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ViPlex Express

Display Content Publishing Management System for PC

V2.3.0

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 which 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
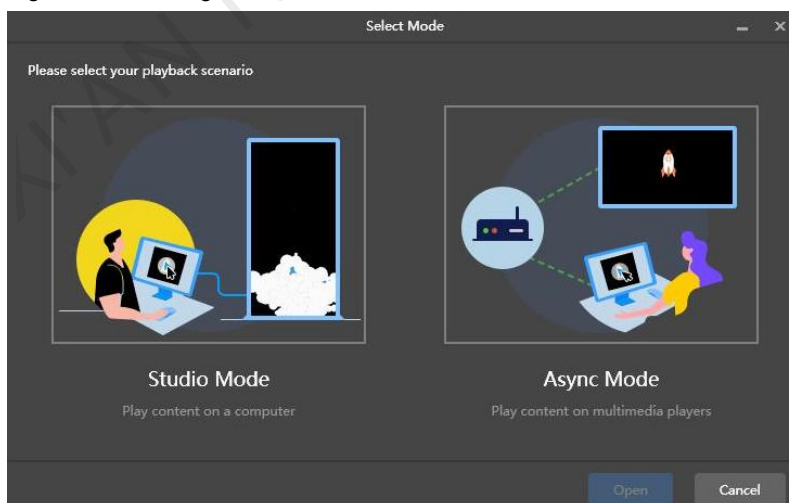
Operating Procedure

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 mode

<u>Other Situations</u>

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
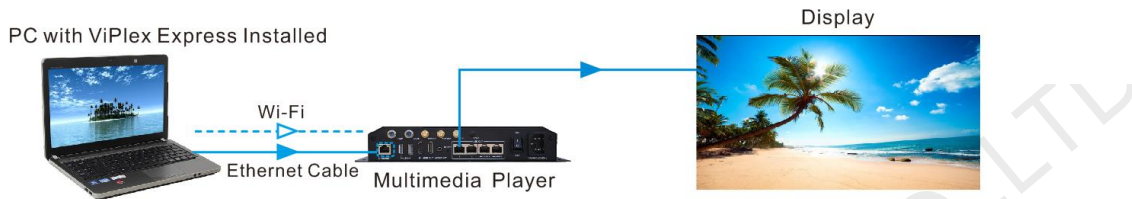
✤ **Ethernet cable**

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 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
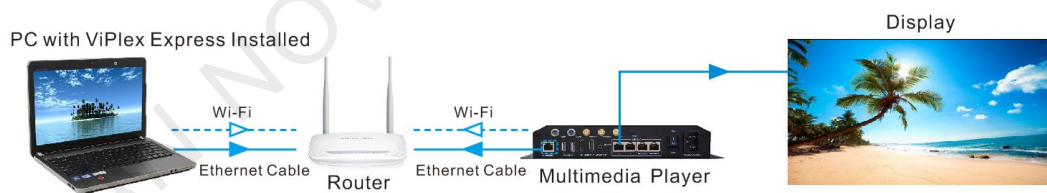
✤ Wired LAN

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

If this method is used, 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.
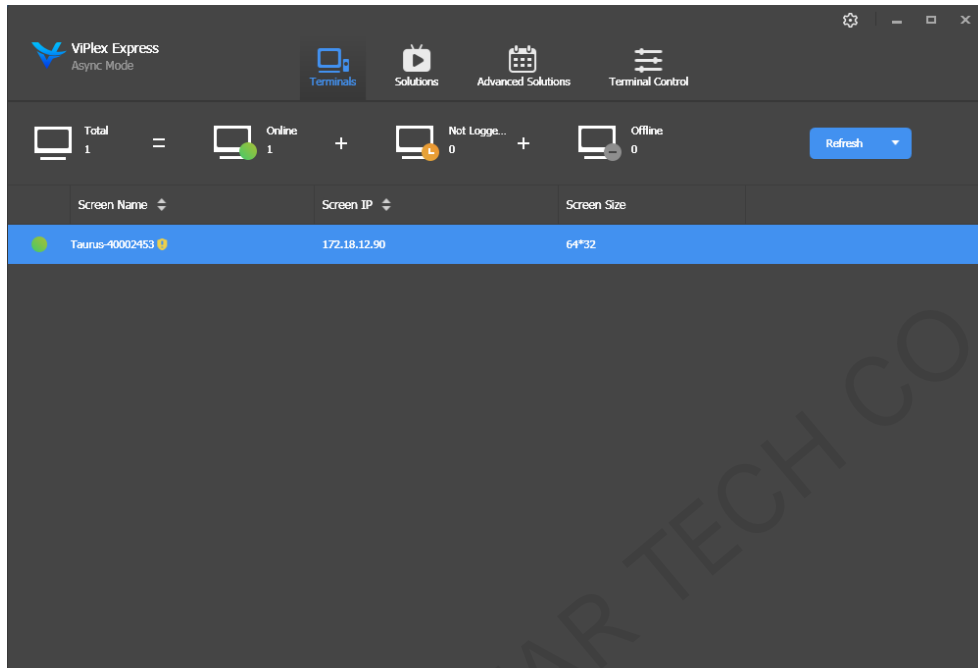
Required Information

Login user name and password of the multimedia player, for example, the default login user name and password of 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
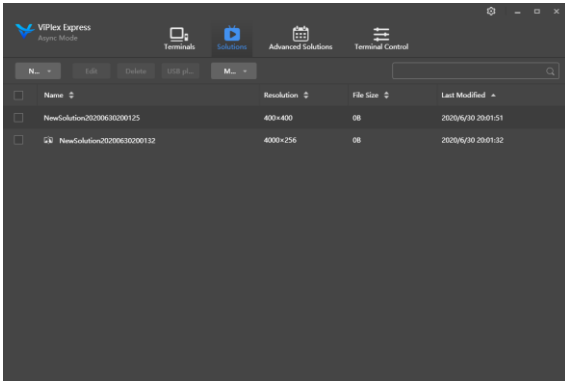
Step 2   Click **New** and select **Regular Screen** or **Ultra-Long Screen** from the drop-down menu.

