ViPlex Express

Display Content Publishing Management System for PC

V2.4.0
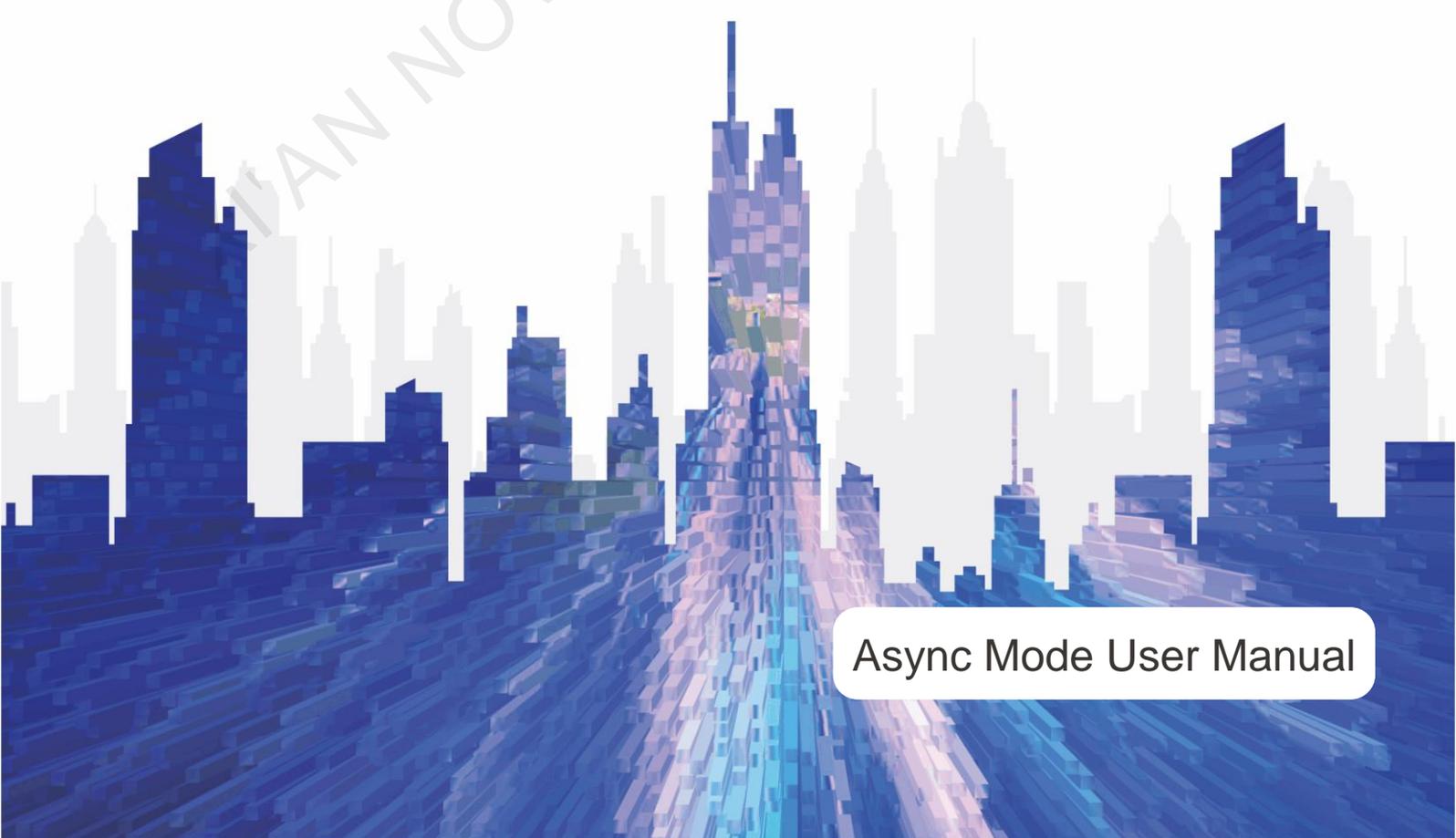
Async Mode User Manual

Contents

1 Software Introduction

ViPlex Express is a display content publishing management system for PC, which is installed in the Windows operating system and allows you to edit solutions and play the solutions on LCD or LED displays. In async mode, ViPlex Express is also used to control multimedia players. This document introduces you to the functions and operations in async mode.

Two Working Modes

ViPlex Express has two working modes and you can switch to your desired mode based on the application scenario.

✤ **Studio Mode**

When a solution is being played in ViPlex Express, the solution is also played synchronously on the display. This mode is applicable to synchronous playback.

The playback window is on the extended display. You can use the screen monitoring function to view the playback on your primary monitor.

✤ **Async Mode**

ViPlex Express sends solutions to multimedia players. The solutions will be stored in the multimedia players and played according to their playback plans. This mode is applicable to the scenario when multimedia players load displays.

Professional Solution Editing

ViPlex Express is designed with a professional solution editing function allowing you to edit solutions with various contents and complex schedules as required.

✤ **Multiple pages**

A solution can be added with multiple pages that are played in order from top to bottom.

✤ **Flexible layout**

You can use a system template or customize a template when adding a page. In a template, you can set the number, coordinates, width, and height of windows based on your needs.

✤ **A variety of media**

On a page, you can add general windows, cut-to-display window, Office documents, images, videos, GIF, text, colorful text, digital clocks, analog clocks, timers, weather, RSS, streaming media and web pages.

✤ **Multiple properties**

Every type of media has multiple properties that can satisfy your needs and present a variety of solutions.

✤ **Scheduling as you wish**

You can set a timeslot and cycle for each page to play. The schedules of a page can be batch applied to other pages. If the timeslots of several pages overlap, the pages will be played in order from top to bottom

✤ **Quick preview**

Clicking the preview button allows you to preview the current page. The preview window refreshes immediately when you move on to another page.

All-round Terminal Control

In async mode, ViPlex Express enables you to fully control multimedia players, such as brightness adjustment, time synchronization, font management, terminal upgrade, video source switching, screen status control, play log query, network configuration, and RF management.

2 **Getting Started**

2.1 Preparing a PC

Minimum requirements:

- OS: Windows 7 SP1 64-bit
- CPU: i5
- RAM: 4 GB
- HDD: 60 GB

2.2 Installing Software

Prerequisites

- Framework 4.6.x is installed.
- The official version of Visual C++ 2017 runtime components are installed.
- The installation package of ViPlex Express is obtained.

Where to Obtain

http://www.en.vnnox.com/download

Operating Procedure

Double click the installer and install ViPlex Express according to the setup wizard.

2.3 Selecting Working Mode

First Installation

After ViPlex Express is first installed, a **Select Mode** dialog box appears when you open ViPlex Express. Select **Studio Mode** and click **Open**.

Figure 2-1 Selecting a mode
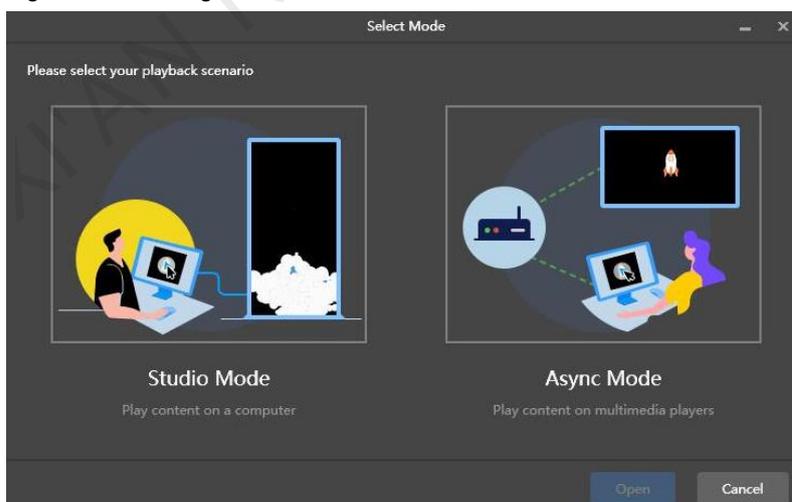
Other Situations

If you have installed ViPlex Express or selected a working mode before, the dialog box shown in Figure 2-1 will not appear. If ViPlex Express is in studio mode by default after opened, switch to the async mode by following the steps below:

In the top-right corner, choose ⚙ > **Working Mode** > **Async Mode** and click **OK**. ViPlex Express will be in async mode after restarted.

2.4 Connecting to Displays

Figure 2-2 and Figure 2-3 use the TB6 Taurus series multimedia player as an example to show the connection.

Figure 2-2 Ethernet cable

✤ **Ethernet cable**

The PC with ViPlex Express installed is connected to multimedia players via Ethernet cable.

The DHCP of multimedia players is enabled, the DHCP in the top-left corner of ViPlex Express is turned on. Select a local IP address and click **OK**. ViPlex Express will automatically connect to the Taurus. If the connection is not stable, set a static IP address for the PC.

Note: Before enabling the DHCP service, turn off the firewall of the PC or set the ICMP echo reply policy.

✤ **Wi-Fi**

The PC with ViPlex Express installed is connected to multimedia players via Wi-Fi.

When the multimedia player has built-in Wi-Fi AP, you can use this method without the need for configuration. For instance, when the multimedia player has built-in Wi-Fi AP, the default SSID is "AP+*Last 8 digits of the SN*" and the default password is "12345678".

Figure 2-3 LAN
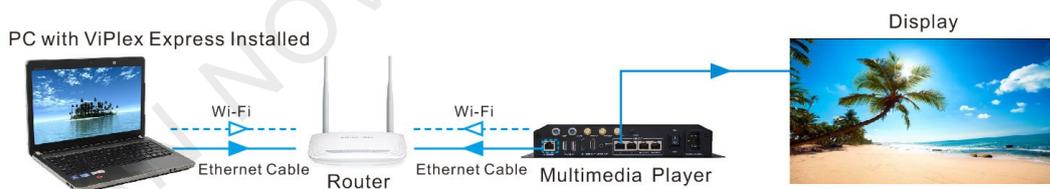
✤ **Wired LAN**

The PC with ViPlex Express installed and multimedia players connected to the same wired LAN via Ethernet cable.

If this method is used, the configuration is not required.

✤ **Wireless LAN**

The PC with ViPlex Express installed and multimedia players connected to the same wireless LAN via Wi-Fi.

This method is available when multimedia players support Wi-Fi Sta. The DHCP of multimedia players is enabled. Log in to multimedia players with ViPlex Express and connect to the Wi-Fi AP of the router on the network configuration page.

2.5 Logging In to Terminals

After you select async mode, the terminal management page of async mode will be displayed.

Required Information

Login user name and password of the multimedia player, for example, the default login user name and password of the Taurus series multimedia players are "admin" and "123456", respectively.

Logging In to Terminals

Step 1   Click **Refresh** to refresh the screen list.

Figure 2-4 Terminal management
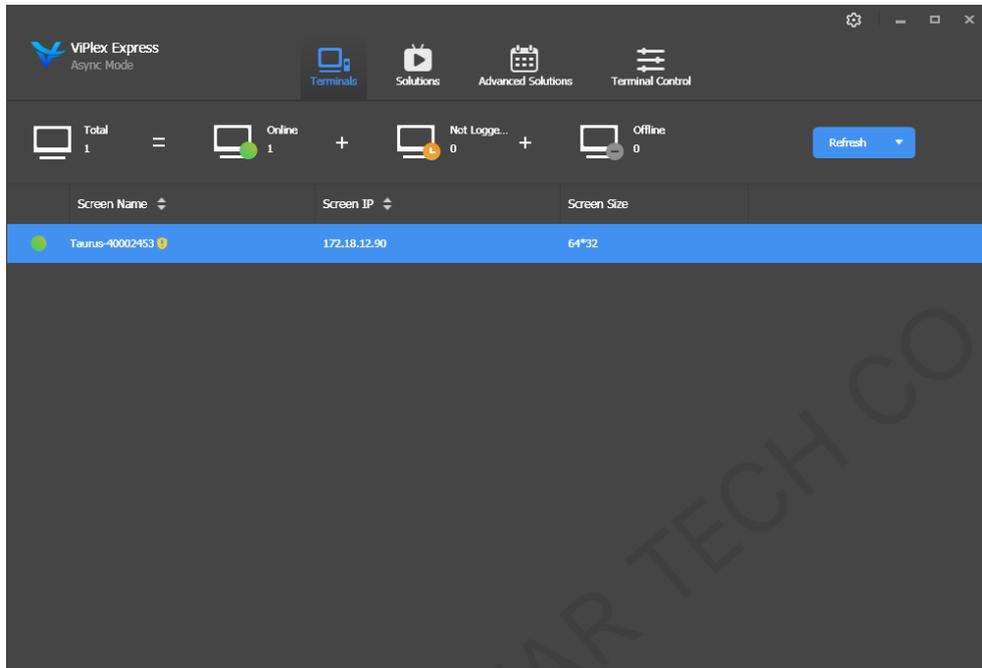
After detecting a terminal, ViPlex Express will try to log in to the terminal with the default account or the account used for the last login.

If terminals and ViPlex Express are not on the same network segment and can be pinged. Click ▼ next to **Refresh**, select **Specify IP** and enter an IP address or IP range to connect to terminals manually.

- 🟠: Denotes that the terminal is online and you can log in to it. Go to Step 2.

- ⚫: Denotes the terminal is offline and you cannot log in to it.

- 🟢: Denotes you have successfully logged into the terminal.

Step 2   Click **Connect** next to screen information.

Step 3   Enter the password for the "admin" user and then click **OK**.

After successful login, ViPlex Express saves the account information automatically.

Related Operations

After successful login, if the password is verified as a weak password, 🔒 will be displayed next to the terminal name. You are advised to change the password to a complex one to enhance security.

Right-click the screen information, and the related operations will be displayed:

- Log Out: Log out of the terminal.

- Rename: Rename the terminal.

- Change Password: Change the connection password of the Taurus Wi-Fi AP and the login password of the "admin" user.

- Forget Password: Delete the password saved during the last login.

- Download Operation Log: Download the operation logs of asynchronous terminals.

2.6 Creating Solutions

After updated, the solution data in async mode will be synchronized to studio mode.

Step 1   Choose **Solutions** to access the solution management page.

Figure 2-5 Solution management
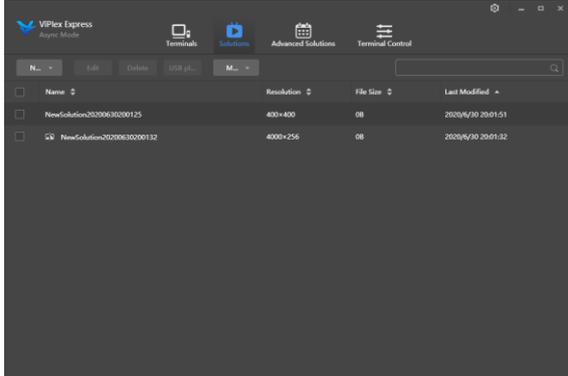
Step 2   Click **New** and select **Regular Screen** or **Ultra-Long Screen** from the drop-down menu.

The **Solution** Information dialog box appears.

