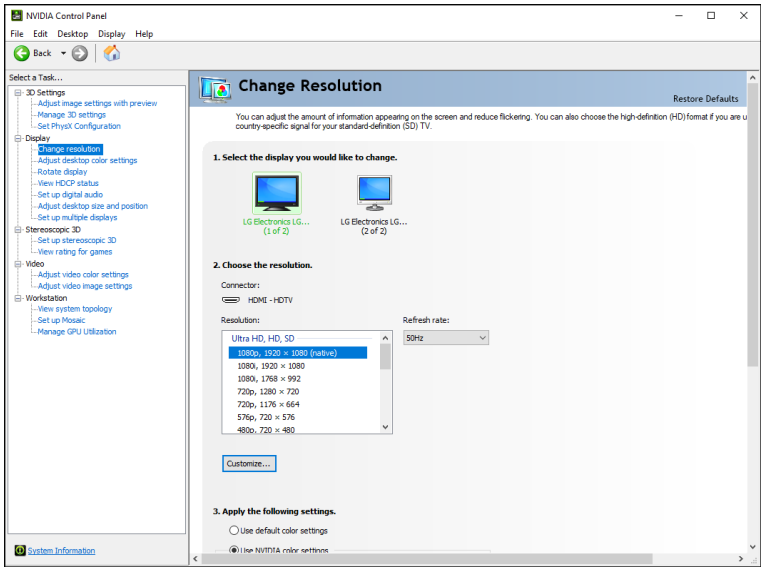
Figure 13-14 Custom resolution-3



Step 10 Click **OK** to complete the custom resolution settings.

After a custom resolution is created successfully, it will appear in the custom area as shown in the figure below.

Figure 13-15 Custom resolution-4



13.3 EDID Management

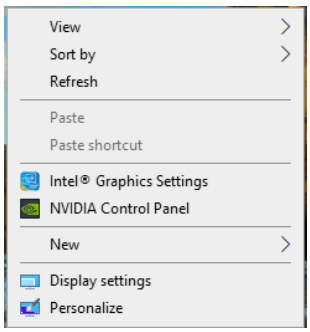
After the display resolution settings, you need to manage the EDID for precise identification of display properties and to avoid the on-site screen display disorder.

Load EDID

The procedure of how to load the EDID is as follows.

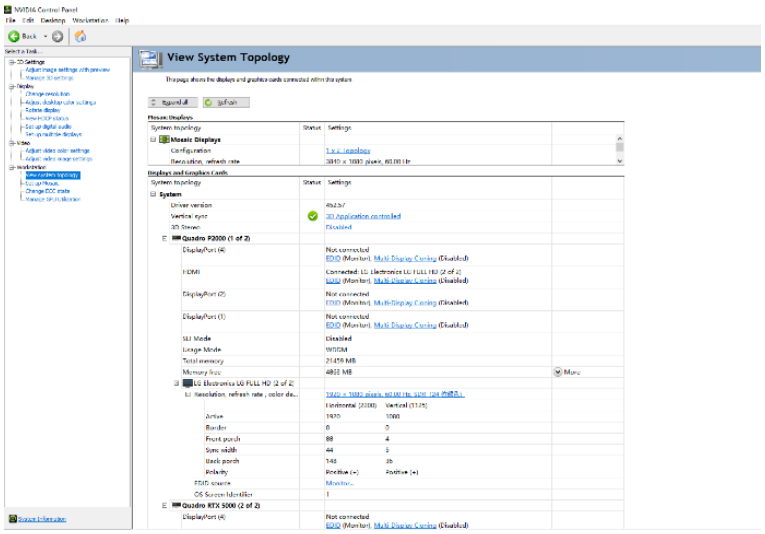
Step 1 Right click on your desktop and select **NVIDIA Control Panel**.

Figure 13-16 NVIDIA control panel



Step 2 On the **NVIDIA Control Panel** interface, go to **Workstation** > **View system topology**.