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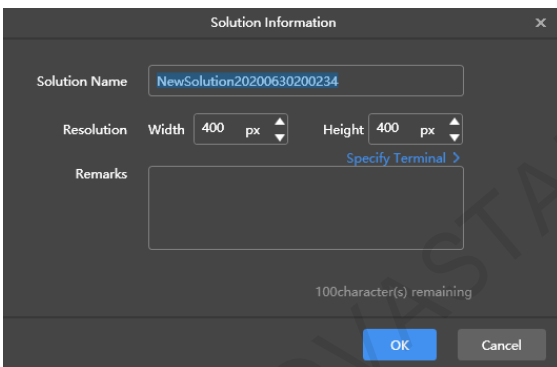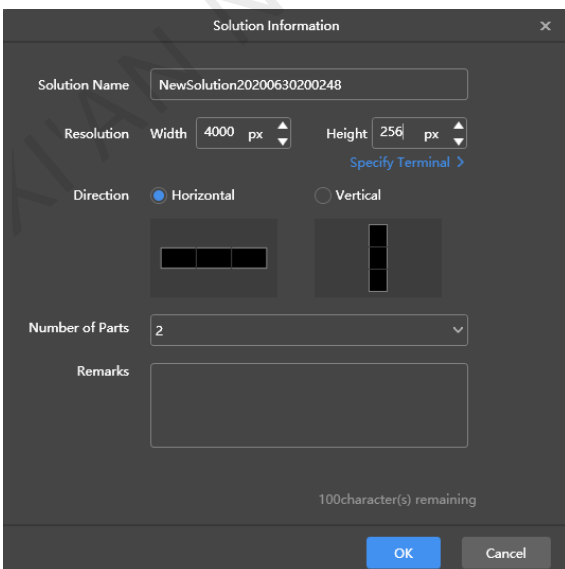
Step 4   After the solution editing is done, click **Save**.

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

Step 6   (Optional) At the upper right of the page, click 👁 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 🔄 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 📤.

The **Publish** dialog box appears.

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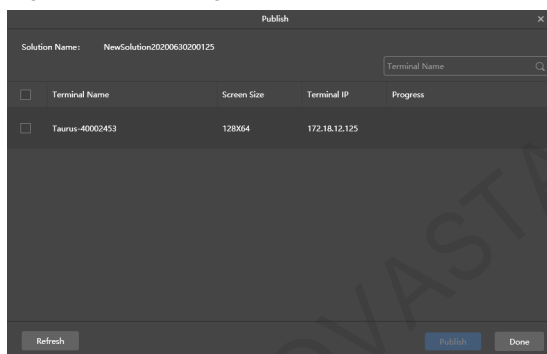
Step 3   Click **Refresh** to display all the terminals that are logged in.

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
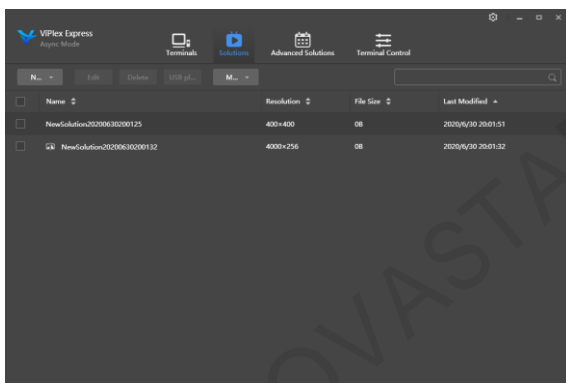
Step 2 Click **New** and select **Regular Screen** from the drop-down menu.

The **Solution Information** dialog box appears.

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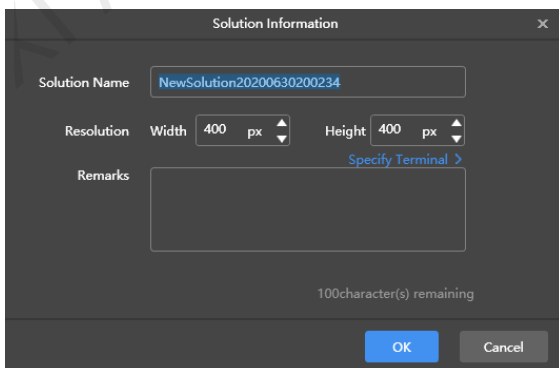
Step 3 Set a name and resolution for the solution, then click **OK** to access the solution editing page, as shown in Figure 3-2.