Figure 2-6 Solution information for a regular screen
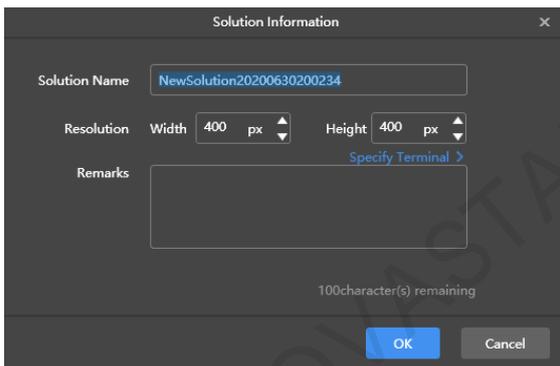
Figure 2-7 Solution information for an ultra-long screen
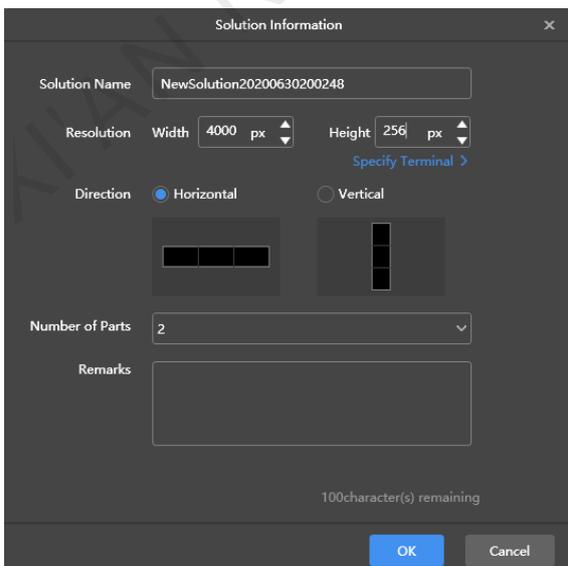
Step 3   Set a name, resolution, and other information for the solution, then click **OK** to access the solution editing page.

- The resolution of a solution for a regular screen (hereinafter referred to as "regular-screen solution") must be consistent with the resolution of the screen.

- The resolution of a solution for an ultra-long screen (hereinafter referred to as "ultra-long-screen solution") must be consistent with the configured screen width and height.

Step 4   After the solution editing is done, click **Save**.

Step 5   (Optional) At the upper right of the page, click [icon] to view the schedule of each page in the solution.

Step 6   (Optional) At the upper right of the page, click [icon] to preview the current page.

When the preview window is opened, you can also select other pages to preview. If you make changes to the current page, click [icon] to refresh the preview window.

Step 7   After the solution editing is done, click **Publish** and select players to publish the solution.

2.7 Publishing Solutions

Solutions containing media can be published.

Step 1   Choose Solutions.

Step 2   In the solution list, move your mouse over a solution and click [icon].

The **Publish** dialog box appears.

Figure 2-8 Publishing a solution
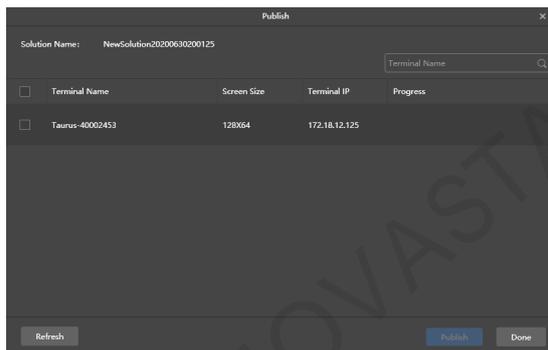
Step 3   Click **Refresh** to display all the terminals that are logged in.

Note: During solution publishing, ViPlex Express automatically converts the video formats that are not supported by the terminal.

Step 4   Select one or more terminals and click **Publish**.

Step 5   After the solution is published successfully, click **Done**.

2.8 Controlling Terminals

Users can control the brightness, display status, video source switching, etc. of a terminal in real time or as scheduled. For details, see 4 Terminal Control.

3 **Solution Management**

3.1 Creating Solutions

- For different screens, you can create regular-screen solutions and ultra-long-screen solutions.
- After updated, the solution data in async mode will be synchronized to studio mode.

3.1.1 Creating a Regular-Screen Solution

Related Information

- A regular-screen solution contains one or more pages and each page contains one or more media items.
- The pages of a solution are played in order from top to bottom.

Operating Procedure

Before you create a solution, get the screen resolution in advance.

Step 1   Choose **Solutions** to access the solution management page.

Figure 3-1 Solution management
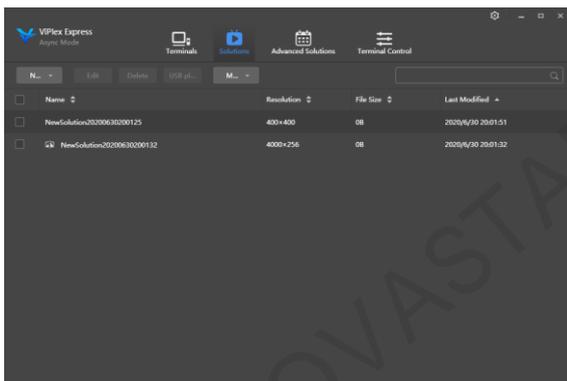
Step 2   Click **New** and select **Regular Screen** from the drop-down menu.

The **Solution Information** dialog box appears.

Figure 3-2 Solution information
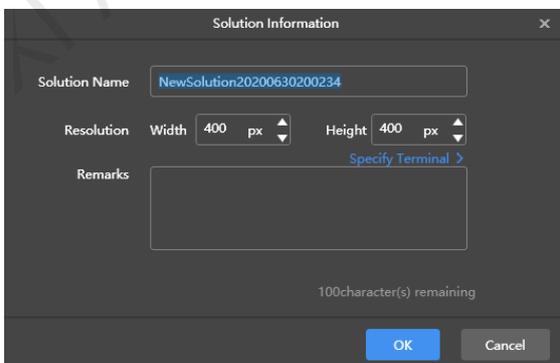
Step 3   Set a name and resolution for the solution, then click **OK** to access the solution editing page, as shown in Figure 3-2.

You can also set a resolution by clicking **Specify Terminal** and the resolution will be the same as the resolution of the terminal you select.

Figure 3-3 Solution editing page
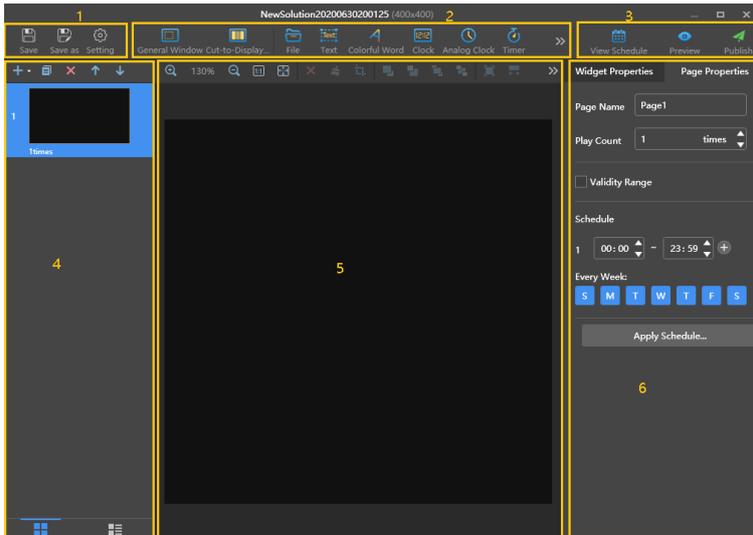
The description of the solution editing page is shown in Table 3-1.

Table 3-1 Description of the solution editing page

| No.	Function	Description	
1	Saving a solution, saving a solution as another solution and setting solution information	Used for saving a solution, saving a solution as another solution and setting solution information	
2	Adding media You can click an icon to add a corresponding media item.	: General window	: Cut-to-display window
		: File	: Text
		: Colorful text	: Digital clock
		: Analog clock	: Timer
		: Weather	: Environment monitoring
		: RSS	: Streaming media
		: Web page	
3	Viewing schedules, previewing pages and publishing solutions	Used for viewing schedules, previewing the current page and publishing solutions	
4	Editing solution pages You can add, copy, and delete pages and adjust the order of pages. Pages are played in order from top to bottom.	: Add	: Open the **Page Template** dialog box
		: Copy	: Delete
		: Move up	: Move down
		Thumbnail view (Only the thumbnails of pages are displayed.)	: List view: (The thumbnails of pages and the names of the media items contained in the currently selected page are displayed.)
5	Editing media on pages	: Zoom editing area in	: Zoom editing area out

No.	Function	Description	
		1:1 : Show the editing area in the original size	: Automatically fit the editing area according to the software interface
		× : Delete selected media	: Clear all media
		: Crop image	: Bring forward
		: Send backward	: Bring to front
		: Send to back	: Fill the entire screen
		: Fit the screen horizontally	: Fit the screen vertically
		: Align top	: Center vertically
		: Align bottom	: Align left
		: Center horizontally	: Align right
6	Editing properties	Used for editing widget and page properties	
		• Widget Properties: Widgets are the media added to a page. The properties of different types of media vary. Click a widget to select it before you edit its properties.	
		• Page Properties: Set the name, play count, validity range, and playback schedule of a page.	
		− Play Count: Set the number of times to play a page continuously.	
		− Validity Range: After this option is selected, the **Start Date** and **End Date** parameters are displayed. Expired pages will be skipped during solution playback.	
		− Schedule: Allows you to specify the timeslots to play a page and select the days to repeat the playback. If the timeslots of different pages overlap, the pages will be played in order from top to bottom.	
		− Apply Schedule: Allows you to apply the schedule of the current page to other pages. You can select multiple pages and apply a schedule to them at the same time.	

Notes

● When you add an Excel file, the number of rows of the Excel file must be less than or equal to 600 and the total width of the columns must be less than or equal to the width of an A4 landscape paper. It is recommended that you set the page layout of the Excel file to A4 landscape.

● A valid URL is required when you add RSS, streaming media, or web page media.

● When you add weather media, the terminal must be connected to the Internet so that it can obtain real-time weather information.

● When you add environment monitoring media, connect to the sensor logically in ViPlex Express after the sensor is connected to the terminal. For details, see 4.16 Sensor.

● For the limitations on cut-to-display windows, see 7 Limitations on Cut-to-Display Windows for Regular Screens.

Step 4   After the solution editing is done, click **Save**.

Step 5   (Optional) At the upper right of the page, click [icon] to view the schedule of each page in the solution.

Step 6   (Optional) At the upper right of the page, click [icon] to preview the current page.

When the preview window is opened, you can also select other pages to preview. If you make changes to the current page, click [icon] to refresh the preview window.

Step 7   After the solution editing is done, click **Publish** and select players to publish the solution.

3.1.2 Creating an Ultra-Long-Screen Solution

Applications

If the pixel width of the resolution of a screen is greater than the pixel width of the maximum loading capacity of a multimedia player or the pixel height of the resolution of a screen is greater than the pixel height of the maximum loading capacity of a multimedia player, but the screen resolution does not exceed the maximum loading capacity of the multimedia player, you can use ultra-long-screen solutions.

Note:

For the limitations on the playback parameter specifications for ultra-long screens, see 8 Limitations on Playback Parameters for Ultra-long Screens.

Application Example

The resolution of a screen is 9000×128 or 128×9000 and the maximum loading capacity of a TB8 multimedia player is 2,300,000 pixels with a maximum width of 4096 pixels and a maximum height of 1920 pixels.

Screen Configuration

The screen width and height to be configured cannot exceed the maximum width and height of the loading capacity of the TB8, as shown in Figure 3-4 and Figure 3-5.

Ultra-wide screen (9000×128)

− Number of parts: 9000/4096=2.20 (Here an integer is required, so the number of parts is 3.)

− Screen width to be configured: 9000/3=3000

− Screen height to be configured: 128×3=384

Ultra-tall screen (128×9000)

− Number of parts: 9000/1920=4.69 (Here an integer is required, so the number of parts is 5.)

− Screen width to be configured: 128×5=640

− Screen height to be configured: 128×2=256 Screen height to be configured: 9000/5=1800

Figure 3-4 Ultra-wide screen configuration
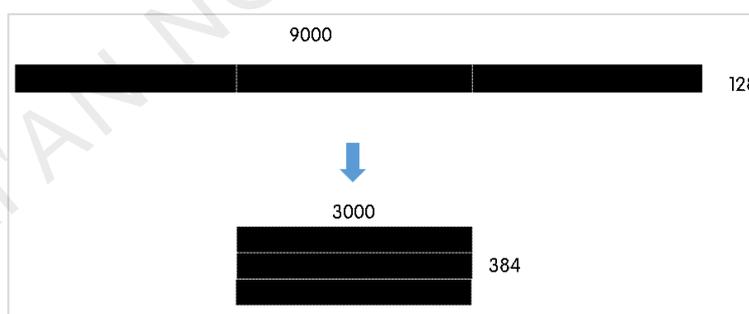
Figure 3-5 Ultra-tall screen configuration
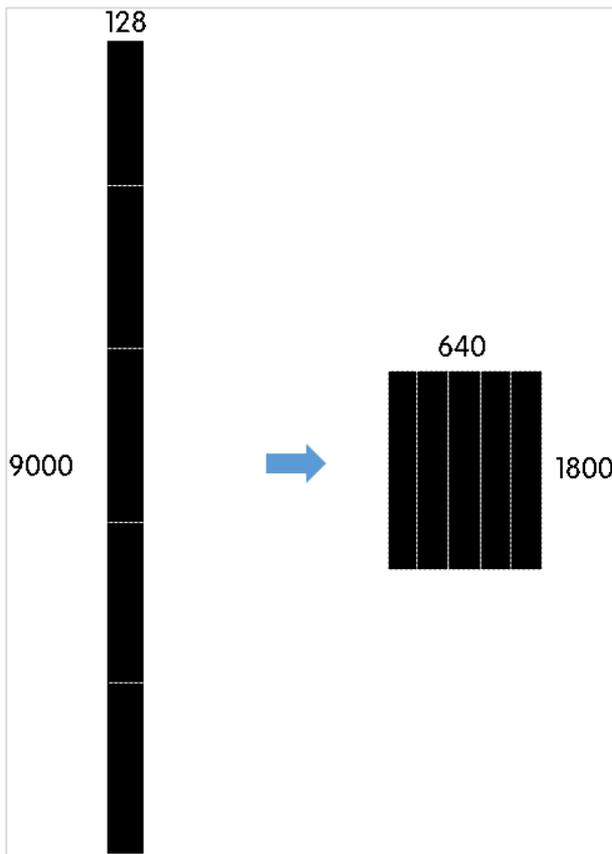
When you set the connection of receiving cards and an Ethernet port loads two rows/columns or more, the connection must follow the shape of the letter Z, as shown in Figure 3-6 and Figure 3-7.

Figure 3-6 Ultra-wide screen connection
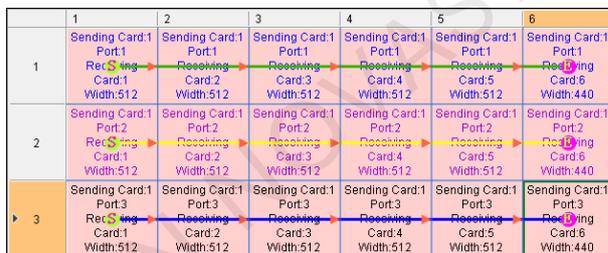

Figure 3-7 Ultra-tall screen connection
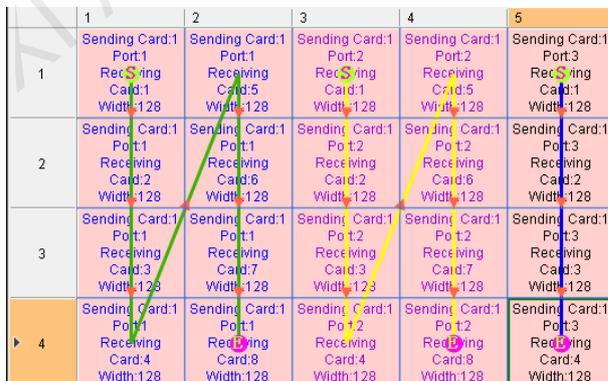
If you want to set receiving cards to blank, you can only set the receiving cards at both ends to blank, as shown in Figure 3-8 and Figure 3-9.