Figure 13-17 NVIDIA control panel



Step 3 Click **EDID (Monitor)** next to a desired output connector of the current graphics card to show the EDID management window.

Figure 13-18 EDID (Monitor)

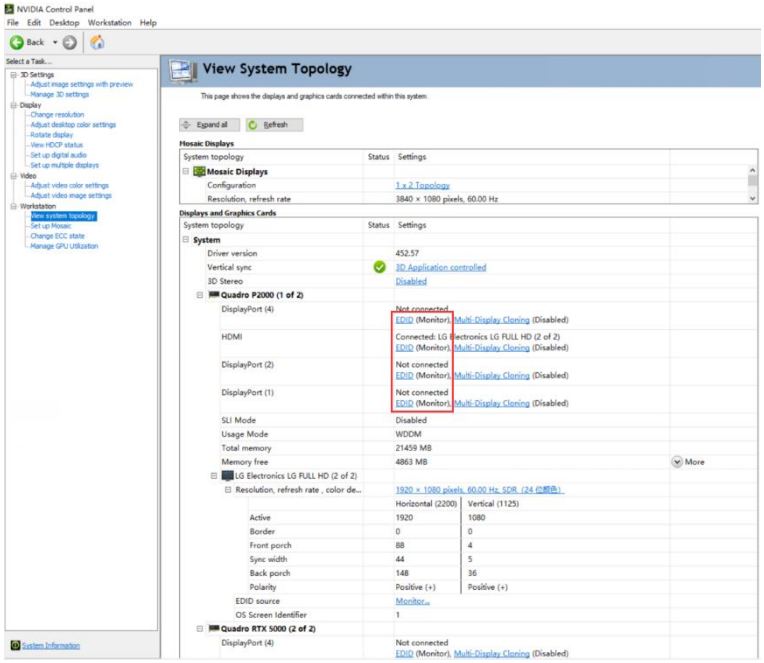
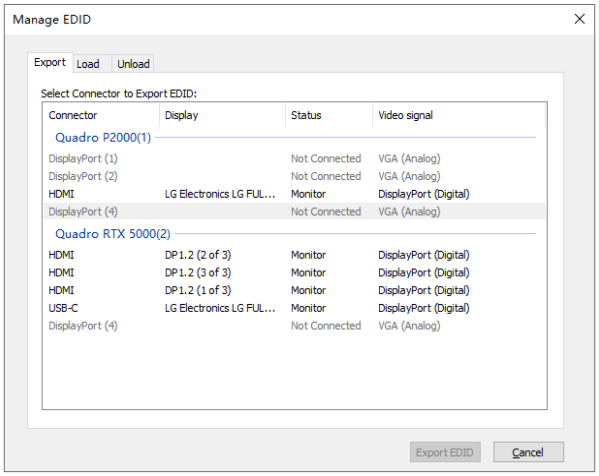


Figure 13-19 Manage EDID



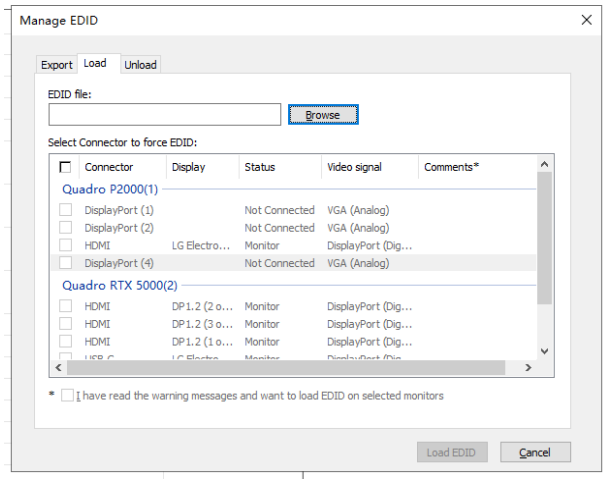
Step 4 Click **Export EDID** and then name the exported EDID file in the window that appears.

Step 5 Select the **Load** tab to show the EDID loading window.