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

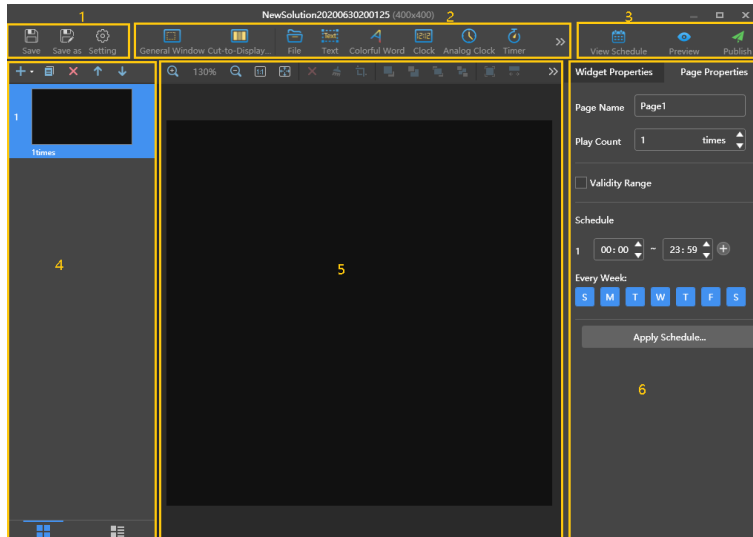| No.	Function	Description	
1	Saving a solution, saving a solution as another solution and setting solution information	Used for saving a solution, saving a solution as another solution and setting solution information	
2	Adding media You can click an icon to add a corresponding media item.	: General 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	
		⊞ : 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

- 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 4.18 Sensor.

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

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

Step 6   (Optional) At the upper right of the page, click 👁 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 ↻ 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.

Application Example

The resolution of a screen is 9000×128 or 128×9000 and the maximum loading capacity of a T6 multimedia player is 1,300,000 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 T6, 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
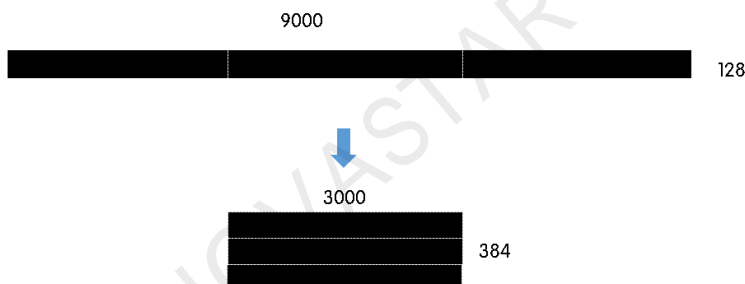
Figure 3-5 Ultra-tall screen configuration
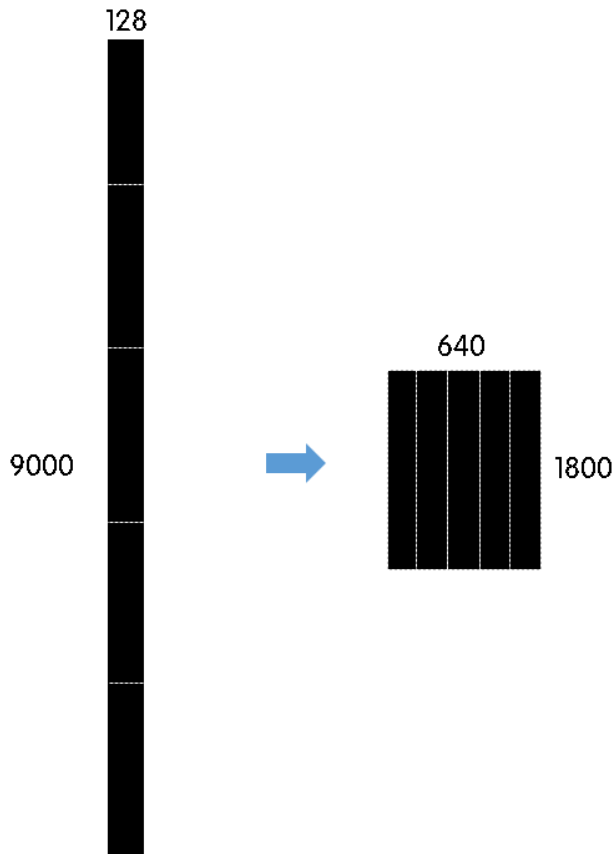
When you set the connection of receiving cards and an Ethernet port loads two rows/columns or more, the connection must follow the shape of the letter Z, as shown in Figure 3-6 and Figure 3-7.

Figure 3-6 Ultra-wide screen connection
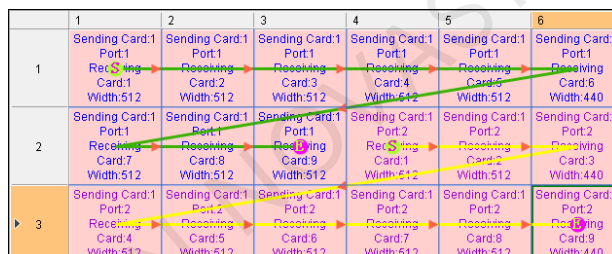
Figure 3-7 Ultra-tall screen connection
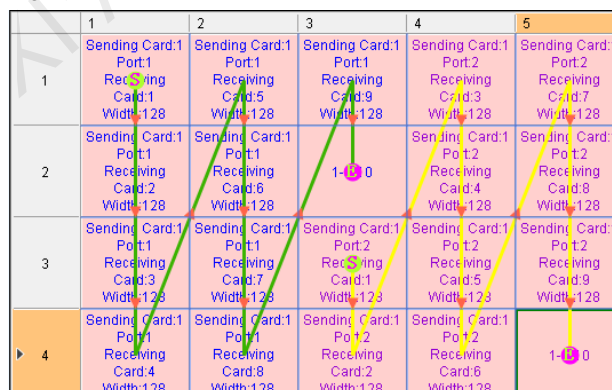
If you want to set receiving cards to blank, you can only set the receiving cards at both ends to blank, as shown in Figure 3-8 and Figure 3-9.