Figure 3-8 Blank receiving cards of an ultra-wide screen
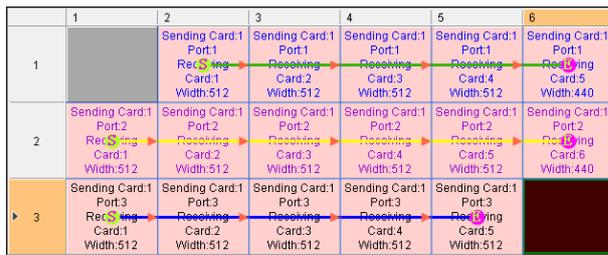
Figure 3-9 Blank receiving cards of an ultra-tall screen
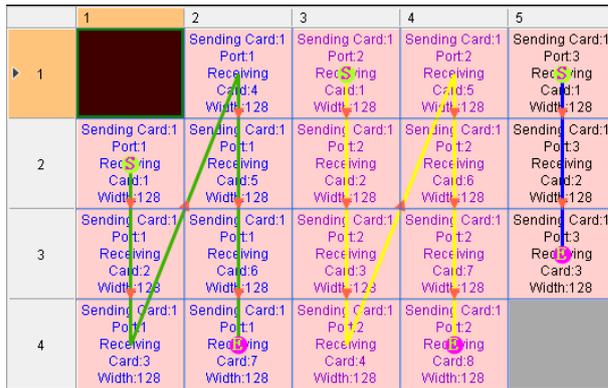
## Operating Procedure

The preceding application will be used as an example to introduce how to create an ultra-long-screen solution.

Step 1   Choose **Solutions** to access the solution management page.

Figure 3-10 Solution information
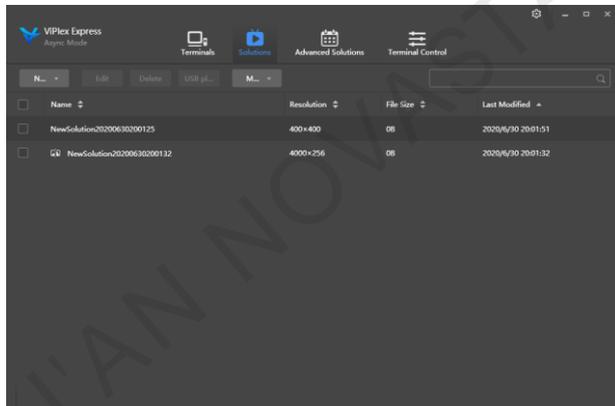
Step 2   Click **New** and select **Ultra-Long Screen** from the drop-down menu.

The **Solution Information** dialog box appears.

Figure 3-11 Solution information of an ultra-wide screen
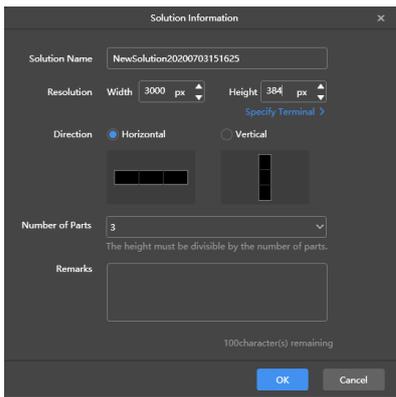
Figure 3-12 Solution information of an ultra-tall screen
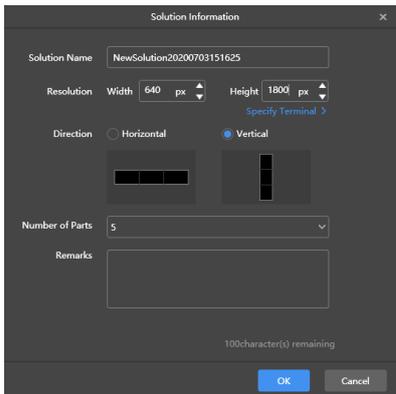
Step 3   Set a name, resolution, direction and the number of parts for the solution, then click **OK**.

- The resolution of the solution must be consistent with the configured screen width and height.

  Here the width of the ultra-wide screen is 3000 and its height is 384, and the width of the ultra-tall screen is 640 and its height is 1800. For details, see the preceding Screen Configuration.

- Set the direction according to the actual situation, For an ultra-wide screen, select **Horizontal**, while for an ultra-tall screen, select **Vertical**.

  Here the direction is **Horizontal**.

- The number of parts is calculated according to the actual screen width and height and the configured screen width and height.

  Here the number of parts of the ultra-wide screen is 3 and the number of parts of the ultra-tall screen is 5. For details, see Screen Configuration.

Step 4   Edit the solution on the solution editing page, as shown in Figure 3-13.

- In the page media editing area, the page is displayed based on the actual screen resolution and the boundaries appear according to the number of parts.

- Only images, text and colorful text can be placed across the boundary.

Figure 3-13 Ultra-long-screen solution editing page
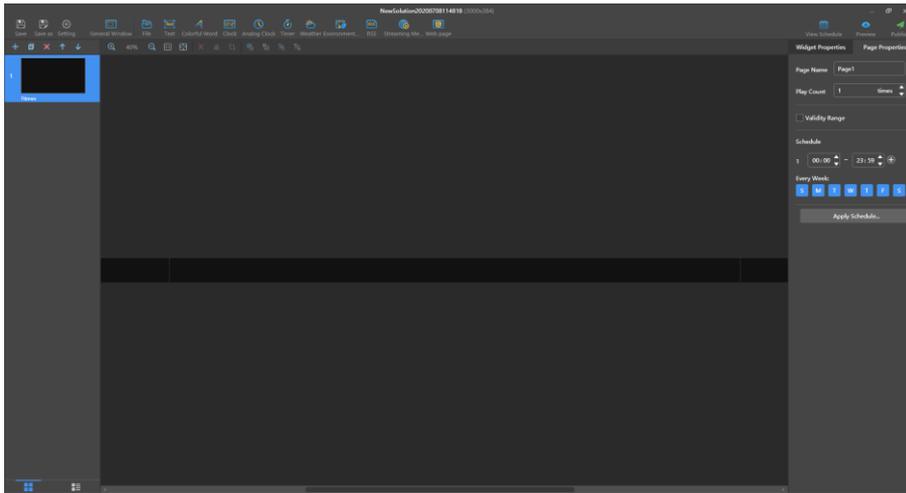
Step 5   After the solution editing is done, click **Save**.

Step 6   (Optional) At the upper right of the page, click [icon] to view the schedule of each page in the solution.

Step 7   (Optional) At the upper right of the page, click [icon] to preview the current page.

The preview window is displayed based on the configured screen aspect ratio.

Step 8   After the solution editing is done, click **Publish** and select players to publish the solution.

3.2 Scheduling Solutions

Applications

An advanced solution is a collection of scheduled regular-screen solutions or ultra-long-screen solutions.
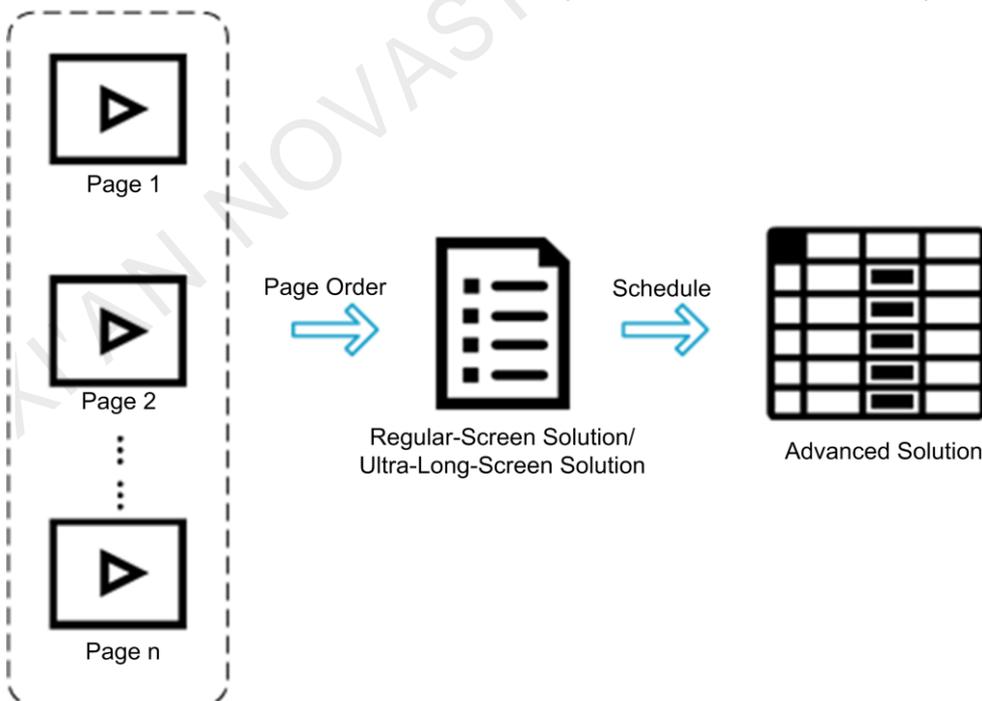
Operating Procedure

Step 1   Choose **Advanced Solutions** to access the advanced solutions page.

Figure 3-14 Advanced solutions
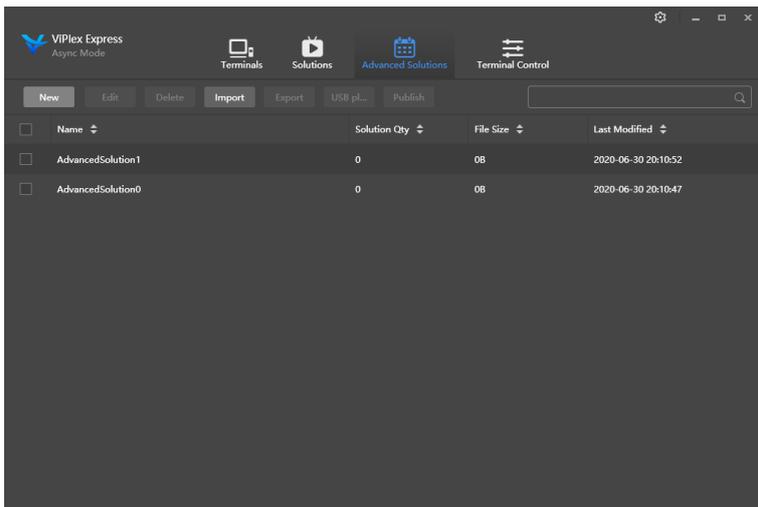
Step 2   Click **New** to open the **New Advanced Solution** page.

Figure 3-15 New advanced solution
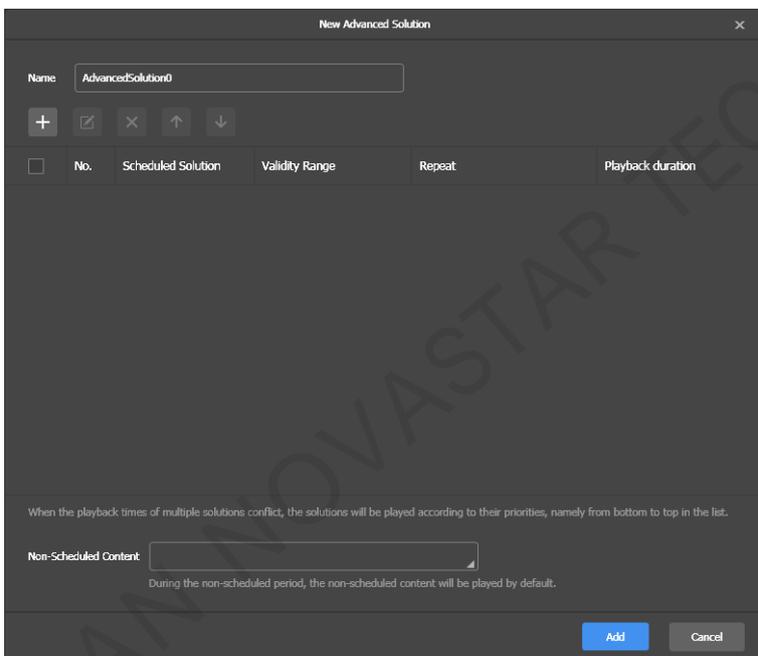
Step 3   Enter a name for the advanced solution.

Step 4   Click   .

Figure 3-16 Adding playback plan
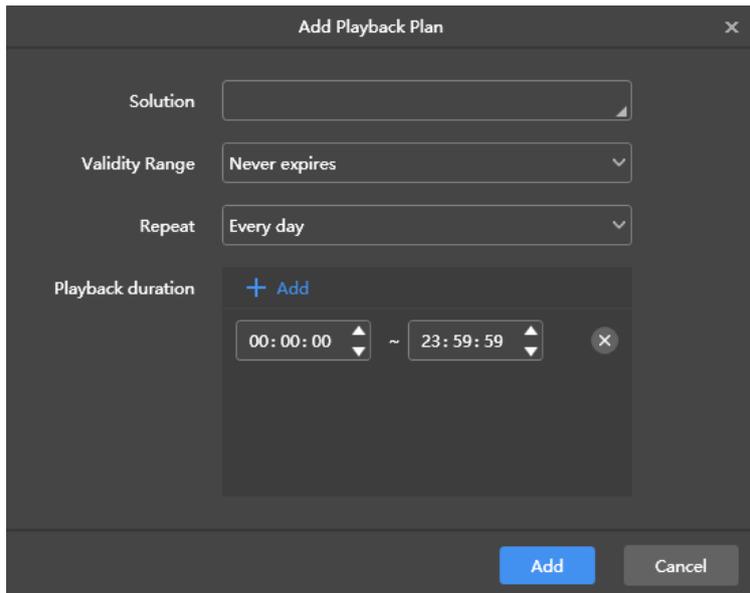
Step 5   Select a solution and set its validity range, repeat method, and playback durations.

Step 6   Click **Add**.

Step 7   Repeat Step 5 and Step 6 to add more solutions.

Step 8   After solutions are added, click **Cancel**.

Step 9   (Optional) Click the box next to **Non-Scheduled Content**, select a solution and click **OK**.

The non-scheduled content will be played by default during the non-scheduled period.

Figure 3-17 Adding non-scheduled content
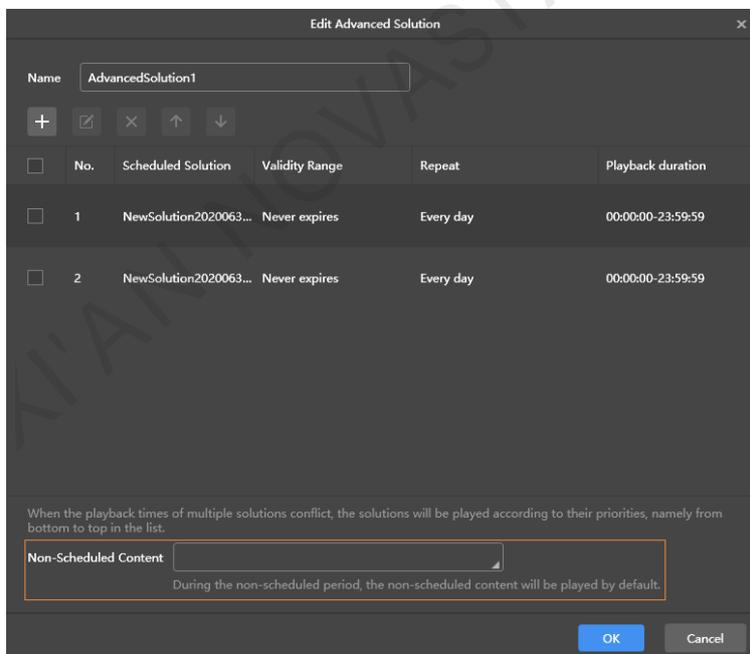
Step 10   Click **Add**.

3.3 Publishing Solutions

Applications

Send regular-screen solutions, ultra-long-screen solutions and scheduled advanced solutions to terminals.

Related Information

- A solution containing media can be published.

- Only one solution can be sent to a terminal each time.

- A solution can be sent to multiple terminals.

Operating Procedure

Step 1   Choose **Solutions** or **Advanced Solutions**.

Step 2   In the solution list, move your mouse over a solution and click   .

The **Publish** dialog box appears.