Step 6 Click **Browse** and then select the EDID file exported in 4.

Step 7 In the **Select Connector to force EDID** area, select the desired connector.

Figure 13-20 Load EDID



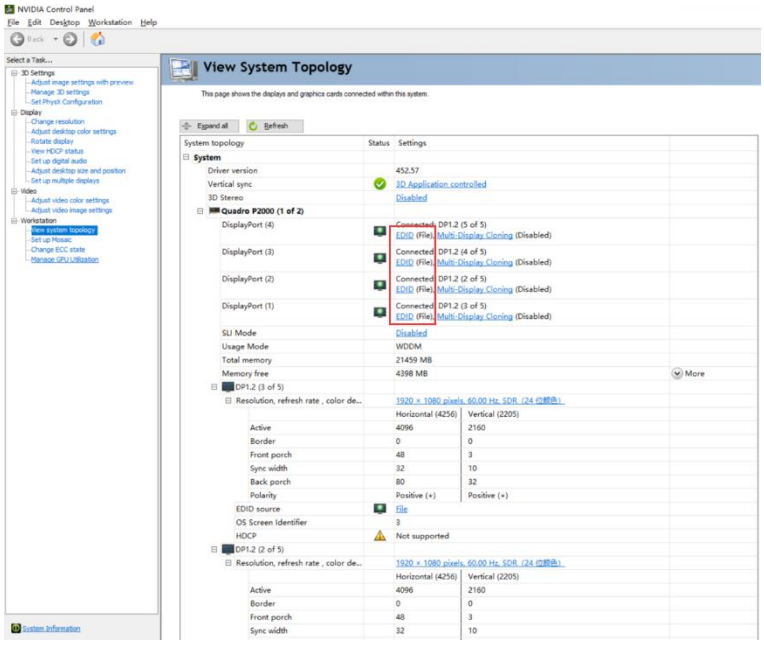
Step 8 Click **Load EDID**.

Step 9 On the dialog box that appears, click **OK** to complete loading the EDID.

Figure 13-21 EDID loaded successfully

Step 10 Go back to **Workstation** > **View system topology** to check the EDID status. If the original **EDID (Monitor)** changes to **EDID (File)**, the EDID is loaded successfully.

Figure 13-22 EDID loaded successfully



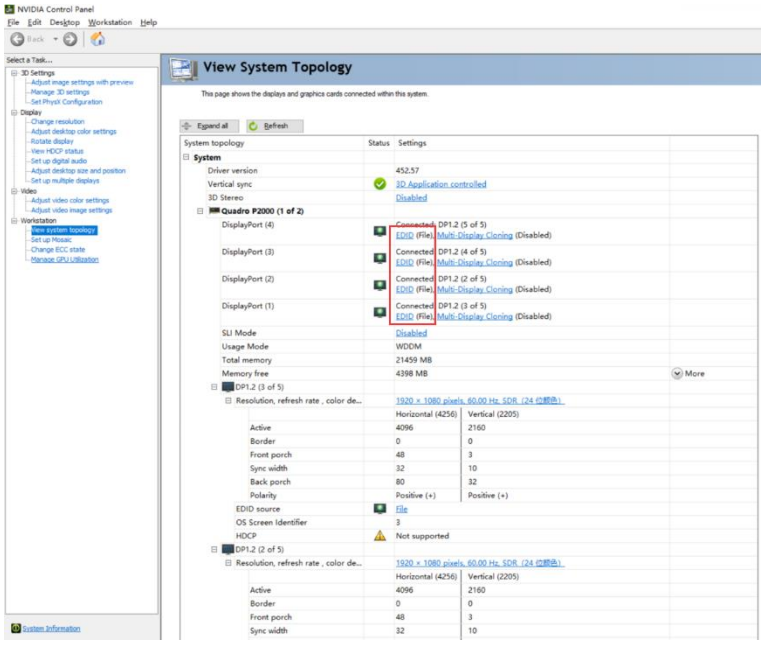
Unload EDID

The procedure of how to unload the EDID is as follows.