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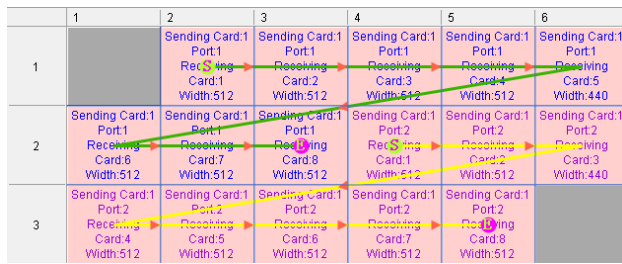
Figure 3-9 Blank receiving cards of an ultra-tall screen
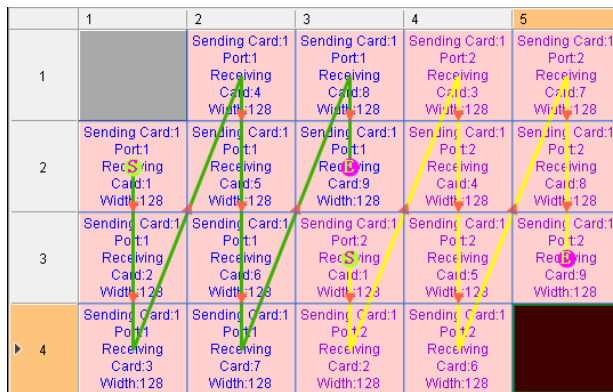
Operating Procedure

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
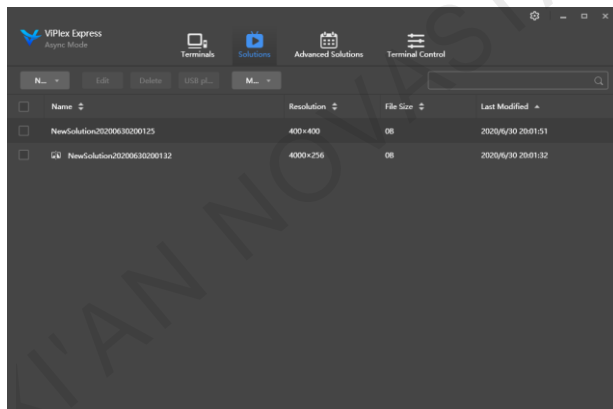
Step 2   Click **New** and select **Ultra-Long Screen** from the drop-down menu.

The **Solution Information** dialog box appears.

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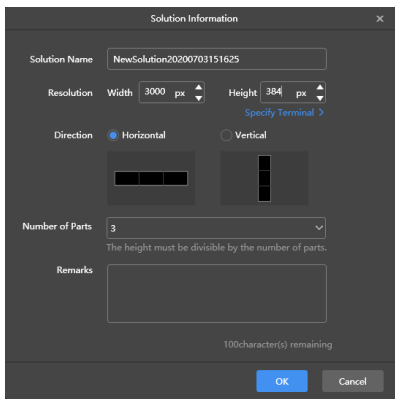
Figure 3-12 Solution information of an ultra-tall screen
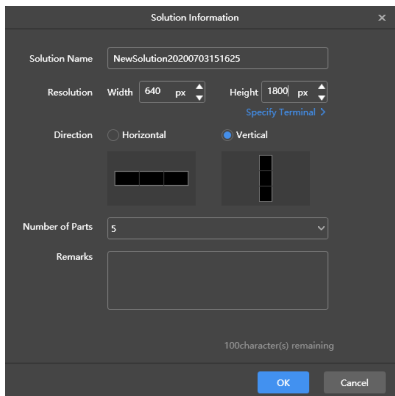
Step 3 Set a name, resolution, direction and the number of parts for the solution, then click **OK**.

- 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 precedingScreen 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 appears 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
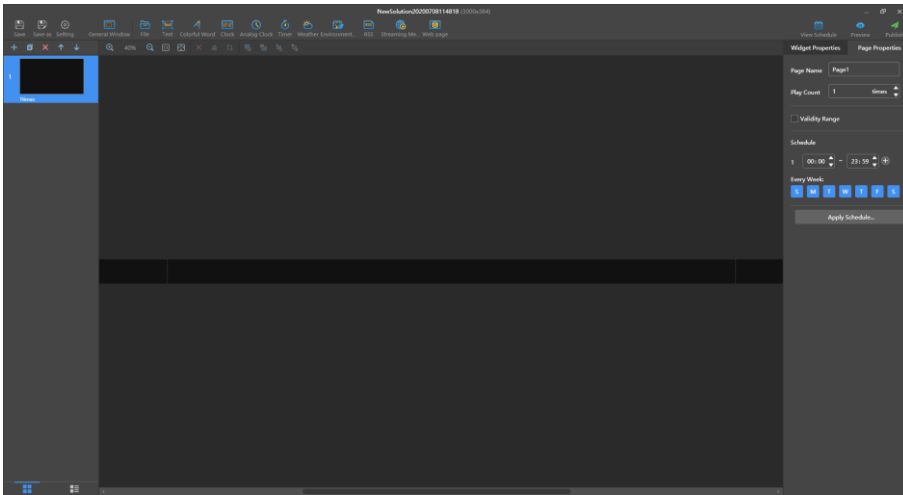
Step 5   After the solution editing is done, click **Save**.