Figure 3-18 Publishing a solution
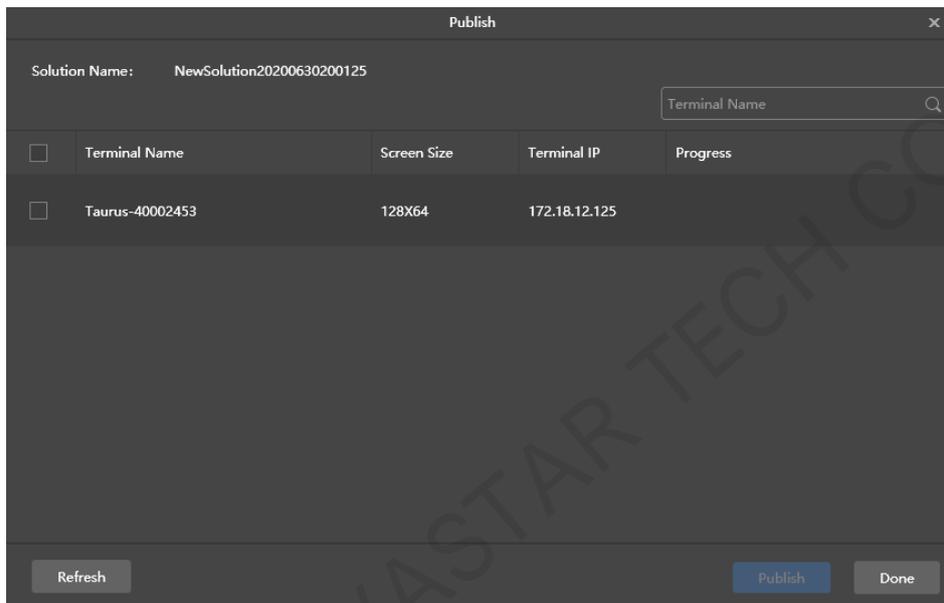
Step 3   Click **Refresh** to display all the terminals that are logged in.

Note: During solution publishing, ViPlex Express automatically converts the video formats that are not supported by the terminal.

Step 4   Select one or more terminals and click **Publish**.

Step 5   After the solution is published successfully, click **Done**.

3.4 USB Playback

Applications

When a multimedia player can play solutions imported from a USB drive, users can import solutions to a USB drive by using the USB playback function in ViPlex Express and then insert the USB drive into the multimedia player to enable solution playback.

Related Information

- A solution containing media supports USB playback.

- Multiple solutions can be exported to a USB drive each time.

During USB playback, the specified solution is played by default.

Operating Procedure

Step 1   Choose **Solutions** or **Advanced Solutions**.

Step 2   In the solution list, move your mouse over a solution and click , or select one or more solutions and click **USB Playback**.

The USB playback dialog box appears.

Figure 3-19 USB playback
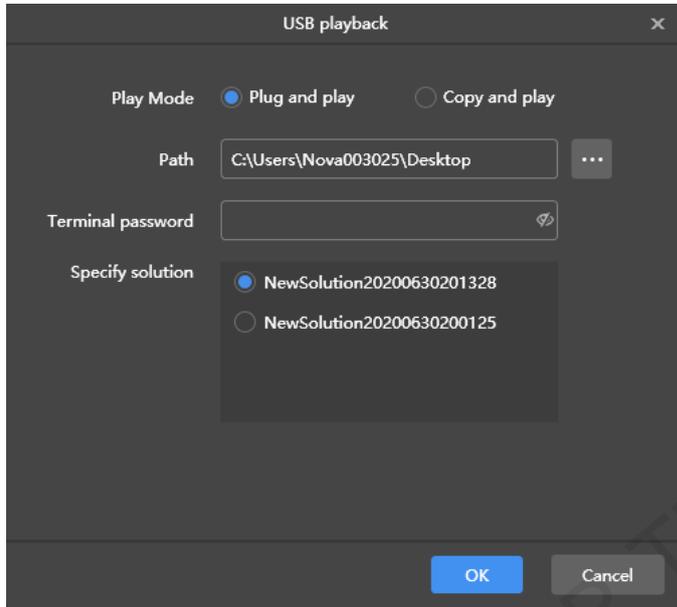
Step 3   Specify a playback mode.

- Plug and play: The solution starts to play as soon as you insert the USB drive where the solution is stored in the terminal. Do NOT remove the USB drive during playback.

- Copy and play: The solution starts to paly after the solution in the USB drive is copied to the terminal. Do NOT remove the USB drive during playback.

Step 4   Click to choose a location to store the solutions to be exported.

Step 5   Enter the connection password of the terminal.

After the USB drive where solutions are stored is inserted into the terminal, the solutions can be played only when the password is correct.

Step 6   Select a solution and click **OK**.

Step 7   After solutions are exported successfully, click **Done**.

3.5 Exporting/Importing Solutions

Applications

Transfer solutions by exporting and importing solution files with ViPlex Express.

Related Information

- A solution containing media can be exported.

- Regular-screen solutions, ultra-long-screen solutions and scheduled advanced solutions can be exported and imported.

Operating Procedure

Export solutions

Step 1   Choose **Solutions** or **Advanced Solutions**.

Step 2   From the solution list, select one or more solutions and then choose **More** > **Export**.

Figure 3-20 Exporting solutions
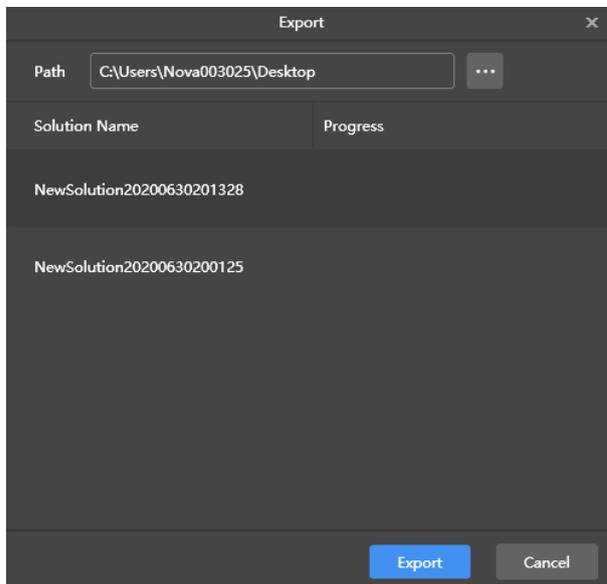
Step 3   Click [...] to choose a location to store the solutions to be exported.

Step 4   Click **Export**.

Note: During solution exporting, ViPlex Express automatically converts the video formats that are not supported by the terminal.

Step 5   After the solutions are exported successfully, close the dialog box.

Import solutions

Step 1   From the **Solutions** page, choose **More** > **Import**.

Or click Import on the **Advanced Solutions** page.

Figure 3-21 Importing solutions
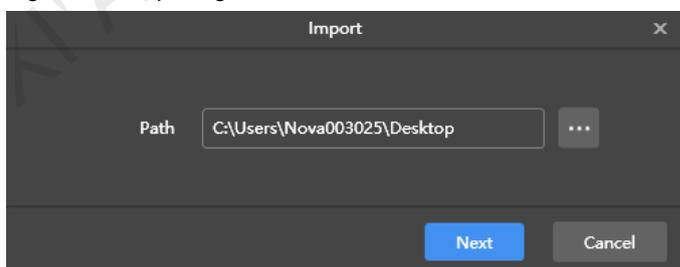
Step 2   Click [...] to choose the location of the local files.

Step 3   Click **Next**.

Step 4   After the solutions are imported successfully, click **Done**.

4 Terminal Control

Function List

| Function	Sub-Function	Taurus LED Players	Taurus LCD Players	VPlayer
Playback management	Adjust volume in real time	√	√	
	Manage terminal solutions	√	√	
Brightness adjustment	-	√		
Video source	Configure video source parameters	√		
	Switch video source	√		
Screen status control	-	√		
Time sycnhronization	Sync time manually	√	√	
	Sync time with NTP	√	√	
	Sync time with RF	√		
Restart configuration	-	√	√	
Color temperature	-	√		
Monitoring	-	√	√ (Available memory usage and CPU usage are not available.)	
Play logs	Query play logs	√	√	
	Export play logs	√	√	
Font management	Add fonts	√	√	
	Delete fonts	√	√	
Network configuration	Configure wired network	√	√	
	Configure Wi-Fi AP	√	√	
	Configure Wi-Fi Sta	√		
	Configure mobile network	√	√	
	Configure network detection	√	√	
Server configuration	Bind to VNNOX Standard/AD	√	√	
	Bind to iCare	√		

Function	Sub-Function	Taurus LED Players	Taurus LCD Players	VPlayer
Terminal upgrade	Online upgrade	√	√	√
	Local upgrade	√	√	√
Power control	-	√	√ (No support for multi-function card power)	
RF management	-	√		
Sensor	-	√		
Screen information	-	√	√	

Common Operations

- Click the **Read back** button to read terminal information back to ViPlex Express Co and display it.

Figure 4-1 Readback
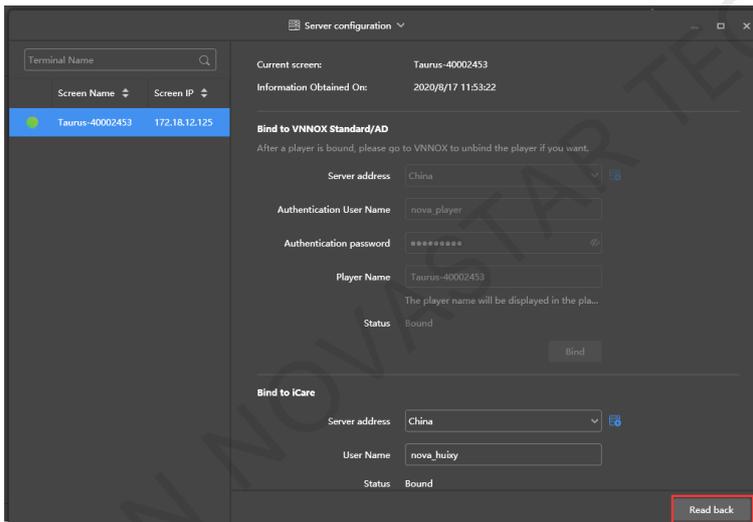

- In the terminal list, you can select multiple terminals with the **Ctrl+Shift** keyboard shortcut.

  Selecting multiple terminals is not available in **Playback management**, **Video source**, **Network configuration**, **Sensor**, and **Screen information**.

Figure 4-2 Selecting multiple terminals
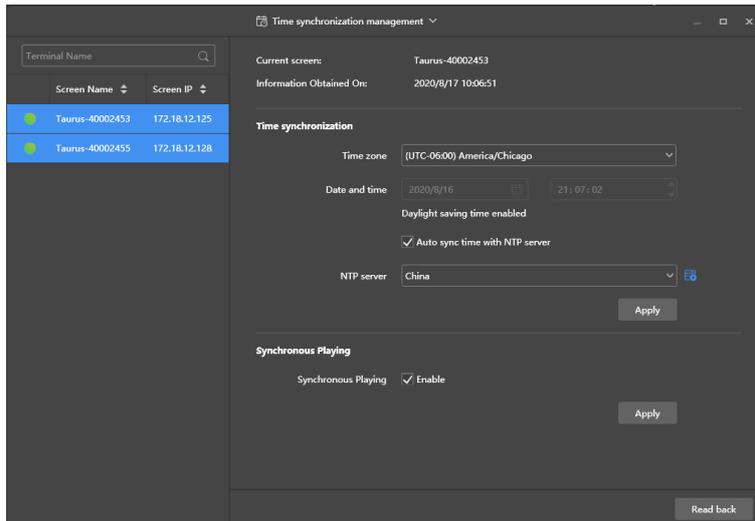
4.1 Playback Management

Manage the playback mode, volume, and content of terminals.

4.1.1 Adjusting Volume in Real Time

Step 1   Choose **Terminal Control** > **Playback Management**.

Step 2   Select the target terminal from the terminal list.

Step 3   In the **Playback Configuration** area, adjust the volume by dragging the slider or entering a value.

When the information related to RF synchronization is displayed, as shown in Figure 4-3, it indicates that volume synchronization is enabled on the current terminal. See relevant operations in 4.15 RF Management. RF synchronization requires you to specify a master device and slave devices. Users only need to set the volume of the master device. The slave devices will keep the same volume as the master device via an RF signal.

Figure 4-3 RF synchronization-volume
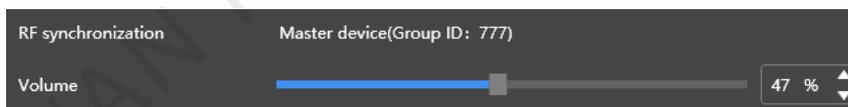
4.1.2 Managing Terminal Solutions

● Viewing screenshot: Click **View Screenshot** to view the real-time screenshot of the solution which is being played on the terminal.

Figure 4-4 Viewing the screenshot
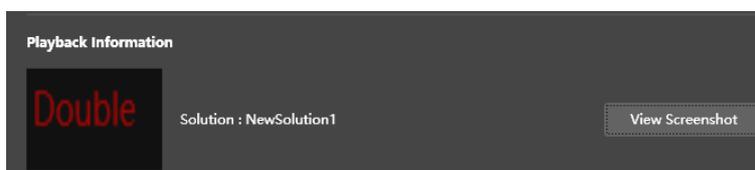
- Playing a solution: Move the mouse to the thumbnail of the solution and click [▶].

Figure 4-5 Solution list
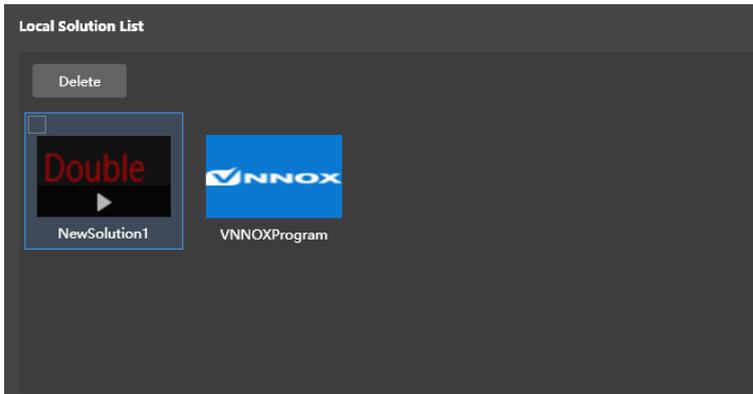
- Stopping playing a solution: Move the mouse to the thumbnail of the solution and click [ ].

- Deleting a solution: Select a solution in the solution thumbnail list and click **Delete**.

- Rotating a solution: Select a rotation angle from the drop-down box next to **Rotation Playback**. The rotation angle is an absolute angle.

Figure 4-6 Solution rotation
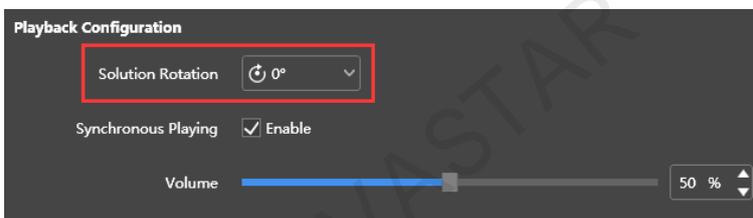
4.2 Brightness Adjustment

Manually adjust the brightness or set rules of smart brightness adjustment.

When the information related to RF synchronization is displayed, as shown in Figure 4-7, it indicates that brightness synchronization is enabled on the current terminal. See relevant operations in 4.15 RF Management. RF synchronization requires you to specify a master device and slave devices. Users only need to set the brightness of the master device. The slave devices will keep the same brightness as the master device via the RF signal.

Figure 4-7 RF synchronization-brightness
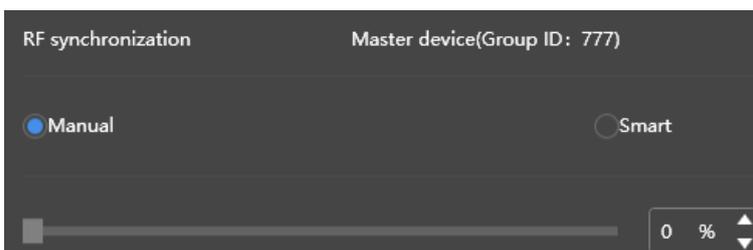
4.2.1 Manual Adjustment

Step 1　Choose **Terminal Control** > **Brightness adjustment**.