Step 1 On the **NVIDIA Control Panel** interface, go to **Workstation** > **View system topology**.

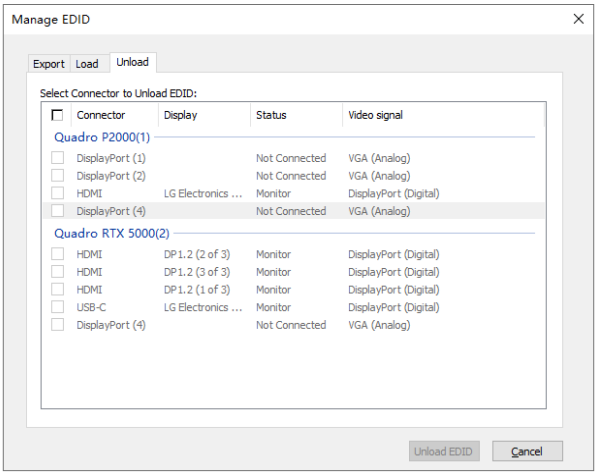
Step 2 Click **EDID (File)** to show the EDID management window.

Figure 13-23 EDID (File)



Step 3 Select the **Unload** tab and then select the desired connectors.

Figure 13-24 Unload EDID



Step 4 Click **Unload EDID**.

Step 5 After the EDID is unloaded successfully, click **OK** on the dialog box that appears.

Figure 13-25 EDID unloaded successfully

Step 6 Go back to **Workstation** > **View system topology** to check the EDID status. If the **EDID (File)** changes to **EDID (Monitor)**, the EDID is unloaded successfully.

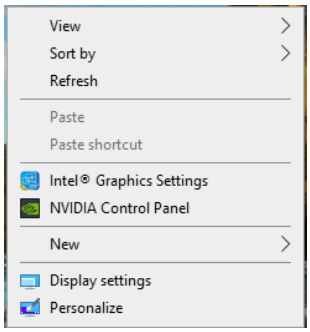
13.4 Output Mosaic

The graphics card supports connector mosaic output. The output connector mosaic must observe the following rules.

- The graphics card does not support irregular mosaic layouts. The mosaic layout must be 1×2, 1×3, 1×4, 2×2, 2×1, 3×1 or 4×1.
- The output resolutions of the graphics card connectors that are used for mosaic must be the same.

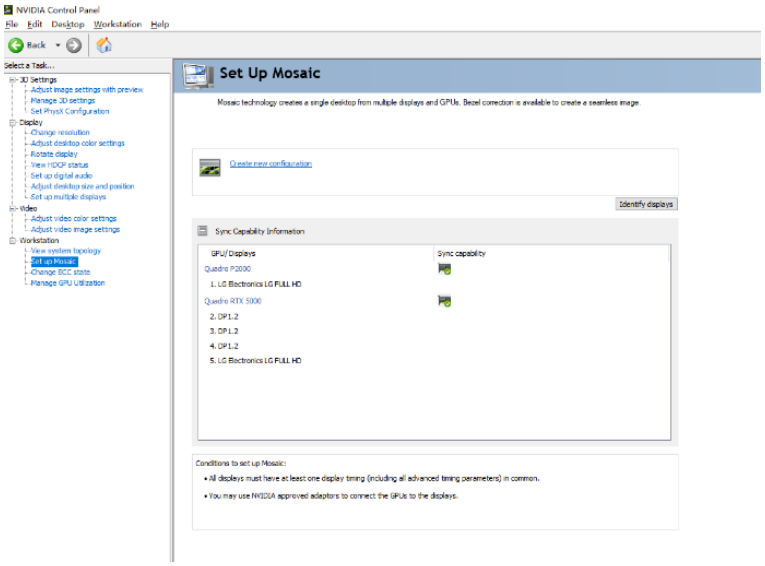
Step 1 Right click on your desktop and select **NVIDIA Control Panel**.