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

Step 7   (Optional) At the upper right of the page, click 👁 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.
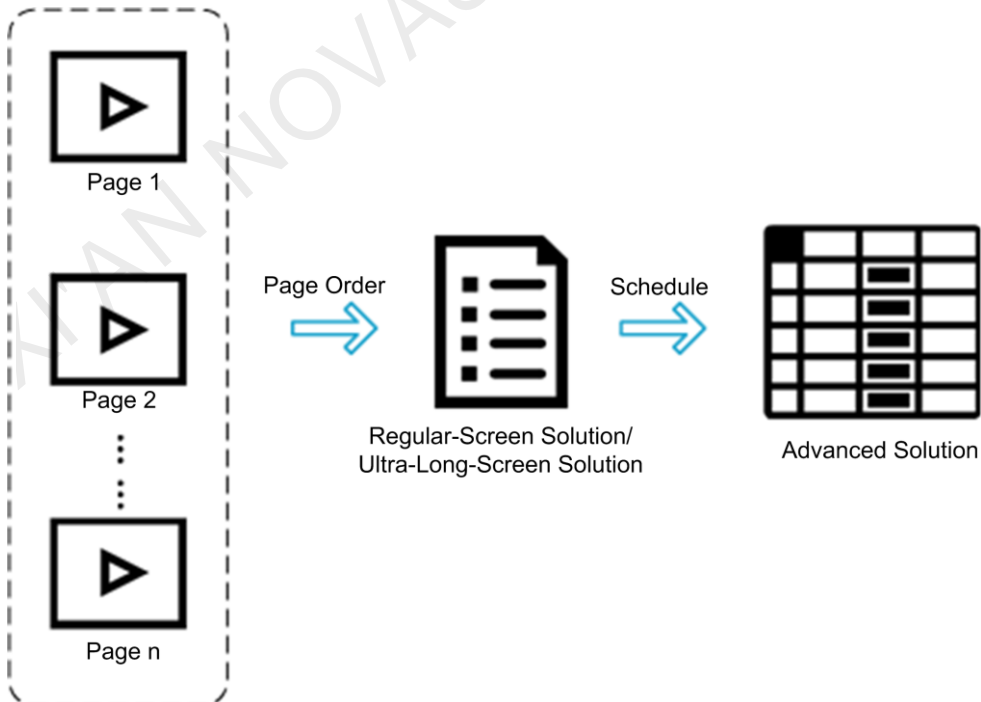
Operating Procedure

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

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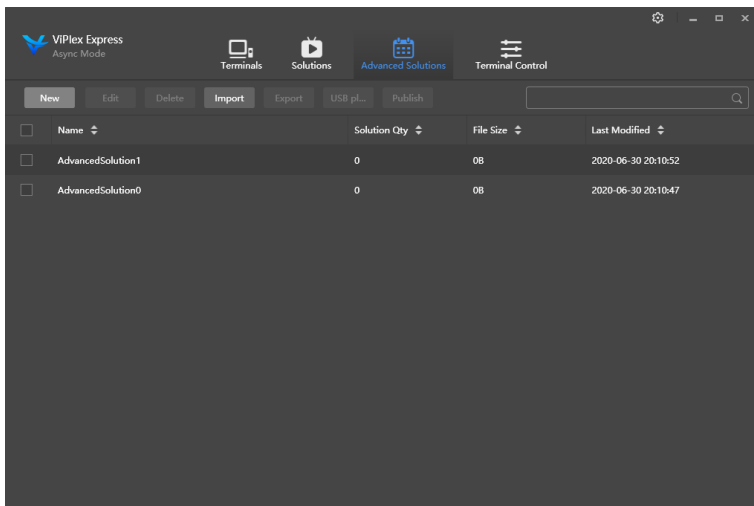
Step 2   Click **New** to open the **New Advanced Solution** page.

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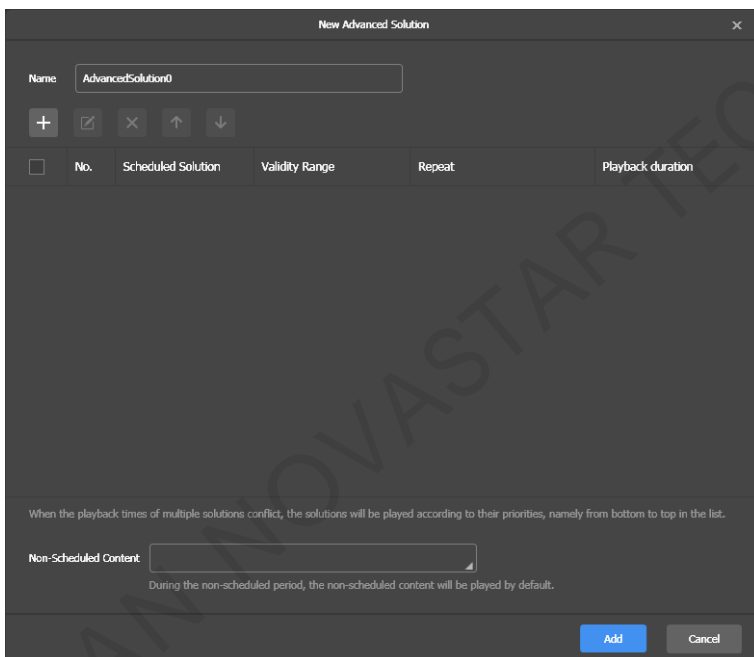
Step 3   Enter a name for the advanced solution.