Step 2　Select the target terminal in the terminal list.

Step 3　Choose **Manual**, and drag the slider or enter a value to adjust screen brightness.

Figure 4-8 Manual adjustment
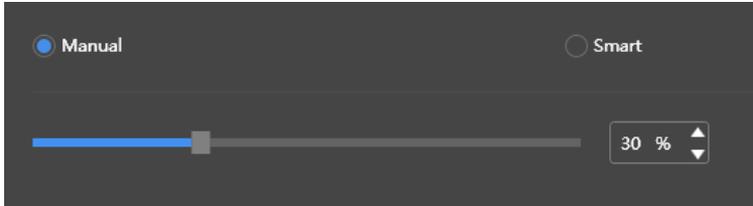
4.2.2 Smart Adjustment

Step 1　Choose **Terminal Control** > **Brightness adjustment**.

Step 2　Select the target terminal in the terminal list.

Step 3　Choose **Smart** and click ➕. In the window that appears, choose **Timing** or **Auto** and set the corresponding brightness adjustment rules, then click **Add**.

Figure 4-9 Smart brightness adjustment
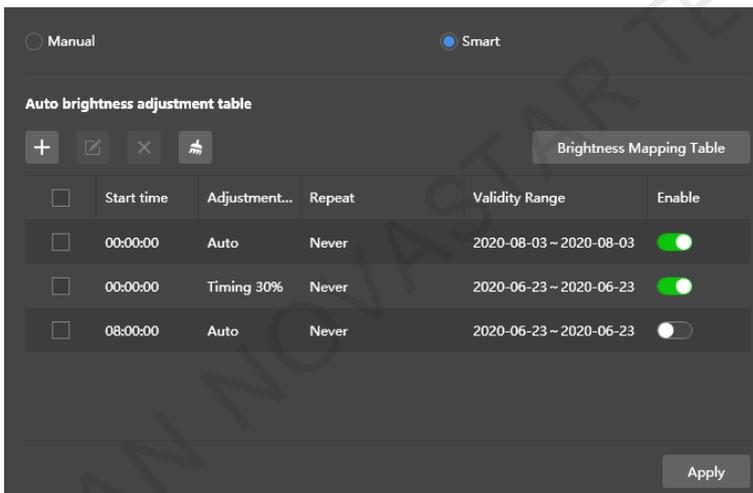
- Timing brightness adjustment: During the period that you set to enable smart adjustment, the screen brightness will be the fixed value that you manually set.

Figure 4-10 Scheduled brightness adjustment

- Automatic brightness adjustment: During the period that you set to enable auto adjustment, the screen brightness will be automatically adjusted according to the automatic brightness mapping table.

  The automatic brightness mapping table divides the ambient brightness into several subsections and sets corresponding screen brightness to each subsection. The screen brightness will be automatically adjusted according to the ambient brightness subsection where the current ambient brightness belongs to.

Figure 4-11 Automatic brightness adjustment

Figure 4-12 Brightness mapping table
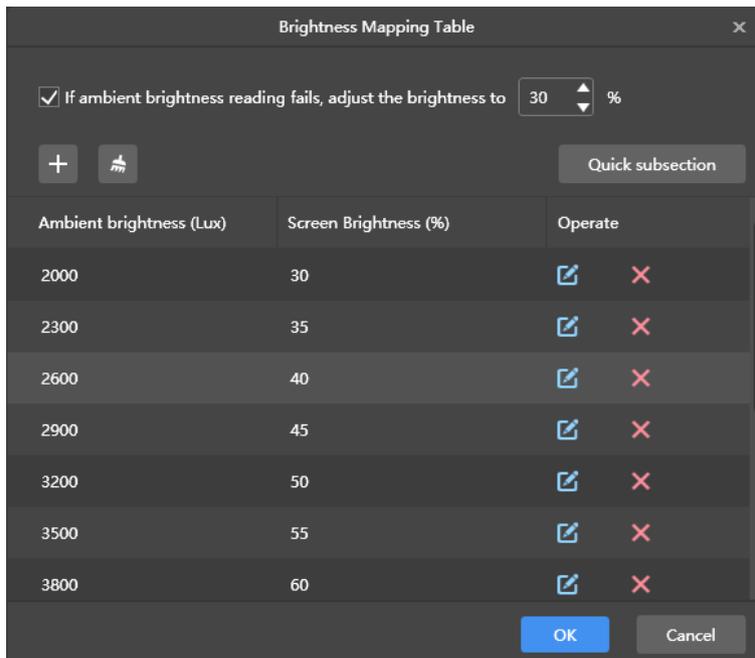
Step 4   After configuration, click **Apply**.

4.3 Video Source

Configure video source parameters and specify the rule of setting the input source to HDMI or the internal video source.

4.3.1 Video Source Parameter Configuration

Set the output offset position of the video source, resolution of the internal video source, and resolution of the HDMI video source.

Step 1   Choose **Terminal Control** > **Video Source**.

Step 2   Select the target terminal from the terminal list.

Step 3   In the **Parameter Configuration** area, configure the parameters.

- Output Position: Set the start position of the image displayed on the screen.

- Internal Resolution: Refers to the resolution of the operating system of the Taurus multimedia player. The internal resolution must be higher than the configured resolution of the screen.

- HDMI Resolution: Refers to the resolution of the external video source input from the HDMI IN connector.

    In studio mode, users can enable full screen zoom to let the image automatically fit the screen.

    Requirments of full screen zoom in studio mode:

    −   64 pixels ≤ Video source width ≤ 2048 pixels

    −   Support for zooming out only

Figure 4-13 Parameter configuration
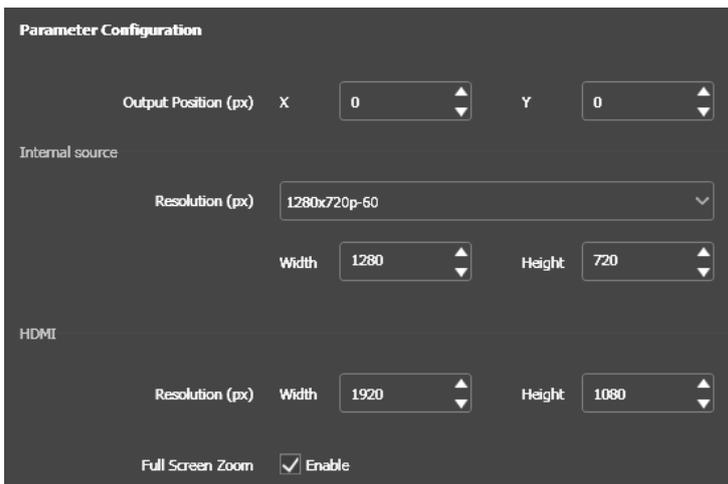
Step 4   After the configuration, click **Apply**.

4.3.2 Manual Switching

Immediately switch between the internal input source and HDMI input source.

Step 1   Choose **Terminal Control** > **Video source**.

Step 2   Select the target terminal in the terminal list.

Step 3   Choose **Manual** and configure parameters.

Figure 4-14 Manual switching
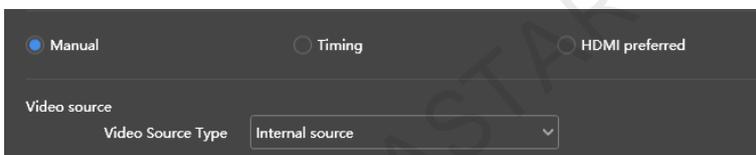
Step 4   Click **Apply**.

4.3.3 Scheduled Switching

Switch between the internal input source and HDMI input source as scheduled.

Step 1   Choose **Terminal Control** > **Video source**.

Step 2   Select the target terminal in the terminal list.

Step 3   Choose **Timing**.

Figure 4-15 Scheduled switching
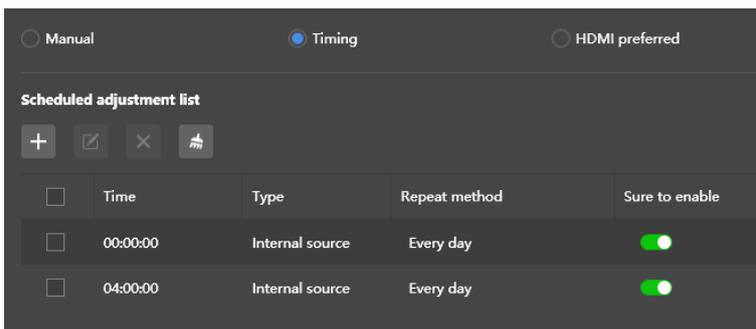
Step 4   Click [+]. In the pop-up dialog box, choose **Internal** or **HDMI**, and then set the time and cycle to use the video source. At last, click **Add**.

Figure 4-16 Creating a scheduled rule
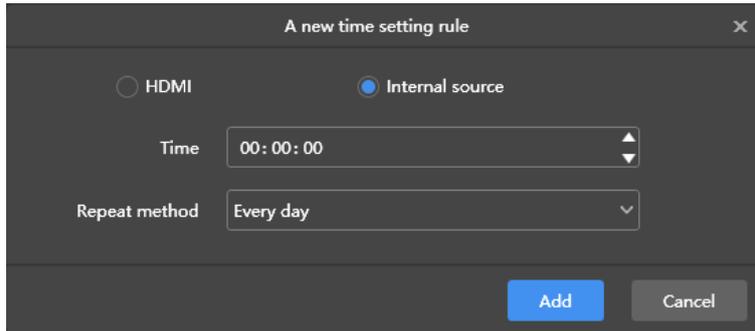
Step 5   After the configuration, click **Apply**.

4.3.4 HDMI Preferred

The HDMI port is preferred for playing the video in the synchronous mode.

Step 1   Choose **Terminal Control** > **Video source**.

Step 2   Select the target terminal in the terminal list.

Step 3   Choose HDMI preferred.

Figure 4-17 HDMI preferred
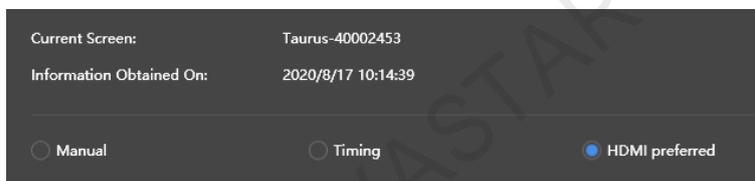
Step 4   After configuration, click **Apply**.

4.4 Screen Status Control

Set the current playing status of the screen.

4.4.1 Manual Control

Step 1   Choose **Terminal Control** > **Screen Status Control**.

Step 2   Select the target terminal in the terminal list.

Step 3   Choose **Manual** to enter the manual settings page.

Figure 4-18 Manual Control
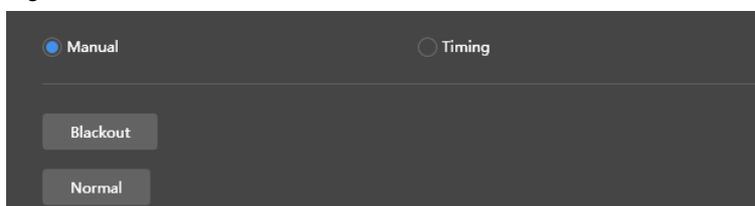
Step 4   Click **Blackout** or **Normal**.

Here the blackout is to decrease the screen brightness to 0% instead of turning off the power.

4.4.2 Timing Control

Step 1   Choose **Terminal Control** > **Screen Status Control**.

Step 2   Select the target terminal in the terminal list.

Step 3   Choose **Timing** and click ![+]. In the window that appears, click **Blackout** or **Normal** and set the playback time and interval, then click **Add**.

Figure 4-19 Scheduled control
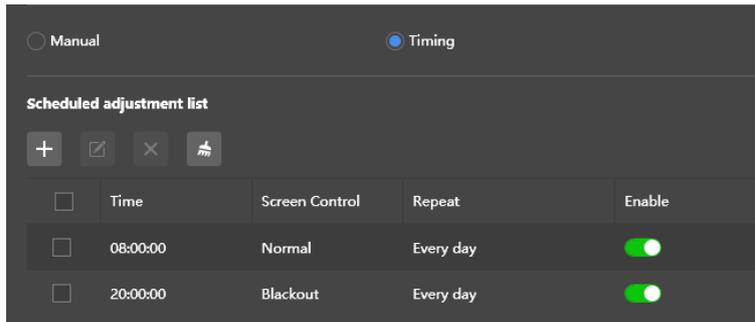
Figure 4-20 Creating a scheduled rule
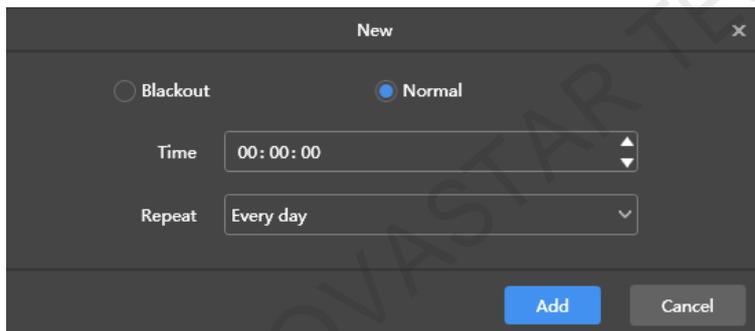
Step 4   After the settings, click **Apply**.

4.5 Time Synchronization

Time synchronization is used for syncing the time of terminal players.

Table 4-1 Time synchronization methods

Method	Time Reference	Application Scenario
Manual	Time of the PC with ViPlex Express installed	Manually set the time zone of the terminal.
NTP	Time of the NTP server	Sync the time of the Taurus with NTP or RF. Both of the two methods are applicable to synchronous playback.
RF	Time of the reference device	• The accuracy of NTP time synchronization depends on the network speed and is suitable for situations with a low requirement for synchronization.

Method	Time Reference	Application Scenario
		• RF time synchronization does not depend on the network and has a high synchronization performance. It is suitable for situations with a high requirement for synchronization.

Note:

To enable synchronous playback, you need to turn on the synchronous playback function after syncing the time with NTP or RF.

4.5.1 Syncing Time Manually

Sync the time of the terminal with the date and time of the selected time zone.

Step 1 Choose **Terminal Control** > **Time synchronization management**.

Step 2 Select the target terminal from the terminal list.

Step 3 Select a time zone from the **Time Zone** drop-down box. You can also adjust the current date and time as required.

If the current time zone observes daylight saving time and the current date is within the range of daylight saving time, **Daylight saving time enabled** will be displayed, otherwise, it will not be displayed.

Figure 4-21 Selecting a time zone
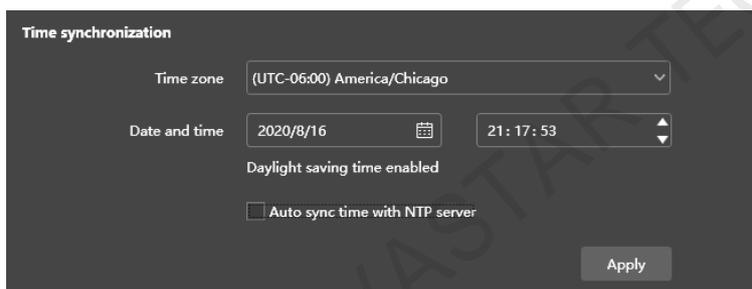
Step 4 After the settings, click **Apply**.

4.5.2 NTP Time Synchronization

Sync the time of terminal players with the time of the NTP server.

Step 1 Choose **Terminal Control** > **Time synchronization management**.

Step 2 Select the target terminal from the terminal list.

Step 3 (Optional) Change the time zone in the **Time Zone** drop-down box.

If the current time zone observes daylight saving time and the current date is within the range of daylight saving time, **Daylight saving time enabled** will be displayed, otherwise, it will not be displayed.