Figure 13-26 NVIDIA control panel



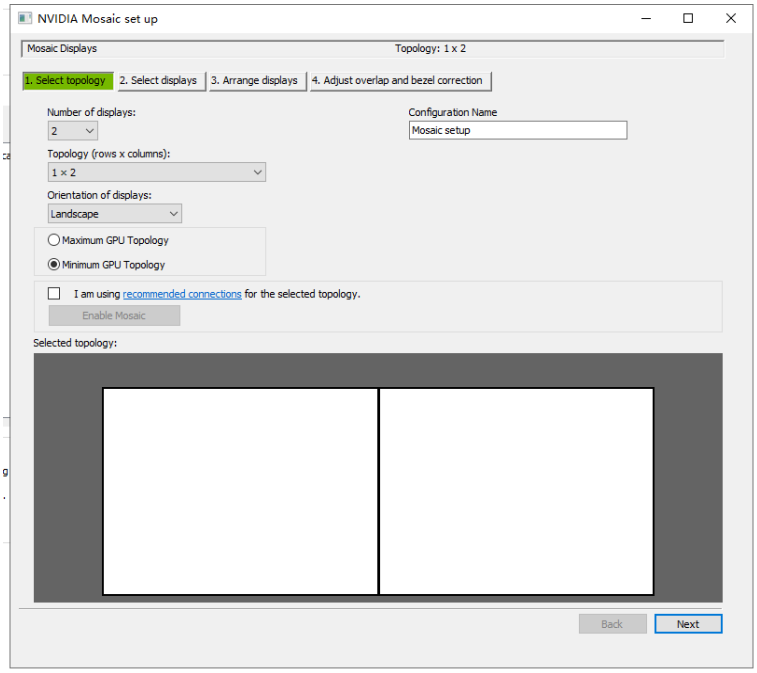
Step 2 On the **NVIDIA Control Panel** interface, go to **Workstation** > **Set up Mosaic**.

Figure 13-27 Set up mosaic



Step 3 Click **Create new configuration** to show the mosaic settings window.

Figure 13-28 Mosaic settings



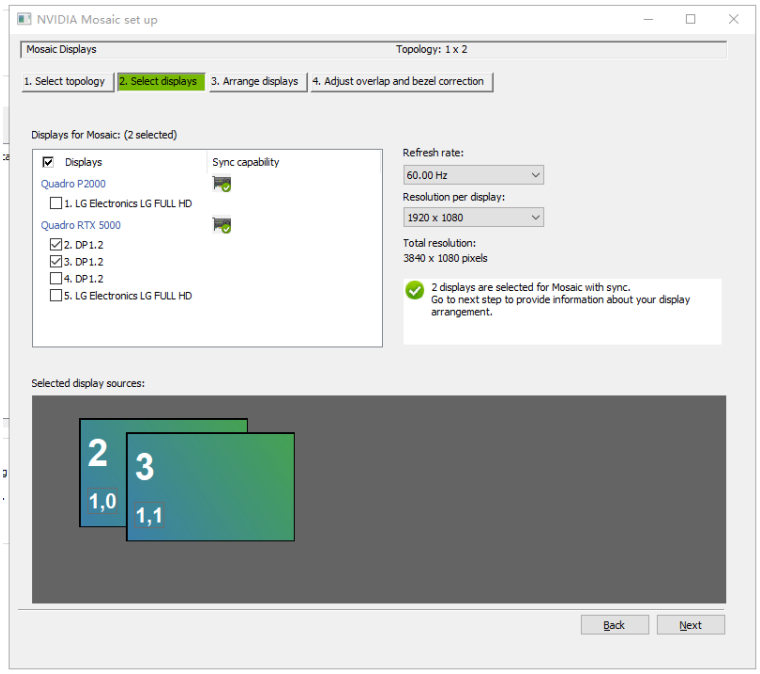
Step 4 Select the screen number from the drop-down list of **Number of displays**.