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
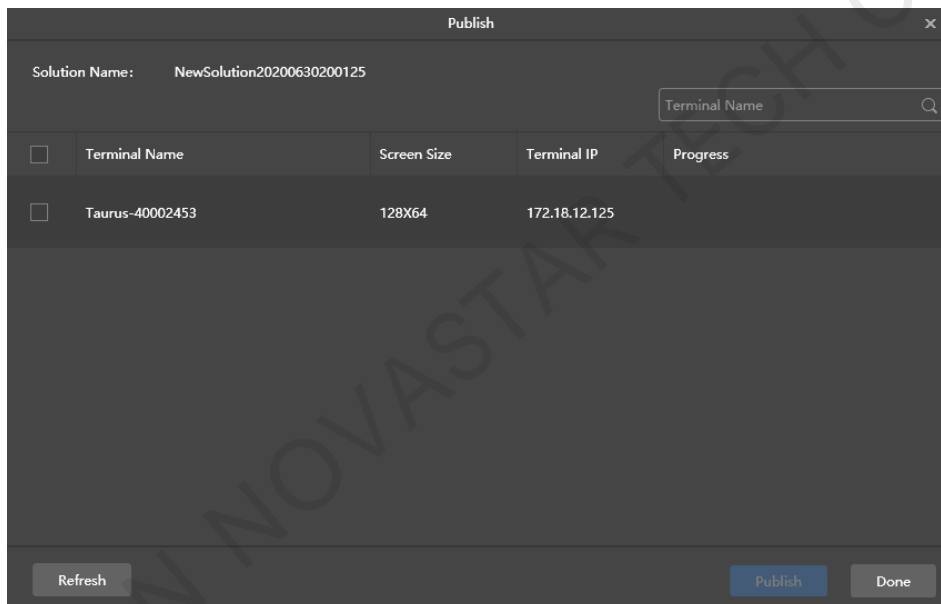
Step 3   Click **Refresh** to display all the terminals that are logged in.

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 ![icon], or select one or more solutions and click **USB Playback**.

The USB playback dialog box appears.

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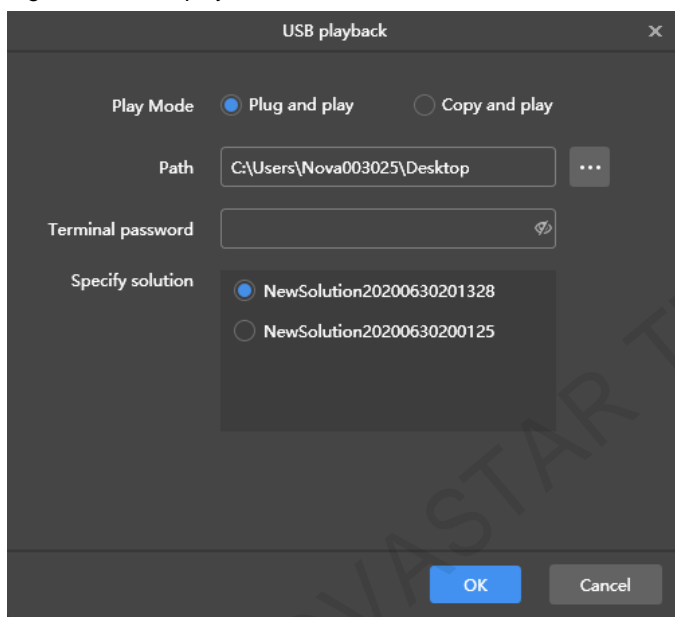
Step 3   Specify a playback mode.

- Plug and play: The solution starts to play as soon as you insert the USB drive where the solution is stored into 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 ![icon] 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
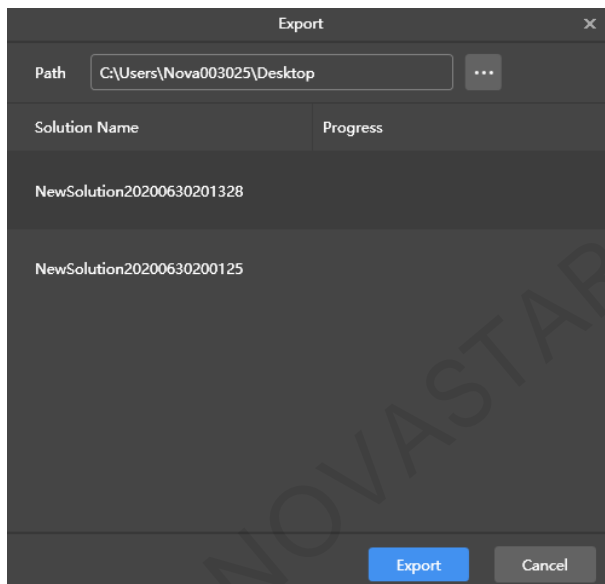
Step 3   Click [...] to choose a location to store the solutions to be exported.

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
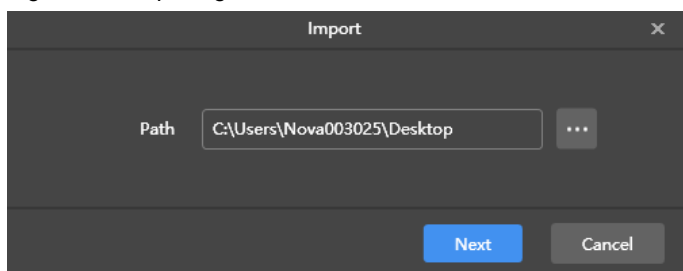
Step 2   Click to choose the location of the local files.

Step 3   Click **Next**.

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

4 **Terminal Control**

Choose **Terminal Control** to enter the terminal control page.