Step 4 Select **Auto sync time with NTP server** and then select an NTP server to sync the time of the terminal with the time of the NTP server. If the existing NTP servers cannot meet the requirements, click to customize a server.

Figure 4-22 Selecting an NTP server

Time synchronization

Time zone	(UTC-06:00) America/Chicago
Date and time	2020/8/16 21 : 18 : 10
	Daylight saving time enabled
	☑ Auto sync time with NTP server
NTP server	China

Apply

Step 5   After the settings, click **Apply**.

4.5.3 RF Time Synchronization

Related Information

To use RF time synchronization, you need to set one of the Taurus units on the RF network as the master device and others as slave devices.

● The master device is used for time reference and the time of the slave devices is synced with the time of the master device via the RF signal.

● The Taurus allows the master device to sync time with an NTP server.

Prerequisites

● The Taurus products support RF synchronization, such as T3, T6, TB3, TB4, TB6, and TB8.

● Before RF time synchronization, RF modules must be installed. ViPlex Express can detect and display the RF module status.

Operating Procedure

Set the master and slave devices

Step 1   Choose **Terminal Control** > **RF management**.

Step 2   Select the target terminal from the terminal list.

Step 3   Turn on **RF synchronization**.

Step 4   Set the current device as the master device or slave device.

Step 5   Set a group ID.

If you enter the group ID of the master device for a slave device, the slave device will be assigned to the same group as the master device.

Step 6   Select **Time synchronization**.

After RF synchronization is applied, the time, brightness, volume, and environment monitoring data of the slave devices will be kept the same as the master device via the RF signal. Select the options that require RF synchronization.

Figure 4-23 Master device

Figure 4-24 Slave device

Step 7   Click **Apply**.

Set a time synchronization method for the master device

You need to set time synchronization rules for the master device only and the time of the slave devices will be kept in sync with the time of the master device via the RF signal.

Step 8   Choose **Terminal Control** > **Time synchronization management**.

Step 9   Select the master terminal from the terminal list.

The information relating to RF synchronization is displayed, which indicates that RF synchronization of the current terminal is enabled.

Figure 4-25 RF synchronization-Time synchronization

Step 10   View the time zone and time of the current terminal.

If the current time zone observes daylight saving time and the current date is within the range of daylight saving time, **Daylight saving time enabled** will be displayed, otherwise, it will not be displayed.

Step 11   Configure rules for time synchronization.

- Manual time synchronization: Select a time zone from the **Time Zone** drop-down box to sync the time of the terminal with the date and time of the time zone. You can also adjust the current date and time as required.

- NTP synchronization: Select **Auto sync time with NTP server** and then select an NTP server to sync the time of

  the terminal with the time of the NTP server. If the existing NTP servers cannot meet the requirements, click

  to customize a server.

Step 12   After the settings, click **Apply**.

4.6 Restart Configuration

Restart terminals immediately and configure restart rules.

4.6.1 Restarting Immediately

Step 1   Choose **Terminal Control** > **Restart Configuration**.

Step 2   Select the target terminal in the terminal list.

Step 3   Click **Restart Now**.

Figure 4-26 Restart

Step 4   Click **OK** in the pop-up dialog box to restart the terminal immediately.

4.6.2 Scheduled Restart

Step 1   Choose **Terminal Control** > **Restart Configuration**.

Step 2   Select the target terminal from the terminal list.

Step 3   Click ![+]. Set the time and interval to restart a terminal in the pop-up dialog box and then click **Add**.

Figure 4-27 Scheduled adjustment
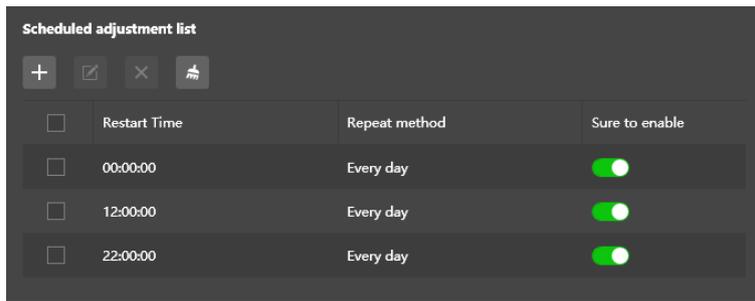
Figure 4-28 Creating a scheduled rule
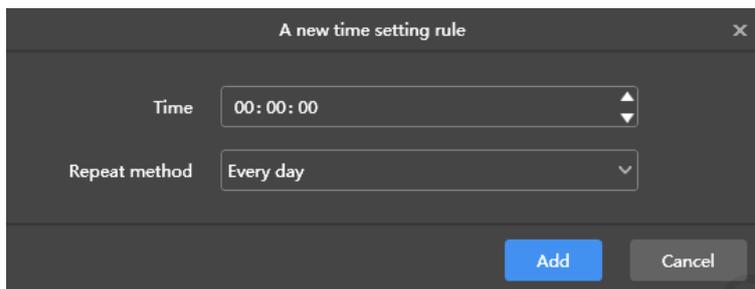
Step 4   After the settings, click **Apply**.

4.7 Color Temperature

Set the color temperature of the screen, including neutral white, standard white, and cool white.

Step 1   Choose **Terminal Control** > **Color temperature**.

Step 2   Select the target terminal in the terminal list.

Step 3   Select a color temperature type.

Figure 4-29 Color temperature
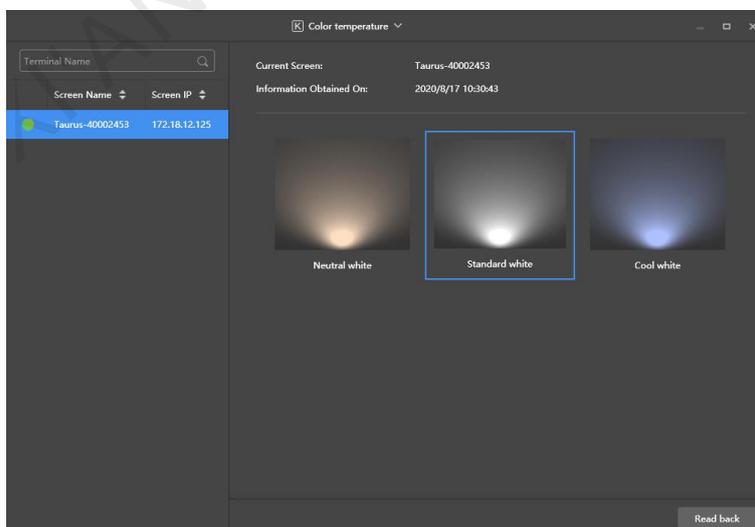
4.8 Monitoring

Step 1   Choose **Terminal Control** > **Monitoring**.

Step 2   Select the target terminal in the terminal list.

Step 3   Check the terminal hardware information listed below. If the terminal has an external storage device, you can also check the external storage information.

- Disk size

- Memory availability

- CPU usage

- Ambient brightness

Figure 4-30 Monitoring
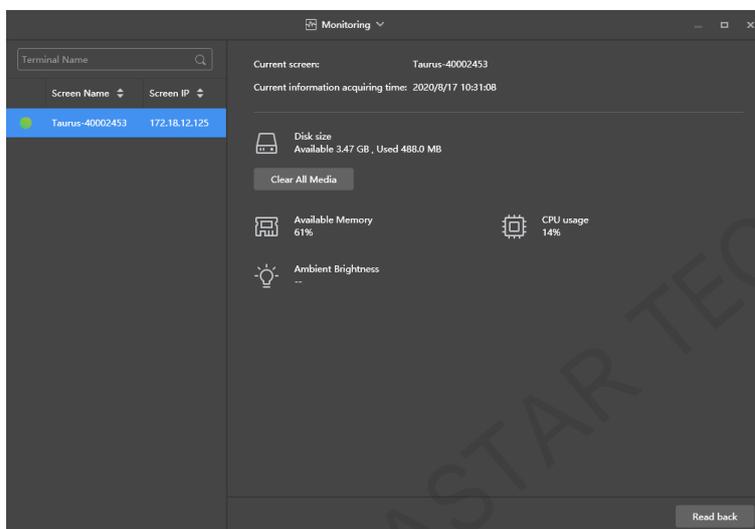
Step 4   If you want to clean up the hard disk, click **Clear All Media** to delete all the media and solutions.

4.9 Play Logs

View and export play logs.

4.9.1 Querying Play Logs

Step 1   Choose **Terminal Control** > **Play logs**.

Step 2   Select the target terminal in the terminal list.

Step 3   Choose the time range of the play log that you want to view and then click **Query**.

Step 4   In the paly log list, click a play log name to view the summary and detailed information of the log.

4.9.2 Exporting Play Logs

Step 1   Choose **Terminal Control** > **Play logs**.

Step 2   Select the target terminal in the terminal list.

Step 3   In the play log list, select the target play log.

Step 4   Click **Export**.

Step 5   In the pop-up dialog box, choose the export path and format.

Step 6   Click **OK**.

4.10 Font Management

Manage the fonts supported by the Taurus.

4.10.1 Adding Fonts

Step 1   Choose **Terminal Control** > **Font management**.

Step 2   Select the target terminal in the terminal list.

Step 3   Click [+] next to **Name** to acquire local fonts on the PC.

Figure 4-31 Local fonts
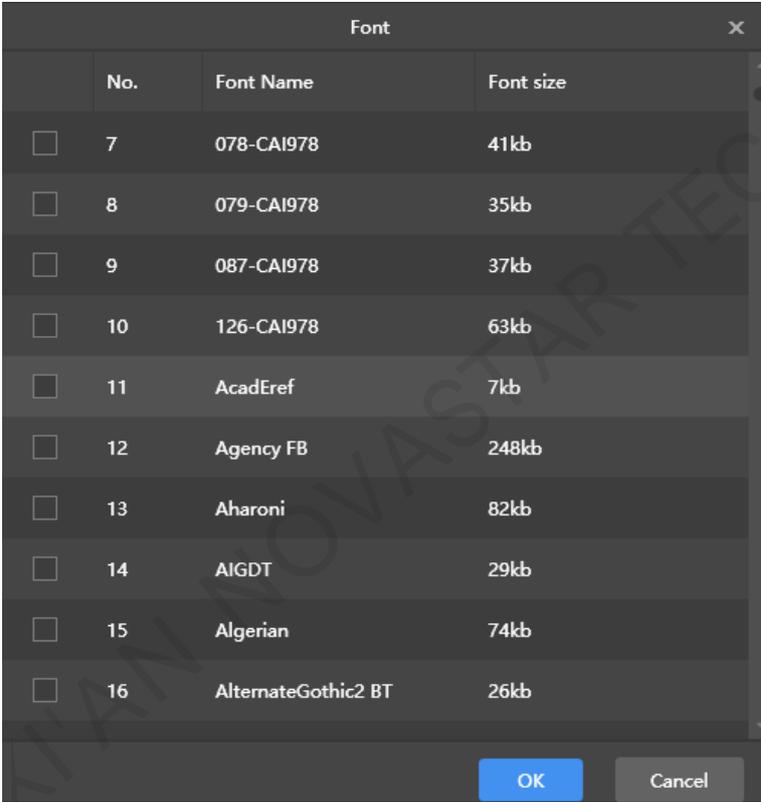
	No.	Font Name	Font size
☐	7	078-CAI978	41kb
☐	8	079-CAI978	35kb
☐	9	087-CAI978	37kb
☐	10	126-CAI978	63kb
☐	11	AcadEref	7kb
☐	12	Agency FB	248kb
☐	13	Aharoni	82kb
☐	14	AIGDT	29kb
☐	15	Algerian	74kb
☐	16	AlternateGothic2 BT	26kb

OK   Cancel

Step 4   Select the target font in the pop-up dialog box.

Step 5   Click **OK**.

Step 6   Click **Update**. The update progress will be shown in the **Update result** column.

Figure 4-32 Adding a font
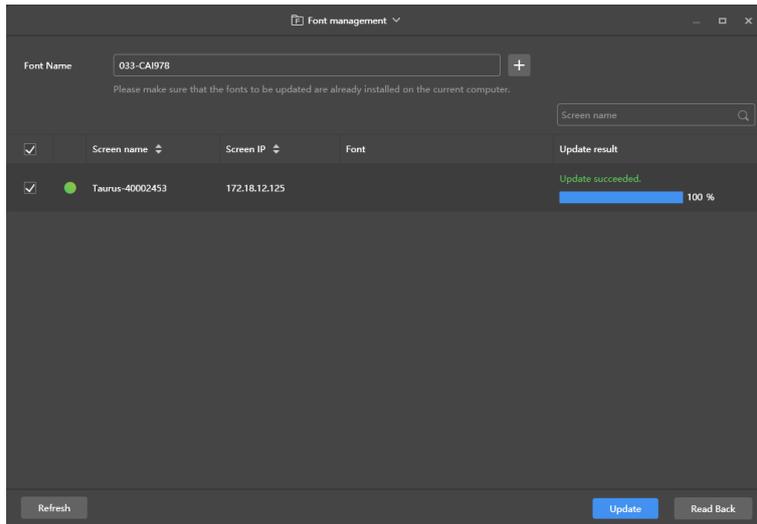
4.10.2 Deleting Fonts

Step 1   Choose **Terminal Control** > **Font management**.

Step 2   Select the target terminal in the terminal list.

Step 3   Click **Read back** at the bottom right to read back the fonts on the terminal.

Figure 4-33 Reading back a font
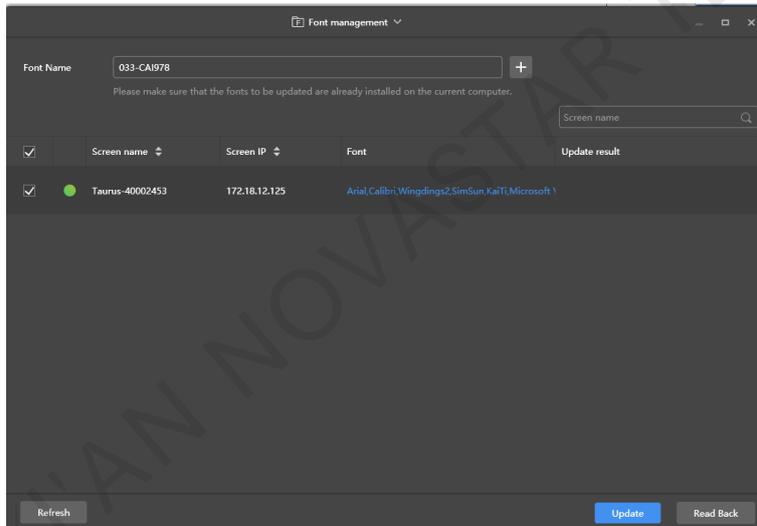
Step 4   Click the link in the **Font** column of the target terminal. The **Font list in terminal** page is displayed.

Figure 4-34 Terminal font list
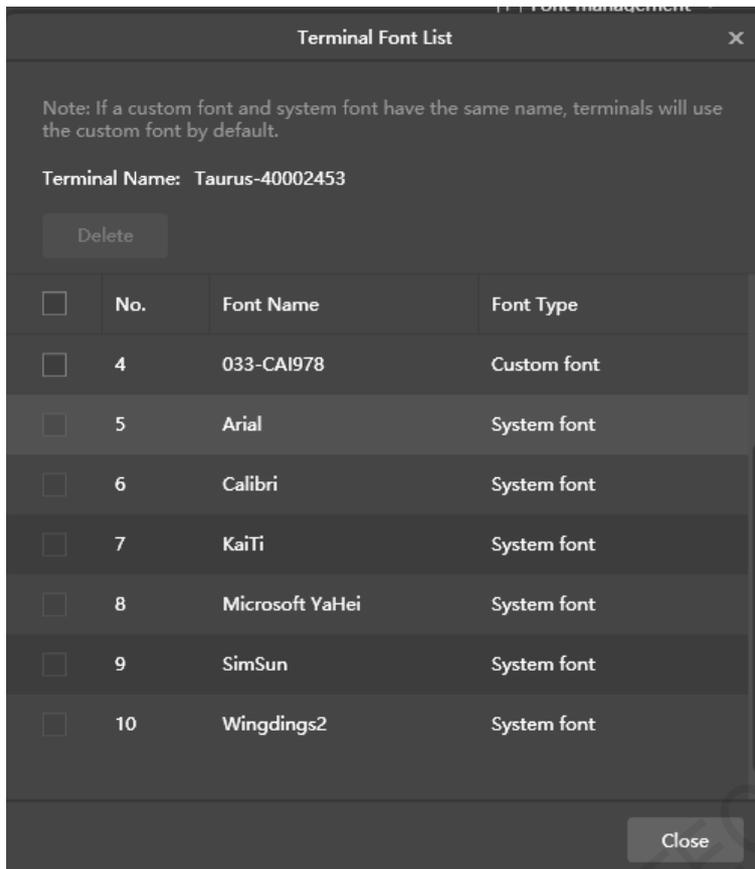
Step 5   Select target fonts.