Step 5 Select the screen mosaic layout from the drop-down list of **Topology (rows x columns)**.

Step 6 Select the screen orientation from the drop-down list of **Orientation of displays**.

Step 7 Click **Next** to proceed.

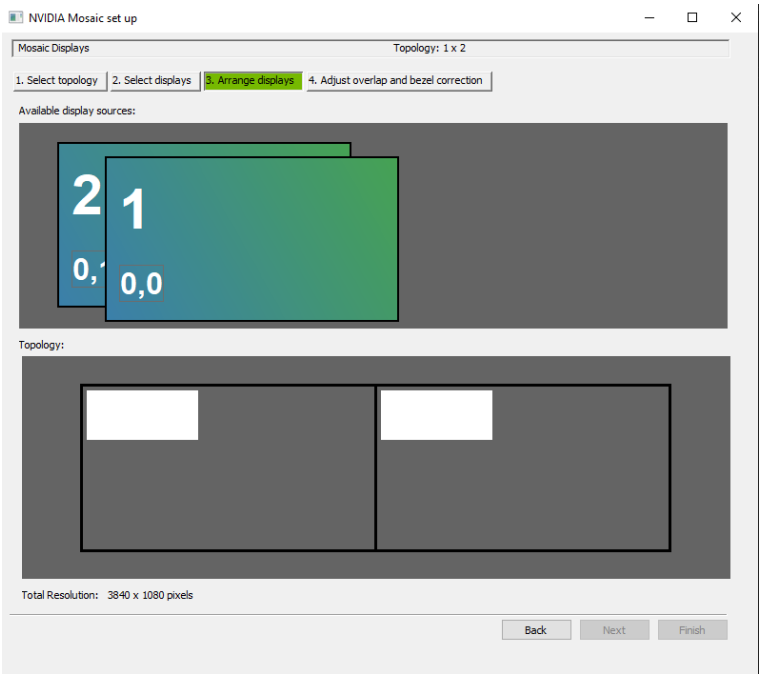
Figure 13-29 Select displays



Step 8 Select the connected displays and then select their refresh rate and resolution.

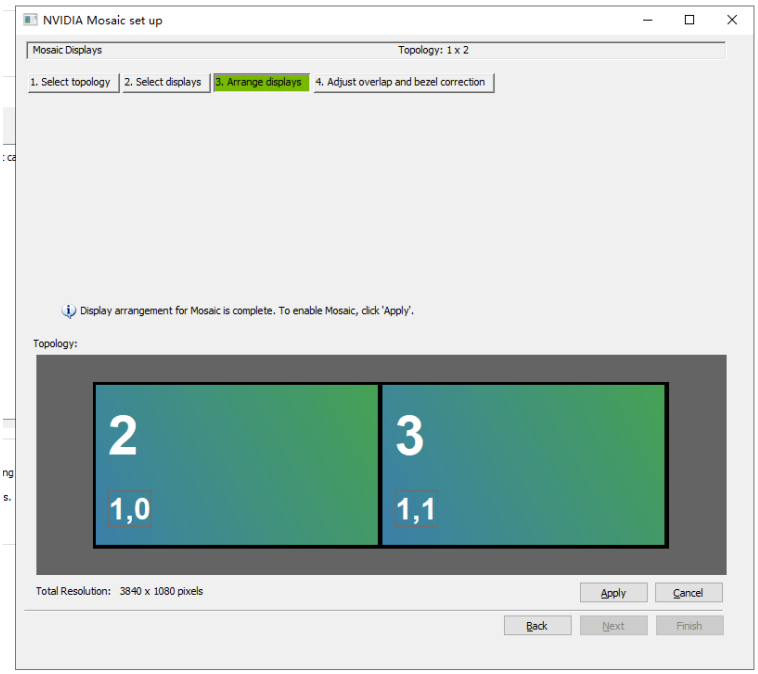
Step 9 Click **Next** to proceed.

Figure 13-30 Arrange displays



Step 10 Arrange the displays according to the screen arrangement and structure by dragging the available displays to the corresponding topology areas.