Figure 4-1 Terminal control
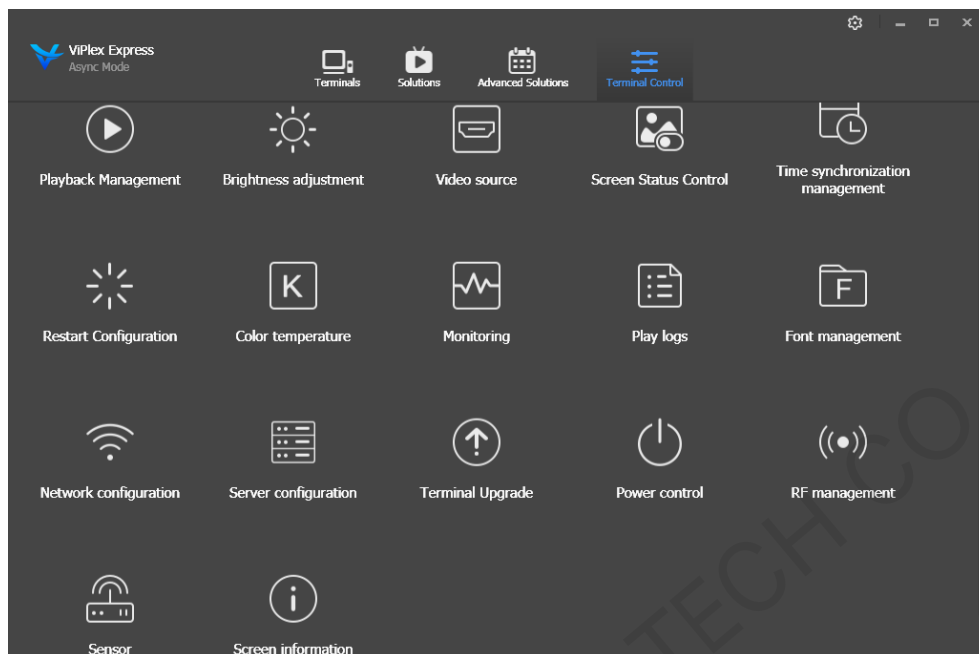
4.1 Function List

Function	Sub-Function	Taurus LED Players	Taurus LCD Players	VPlayer
Playback management	Enable synchronous playback	√	√	
	Adjust volume in real time	√	√	
	Manage terminal solutions	√	√	
	Set rotation playback	√	√	
Brightness adjustment	-	√		
Video source	-	√		
Screen status control	-	√		
Time synchronization management	-	√	√	
Restart configuration	-	√	√	
Color temperature	-	√		
Monitoring	-	√	√ (Available memory	

Function	Sub-Function	Taurus LED Players	Taurus LCD Players	VPlayer
			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	√		
Terminal upgrade	Online upgrade	√	√	√
	Local upgrade	√	√	√
Power control	Board power	√	√	
	Multi-function card power	√		
RF management	-	√		
Sensor	-	√		
Screen information	-	√	√	

4.2 General Function

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

4.3 Playback Management

Manage the playback mode, volume and content of terminals.

4.3.1 Enabling Synchronous Playing

Enabling or disabling the synchronous playing function will restart the terminal. Time synchronization management and RF management are also provided with synchronous playback switches.

Step 1 Select the target terminal in the terminal list.

Step 2 Select Enable next to Synchronous Playing.

Step 3 Click **Confirm** in the pop-up dialog box.

4.3.2 Adjusting Volume in Real Time

Drag the slider or enter a value to adjust the volume. Volume can be adjusted only when the Taurus is in async mode.

When the information related to RF synchronization is displayed, as shown in Figure 4-2, it indicates that volume synchronization is enabled on the current terminal. See relevant operations in 4.17 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 RF signal.

Figure 4-2 RF synchronization-volume
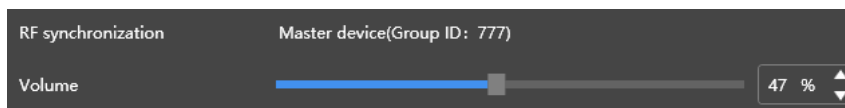
4.3.3 Managing Terminal Solutions

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

● Playing a solution: Move the mouse to the thumbnail of the solution and click .

● 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**.

4.3.4 Setting Rotation Playback

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

4.4 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 4-3, it indicates that brightness synchronization is enabled on the current terminal. See relevant operations in 4.17 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 RF signal.

Figure 4-3 RF synchronization-brightness
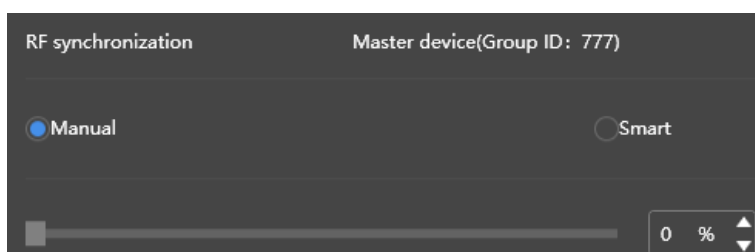
4.4.1 Manual Adjustment

Step 1   Select the target terminal in the terminal list.

Step 2   Choose **Manual**, and drag the slider or enter a value to adjust screen brightness.

4.4.2 Smart Adjustment

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

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

The auto 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.

Step 1   Select the target terminal in the terminal list.

Step 2   Choose **Smart** to enter the smart adjustment page.

Step 3   Perform the following operations based on actual needs.

- Creating a rule: Click ⊞. In the pop-up dialog box, choose **Timing** or **Auto**, and then set the corresponding brightness adjustment rules. At last, click **Add**.