Step 6   Click **Delete**.

4.11 Network Configuration

Configure the current network, including wired network, Wi-Fi AP, Wi-Fi Sta, and mobile network.

4.11.1 Configuring Wired Network

Application Scenarios

- Set IP address based on the actual needs while connecting terminals to the Internet via Ethernet cable.

- When the PC with ViPlex Express installed and the multimedia player are connected with an Ethernet cable, turn on the DHCP of the multimedia player and the DHCP service at the bottom left of ViPlex Express, select a local IP address, and then click **OK** to automatically connect to the Taurus.

  If the connection is not stable, set a static IP address for the PC.

Figure 4-35 DHCP service (ViPlex Express)
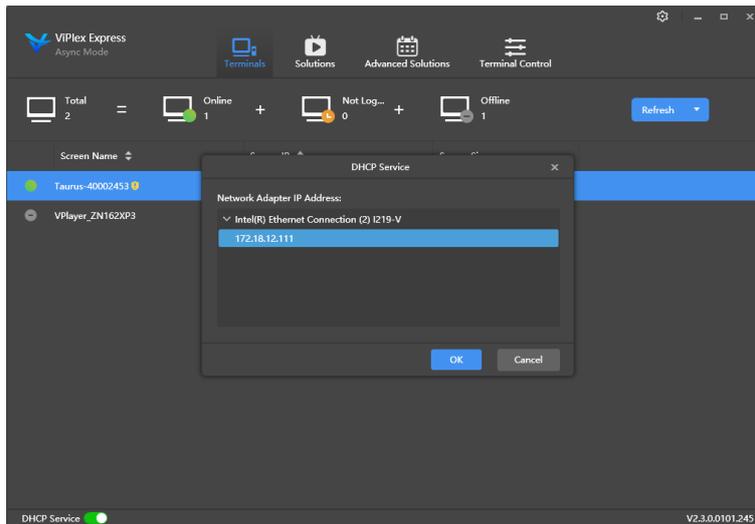
Related Information

When the Taurus is delivered, the DHCP is turned on by default.

Operating Procedure

Step 1   Choose **Terminal Control** > **Network configuration**.

Step 2   Select the target terminal in the terminal list.

Step 3   In the **Wired network configuration** area, perform the following operations based on actual needs.

- Select **Enable** next to **Dynamic DHCP** to get an IP address automatically.

- Deselect **Enable** next to **Dynamic DHCP** and configure a static IP address.

Figure 4-36 Wired network configuration
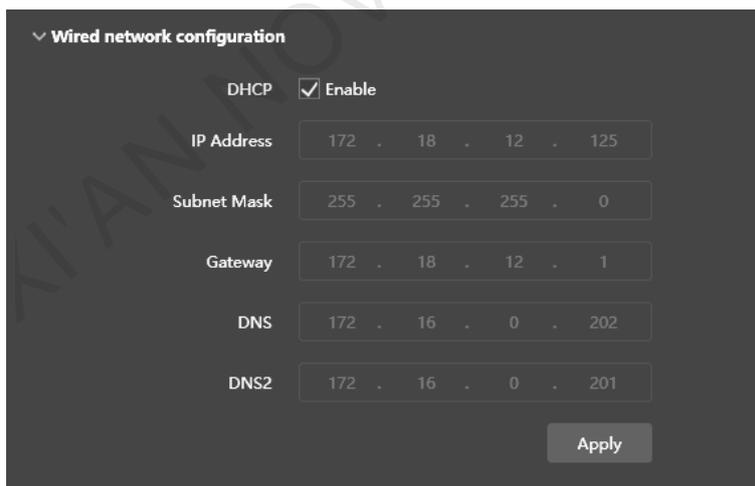
Step 4   Click **Apply**.

4.11.2 Configuring Wi-Fi AP

Change the SSID, password and channel of a terminal.

Step 1   Choose **Terminal Control** > **Network configuration**.

Step 2   Select the target terminal from the terminal list.

Step 3   Under **Screen AP configuration**, do the following as required.

- AP Status: Turn on/off the terminal Wi-Fi AP.

- SSID and Password: Change the ID and password of the terminal Wi-Fi AP.

  The default SSID of the terminal Wi-Fi AP is "AP + *Last 8 digits of the SN*" and the default password is "12345678".

- Advanced > Channel: Switch the channel of the Wi-Fi AP.

  The channel can be switched when the terminal software is V2.2.0 or later.

Figure 4-37 Screen AP configuration
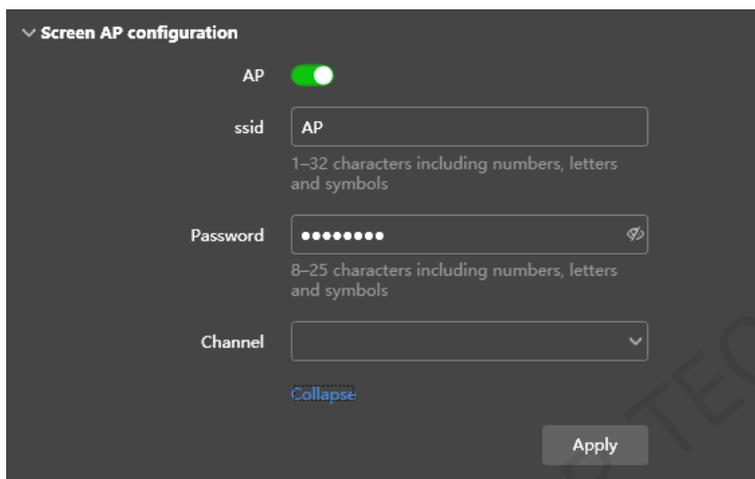
Step 4   Click **Apply**.

4.11.3 Configuring Wi-Fi Sta

Application Scenarios

- If the router is connected to the Internet, terminals can access the Internet via the router after Wi-Fi Sta is configured.

- The PC with ViPlex Express installed and the multimedia player are connected to the same WLAN via the Wi-Fi AP of the router.
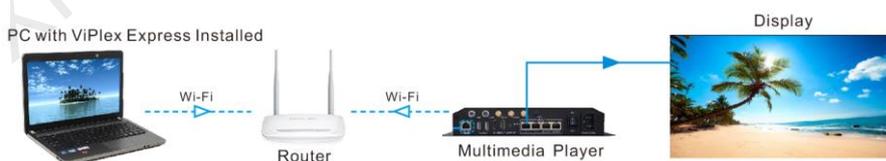
Prerequisites

The Taurus series products that support the WI-Fi Sta function include the TB3, TB6, and TB8.

Operating Procedure

Step 1   Choose **Terminal Control** > **Network configuration**.

Step 2   Select the target terminal in the terminal list.

Step 3 In the **Wi-Fi configuration** area, turn on Wi-Fi.

Figure 4-38 Wi-Fi configuration
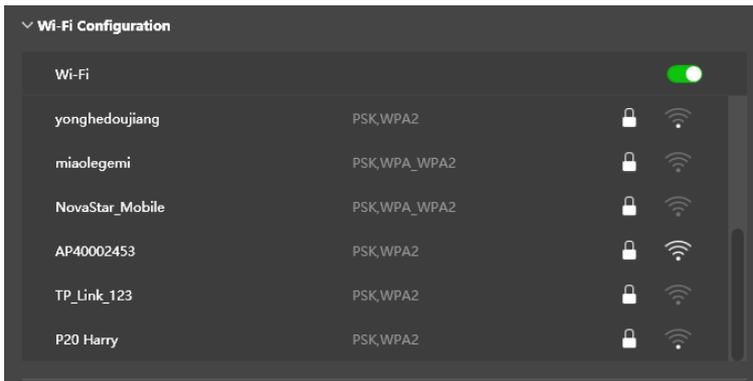
Step 4 Double click the Wi-Fi information of the router, enter the password and then click **OK**.

Figure 4-39 Wi-Fi connection
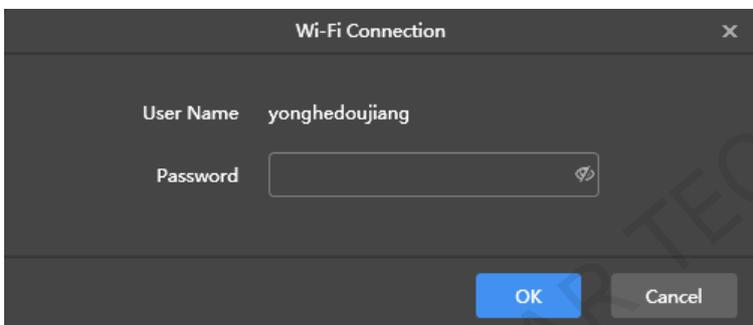
4.11.4 Configuring Mobile Network

Terminals with a 4G module can access the Internet via a mobile network. ViPlex Express automatically detects mobile network status and displays the detection result.

Note:

The Taurus series products that can be installed with 4G modules include the TB1-4G, TB2-4G, TB3, TB4, TB6, and TB8.

Step 1 Insert 4G card into the slot.

Step 2 Choose **Terminal Control** > **Network configuration**.

Step 3 Select the target terminal in the terminal list.

Step 4 On the Mobile network configuration page, turn on the mobile network.

Step 5 Click 〉 to expand the APN configuration page.

Step 6 Click **Add**.

Step 7 Enter parameters according to the APN information provided by the carrier and then click **OK**.

Step 8 Select the APN and click **Connect**.

4.11.5 Configuring Network Detection

Terminals ping the cloud platform and www.baidu.com to detect network connection status by default. Users can also configure required addresses to ping and enable or disable the addresses.

Step 1   Choose **Terminal Control** > **Network configuration**.

Step 2   Select the target terminal in the terminal list.

Step 3   In **Network Detection**, configure detection addresses.

- Click ![add icon] to add an address.

- Click ![modify icon] to modify an address.

- Click ![delete icon] to delete an address.

The default configuration cannot be modified and deleted.

Figure 4-40 Network detection
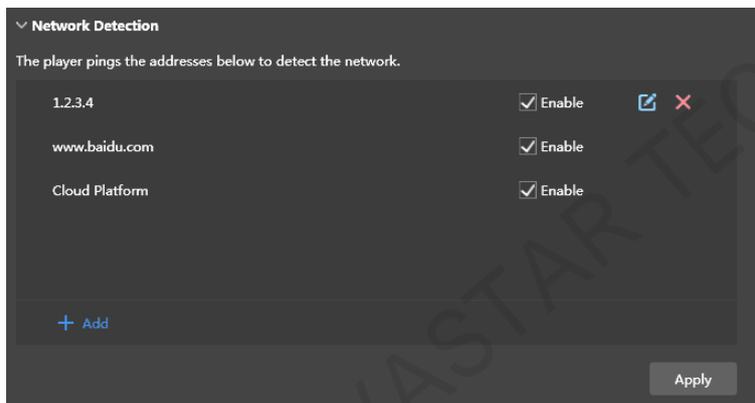
Step 4   Enable or disable detection addresses.

- Select **Enable** to detect the terminal network by pinging the corresponding address.

- Deselect **Enable** to detect terminal network not by pinging the corresponding address.

Step 5   Click **Apply**.

4.12 Server Configuration

Connect to VNNOX Standard/AD. Authentication information is required during the configuration.

How to check player authentication information:

Log in to VNNOX (www.vnnox.com) and choose ![icon] > **Player Authentication** on the homepage of the cloud platform.

4.12.1 Binding to VNNOX Standard/AD

You can bind a terminal to VNNOX and create an asynchronous player.

Step 1   Choose **Terminal Control** > **Server configuration**.

Step 2 Select the target terminal from the terminal list.

Step 3 In **Bind to VNNOX Standard/AD**, select a server and enter the authentication user name, authentication password and player name. The authentication information must be consistent with the information in VNNOX.

Figure 4-41 Binding to VNNOX Standard/AD

Step 4 Click **Bind**.

4.12.2 Binding to iCare

Terminals can be registered on iCare. Multiple terminals can be selected for batch operations.

Step 1 Choose **Terminal Control** > **Server configuration**.

Step 2 Select the target terminal from the terminal list.

Step 3 In **Bind to iCare**, select a server and enter the user name.

The authentication information must be consistent with the information in VNNOX.

Figure 4-42 Binding to iCare

Step 4 Click **Bind**.

4.13 Terminal Upgrade

- Taurus: Upgrade application and system software versions.

- VPlayer: Upgrade the version of VPlayer.

Note: Do not power off the terminal and computer during the upgrade. The terminal will restart once.

4.13.1 Online Upgrade

Upgrade terminal versions online. Before you begin, please make sure that your PC can access the Internet.

Step 1   Choose **Terminal Control** > **Terminal Upgrade**.

Step 2   Select Online Upgrade.

The system decides whether a terminal needs to be upgraded.

- Yes. The current version information and ● More will be displayed, as shown in Figure 4-43. Go to Step 3.

- No. Only the current version information is displayed. No further operation is required.

Figure 4-43 Online upgrade
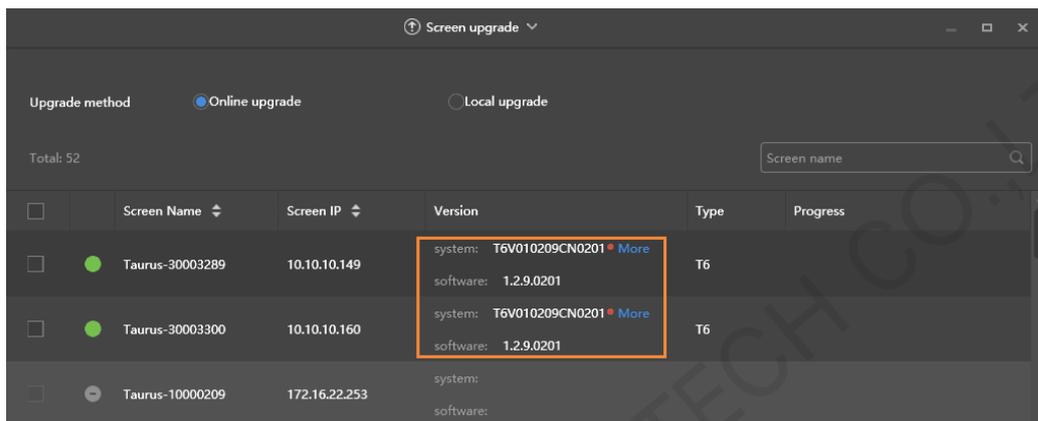
Step 3   Click **More** and view the related information of the new version.

Step 4   In the terminal information list, select one or more upgradable terminals and click **Upgrade**.

The upgrade progress is displayed.

4.13.2 Local Upgrade

Use local files to upgrade terminal versions.

Step 1   Choose **Terminal Control** > **Terminal Upgrade**.

Step 2   Select Local Upgrade.

Step 3   Select the upgrade package path.

Step 4   In the terminal information list, select one or more upgradable terminals and click **Upgrade**.

The upgrade progress is displayed.

4.14 Power Control

When the power switch in ViPlex Express is turned on, the relay will operate and the circuit is connected. When the power switch in ViPlex Express is turned off, the relay will release and the circuit is disconnected.

4.14.1 Configuring Power Tags

Application Scenarios

Customizing a tag for each relay allows terminal relays with the same tag to operate or release uniformly.