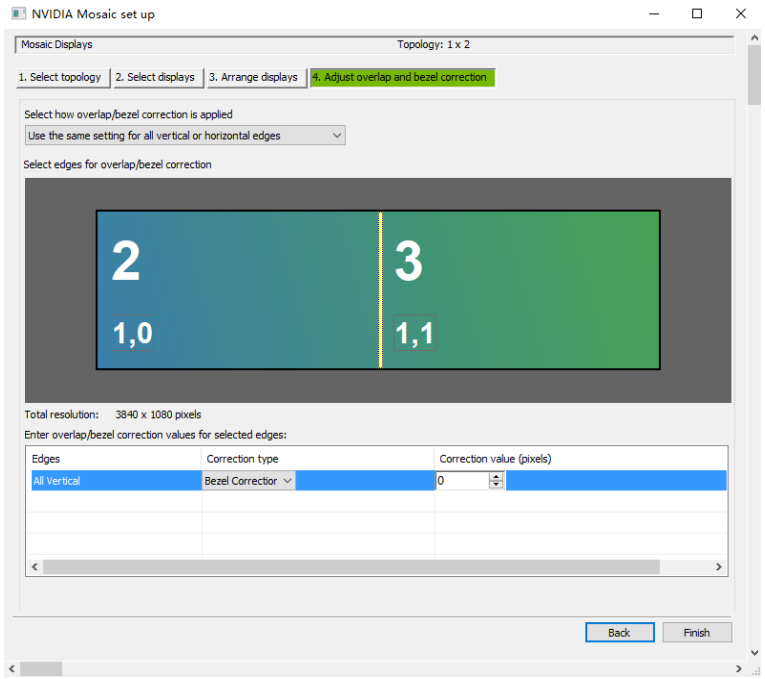
Figure 13-31 Arrange displays



Step 11 Click **Apply** and then click **Yes** on the confirmation window.

Step 12 Click **Next** to proceed.

Figure 13-32 Adjust overlap and bezel correction



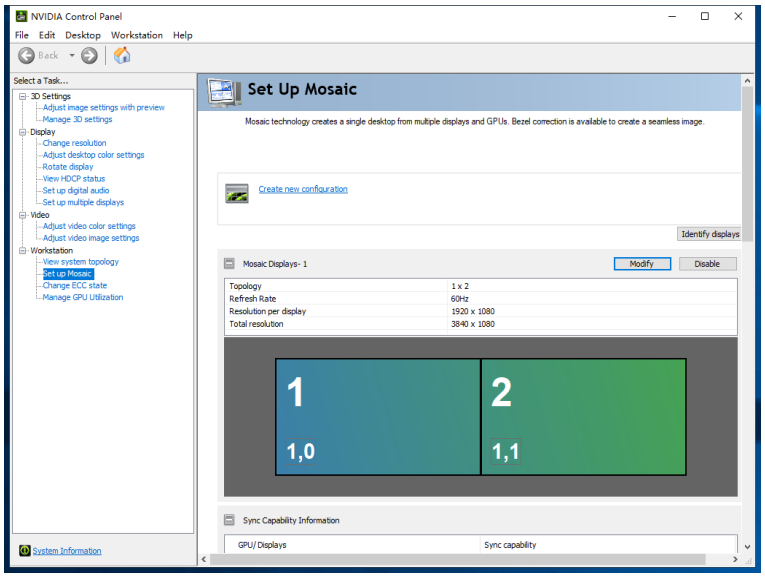
You can perform overlapping adjustment or bezel correction to the vertical or horizontal edges of the display as needed.

a. Select whether to use the same settings for all the vertical or horizontal edges of the display in the **Select how overlap/bezel correction is applied** area.

b. Select the desired edges and then enter the overlap or bezel correction values for the selected edges. Click **Apply** after the settings are done.

Step 13 Click **Finish** to complete the mosaic settings.

Figure 13-33 Mosaic completed



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