Prerequisites

- The terminal is connected to a relay card.

- The terminal software is V2.2.0 or later.

  If the terminal software is earlier than V2.2.0, the **Power control** page of the earlier versions will be displayed and a prompt will be displayed to remind the user to upgrade the terminal to V2.2.0 or later.

Operating Procedure

Step 1   Choose **Terminal Control** > **Power control**.

Step 2   Select the target terminal from the terminal list.

Step 3   Click **Configure Power Tag** to access the **Power Tag** page. Do the following according to the actual conditions.

- Board power: Control power supplies using relays on terminals. The default tag is **Screen Power** which can be customized.

- External power: Control power supplies using relays on terminals with customized baseboards (Only when the TKS series terminals have customized baseboards and are installed with relays, external power supplies can be connected.) . The default tag is **Screen Power** which can be customized.

- Multi-function card power: Control power supplies using relays on the MFN300 multi-function card. Only the tags selected and set for the multi-function card in NovaLCT can be viewed.

Step 4   Click **OK**.

4.14.2 Controlling Power Manually

Step 1   Choose **Terminal Control** > **Power control**.

Step 2   Select the target terminal from the terminal list.

Step 3   Select **Manual** to enter the manual setting page.

Step 4   Turn on or off the power switch.

An example of information on the multi-function card power supply is shown in Figure 4-44.

Figure 4-44 Manual setting
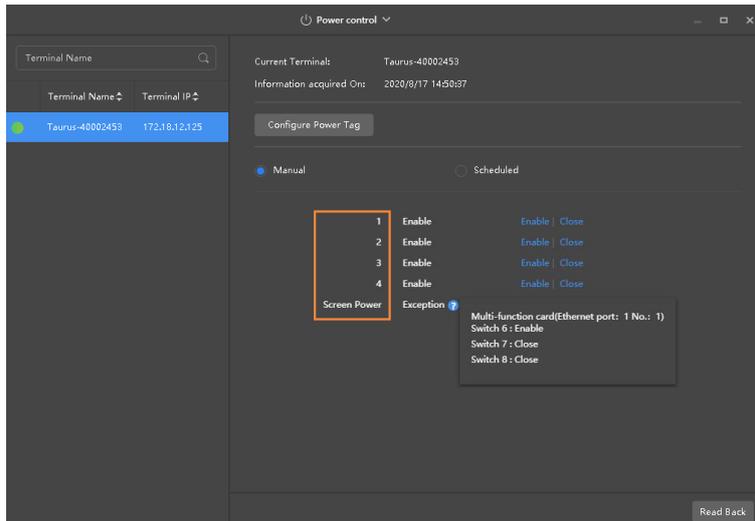
The tags in the orange box can be associated with one or more relay circuits. When multiple relay circuits are associated and each of them is turned on (or off), **Enable** (or **Close**) is displayed, otherwise, **Mixture** is displayed and the detailed information of each circuit is provided.

4.14.3 Controlling Power as Scheduled

Step 1 Choose **Terminal Control** > **Power control**.

Step 2 Select the target terminal from the terminal list.

Step 3 Choose **Scheduled** and click ➕. In the window that appears, specify the device to be controlled, time and interval, and then click **OK**.

Step 4 After the settings are done, click **Apply**.

4.15 RF Management

Set parameters related to RF synchronization and apply the parameters to time synchronization, brightness synchronization, volume synchronization and environment monitoring data synchronization and enable or disable

The Taurus products that support RF management include the T3, T6, TB3, TB4, TB6, and TB8.

Before using RF synchronization, install an RF module. ViPlex Express can detect and display RF module status.

Step 1 Choose **Terminal Control** > **RF management**.

Step 2 Select the target terminal from the terminal list.

Step 3 Turn on **RF synchronization**.

Step 4 Set the current terminal as the master device or a slave device.

Step 5 Set a group ID.

Enter the group ID of the master device for a slave device, and this slave device and the master device will be grouped.

Step 6 Select the options that require RF synchronization.

After RF synchronization is applied, the time, brightness, volume, and environment monitoring data of the slave device will keep the same as the master device via the RF signal.

Figure 4-45 RF management
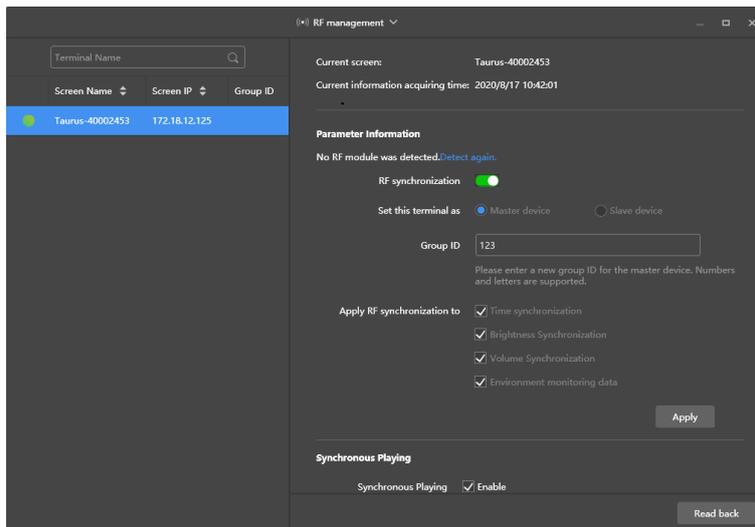
Step 7   Click **Apply**.

4.16 Sensor

If a sensor is connected to the terminal, the user needs to connect to the sensor logically in ViPlex Express to enable the terminal to collect environment monitoring data.

When the related information of RF synchronization is displayed, as shown in Figure 4-46, it indicates that environment monitoring data synchronization is enabled on the current terminal. For related operations, see 4.15 RF Management. RF synchronization requires users to specify a master device and slave devices. Users need to set the sensors of the master device only and the monitoring data of the slave devices will the same as the master device via RF signal.

Figure 4-46 RF synchronization- environment monitoring data
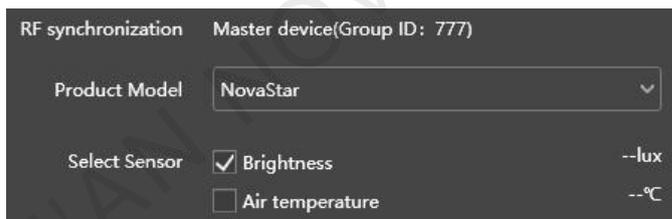
Step 2   Choose **Terminal Control** > **Sensor**.

Step 1   Select the target terminal from the terminal list.

Step 2   Select a sensor manufacturer. Sensors of only NovaStar, Nenghui and Jingxun Changtong are supported.

Step 3   Select a sensor type.

- NovaStar: Brightness, temperature

- Nenghui: Air temperature, air humidity, air pressure, wind direction, CO_2, wind speed, PM2.5, PM10, noise, brightness

- Jingxun Changtong: Wind direction, wind speed, PM2.5, PM10, air pressure, air temperature, air humidity, noise, brightness

Figure 4-47 Sensor types
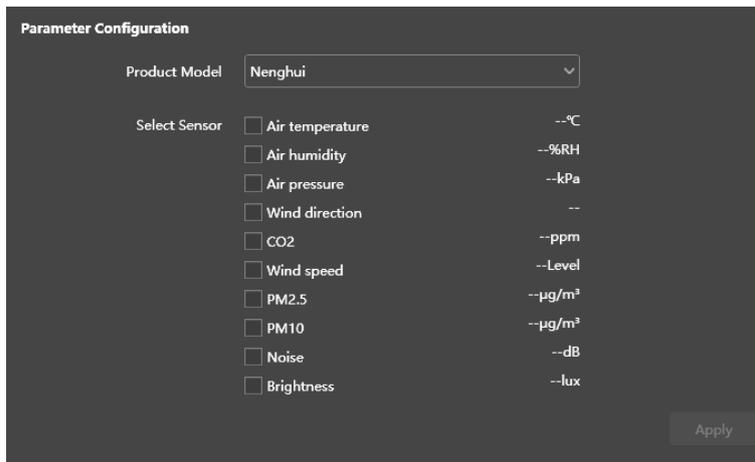
Step 4   After the configuration is done, click **Apply**.

4.17 Screen Information

The information displayed here includes the terminal MAC address, terminal IP address, system software version, product model, application software version.

Step 1   Choose **Terminal Control** > **Screen information**.

Step 2   Select the target terminal from the terminal list.

Step 3   View the terminal information

Figure 4-48 Terminal information
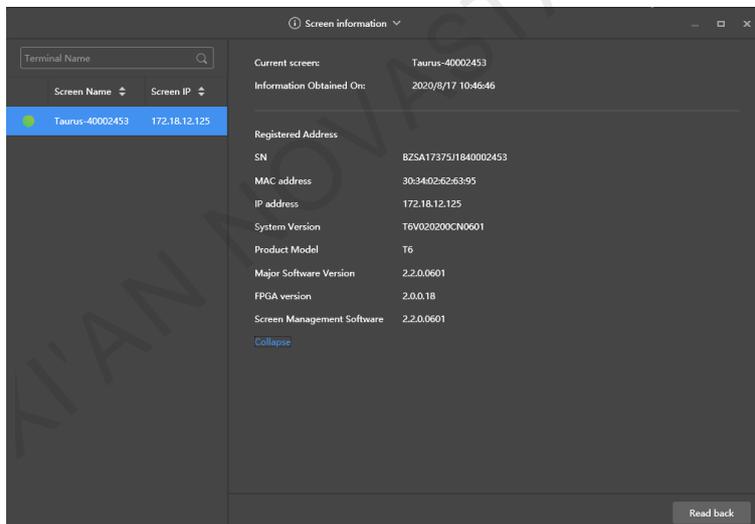
5 **System Settings**

At the top right of the page, click ⚙️ and select the required menu.

Table 5-1 System settings

Menu	Description
Language	Set system language.
Working Mode	Select working mode including studio mode and async mode.
RF management	Manage the playback of all terminals except the reference device when the RF time synchronization mode is enabled. Before the operation, enter the password "admin".
Custom server	Add, modify, or delete custom servers. Users can choose customized servers on the pages of connecting to cloud publishing and monitoring services and the page of setting NTP synchronization.
Setting	● Set the location to save files, including ViPlex Express configuration files, data, temporary files, etc. ● Enable or disable the automatic terminal reconnection function, and set the reconnection interval.
Check for Updates	Check for and install new updates of ViPlex Express.
Help	View the documentation related to the software.
About	Display the version of ViPlex Express and the official website of NovaStar.

6 Audio and Video Decoder Specifications

6.1 Image

Type	Codec	Supported Image Size	Container	Remarks
JPEG	JFIF file format 1.02	48×48 pixels~8176×8176 pixels	JPG, JPEG	Not Support Non-interleaved Scan Software support SRGB JPEG Software support Adobe RGB JPEG
BMP	BMP	No Restriction	BMP	N/A
GIF	GIF	No Restriction	GIF	N/A
PNG	PNG	No Restriction	PNG	N/A
WEBP	WEBP	No Restriction	WEBP	N/A

6.2 Audio

Type	Codec	Channel	Bit rate	Sampling rate	File Format	Remarks
MPEG	MPEG1/2/2.5 Audio Layer1/2/3	2	8kbps~320Kbps, CBR and VBR	8KHZ~48KHz	MP1, MP2, MP3	N/A
Windows Media Audio	WMA Version 4, 4.1, 7, 8, 9, wmapro	2	8kbps~320Kbps	8KHZ~48KHz	WMA	Non-support WMA Pro, lossless and MBR
WAV	MS-ADPCM, IMA-ADPCM, PCM	2	N/A	8KHZ~48KHz	WAV	Support 4bit MS-ADPCM, IMA-ADPCM
OGG	Q1~Q10	2	N/A	8KHZ~48KHz	OGG, OGA	N/A
FLAC	Compress Level 0~8	2	N/A	8KHZ~48KHz	FLAC	N/A
AAC	ADIF, ATDS Header AAC-LC and AAC-HE, AAC-ELD	5.1	N/A	8KHZ~48KHz	AAC, M4A	N/A
AMR	AMR-NB, AMR-WB	1	AMR-NB 4.75~12.2kbps @8kHz AMR-WB 6.60~23.85kbps @16kHz	8KHZ, 16KHz	3GP	N/A
MIDI	MIDI Type 0 and 1, DLS version 1 and 2, XMF and Mobile XMF, RTTTL/RTX, OTA, iMelody	2	N/A	N/A	XMF, MXMF, RTTTL, RTX, OTA, IMY	N/A

6.3 Video

Type	Codec	Supported Image Size	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	File Format	Remarks
MPEG-1/2	MPEG-1/2	48×48 pixels~1920×1080 pixels	30fps	80Mbps	DAT, MPG, VOB, TS	Support Field Coding
MPEG-4	MPEG4	48×48 pixels~1920×1080 pixels	30fps	38.4Mbps	AVI, MKV, MP4, MOV, 3GP	Not support MS MPEG4 v1/v2/v3, GMC, DivX3/4/5/6/7…/10
H.264/AVC	H.264	T3&T6&TB3&TB4&TB6&TB8: 48×48 pixels~4096×2304 pixels Other models: 48×48 pixels~1920×1080 pixels	T3&T6&TB3&TB4&TB6&TB8: 4K@25fps, 1080P@60fps Other models: 1080P@60fps	T3&T6&TB3&TB4&TB6&TB8: 100Mbps Other models: 57.2Mbps	AVI, MKV, MP4, MOV, 3GP, TS, FLV	Support Field Coding, MBAFF
MVC	H.264 MVC	48×48 pixels~1920×1080 pixels	60fps	38.4Mbps	MKV, TS	Support Stereo High Profile only
H.265/HEVC	H.265/HEVC	T3&T6&TB3&TB4&TB6&TB8: 64×64 pixels~4096×2304 pixels Other models: 64×64 pixels~1920×1080 pixels	T3&T6&TB3&TB4&TB6&TB8: 4K@60fps, 1080P@60fps Other models: 1080P@60fps	T3&T6&TB3&TB4&TB6&TB8: 100Mbps Other models: 57.2Mbps	MKV, MP4, MOV, TS	Support Main Profile, Tile & Slice
GOOGLE VP8	VP8	48×48 pixels~1920×1080 pixels	30fps	38.4 Mbps	WEBM, MKV	N/A
H.263	H.263	SQCIF(128×96), QCIF(176×144), CIF(352×288), 4CIF(704×576)	30fps	38.4Mbps	3GP, MOV, MP4	Not support H.263+
VC-1	VC-1	48×48 pixels~1920×1080 pixels	30fps	45Mbps	WMV, ASF, TS, MKV, AVI	N/A
MOTION JPEG	MJPEG	48×48 pixels~1920×1080 pixels	30fps	38.4Mbps	AVI	N/A

Note: Output data format is YUV420 semi-planar, and YUV400(monochrome) is also supported for H.264.

7 Limitations on Cut-to-Display Windows for Regular Screens

Product	TB4, TB6, TB8	TB1-4G (Optional 4G), TB2-4G (Optional 4G)
Recommended screen resolution (width × height)	4096 × 288	1920 × 1080
Number of parts	Cut horizontally: Actual screen width/Playback window width ≤8	

	Cut vertically: Actual screen height/Playback window height ≤8

8 Limitations on Playback Parameters for Ultra-long Screens

Product	TB4, TB6, TB8	TB1-4G (Optional 4G), TB2-4G (Optional 4G)
Recommended screen resolution (width × height)	4096×288	1920×1080
Maximum picture resolution	The total number of pixels cannot exceed the screen resolution.	The total number of pixels cannot exceed the screen resolution.
Number of videos (resolution x number)	Number of videos that can be played simultaneously: (Choose one from the following 4 options) 4K x 1 1080P x 2 720P x 4 (480×45) x 6	Number of videos that can be played simultaneously: (Choose one from the following 3 options) 1080P x 1 720P x 2 (480×45) x 4
Scrolling text	Maximum font size: 24 px Maximum number of characters: 2000	Maximum font size: 24 px Maximum number of characters: 2000

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