- Modifying a rule: Select a rule and click ✎. Then, modify the rule and click **OK**.

- Deleting rules: Select one or more rules and click ✕. In the pop-up dialog box, click **Confirm**.

- Clearing rules: Click 🧹 and then click **Confirm** in the pop-up dialog box.

- Enabling a rule: In the rule list, turn on the **Enable** switch next to a rule.

- Viewing the current brightness: Click ⟳.

Step 4   After configuration, click **Apply**.

4.5 Video Source

Control the video input mode, video source and output offset position.

4.5.1 Manual Switching

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

Step 1   Select the target terminal in the terminal list.

Step 2   Choose **Manual** and configure parameters.

Step 3   Click **Apply**.

4.5.2 Scheduled Switching

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

Step 1 Select the target terminal in the terminal list.

Step 2 Choose **Timing**. Perform the following operations based on actual needs.

- Creating a rule: 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**.

- Modifying a rule: Select a rule and click ![edit]. Then, modify the time and cycle to use the video source. At last, click **OK**.

- Deleting rules: Select one or more rules and click ![X]. In the pop-up dialog box, click **Confirm**.

- Clearing rules: Click ![clear] and then click **Confirm** in the pop-up dialog box.

- Enabling a rule: In the rule list, turn on the **Sure to enable** switch next to a rule.

- Parameter configuration: Set the position and size of the display window.

Step 3 After configuration, click **Apply**.

4.5.3 HDMI Preferred

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

Step 1 Select the target terminal in the terminal list.

Step 2 Choose HDMI preferred.

Step 3 Set the position and size of the display window.

Step 4 After configuration, click **Apply**.

4.6 Screen Status Control

Set the current playing status of the screen.

4.6.1 Manual Control

Step 1 Select the target terminal in the terminal list.

Step 2 Choose **Manual** to enter the manual settings page.

Step 3 Click Blackout or Normal.

4.6.2 Timing Control

Step 1 Select the target terminal in the terminal list.

Step 2 Choose **Timing** to enter the timing settings page. Then, perform the following operations based on actual needs.

- Creating a rule: Click ![plus icon]. In the pop-up dialog box, choose **Blackout** or **Normal**, and then set the playing time and cycle of the screen. At last, click **Add**.

- Modifying a rule: Select a rule and click ![edit icon]. Then, modify the playing time and cycle of the screen. At last, click **OK**.

- Deleting rules: Select one or more rules and click ![delete icon]. In the pop-up dialog box, click **Confirm**.

- Clearing rules: Click ![clear icon] and then click **Confirm** in the pop-up dialog box.

- Enabling a rule: In the rule list, turn on the **Enable** switch next to a rule.
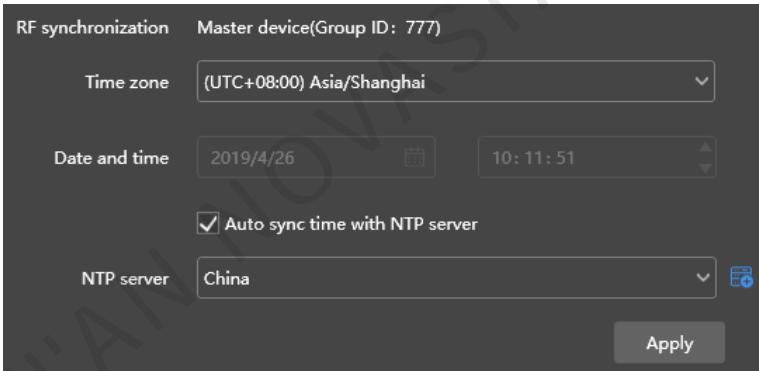
Step 3   After setting, click **Apply**.

4.7 Time Synchronization Management

Set rules for terminal time synchronization and enable or disable synchronous playback.

When the information related to RF synchronization is displayed, as shown in Figure 4-4, it indicates that RF time synchronization is enabled on the current terminal. See relevant operations in 4.17 RF Management. RF synchronization requires you to specify a master device and slave devices. Users only need to set the time synchronization rules for the master device. The slave devices will keep the same time as the master device via RF signal.

Figure 4-4 RF synchronization-time synchronization

Step 1   Select the target terminal in the terminal list.

Step 2   View the current time zone and time.

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 3   Configure time synchronization rules.

- Manual time synchronization: Select a time zone from the drop-down box next to **Time zone**. The terminal will sync time according to the date and time of this time zone. Users are also allowed to adjust the current date and time as required.

- NTP time synchronization: Select **Auto sync time with NTP server** and then select an NTP server. The terminal will sync time according to the time of the NTP server. If the existing NTP servers cannot meet the requirements, click [icon] to customize a server.

Step 4   After setting, click **Apply**.

4.8 Restart Configuration

Restart terminals immediately and configure restart rules.

4.8.1 Restarting Immediately

Step 1   Select the target terminal in the terminal list.

Step 2   Click Restart promptly.

Step 3   Click **Confirm** in the pop-up dialog box to restart the terminal immediately.

4.8.2 Scheduled Restart

Step 1   Select the target terminal in the terminal list.

Step 2   Perform the following operations based on actual needs.

- Creating a rule: Click [icon]. Set the time and cycle to restart a terminal in the pop-up dialog box and then click **Add**.

- Modifying a rule: Select a rule and click [icon] to modify the time and cycle to restart a terminal and then click **OK**.

- Deleting rules: Select one or more rules and click [icon]. Then click **OK** in the pop-up dialog box.

- Clearing rules: Click [icon] and then click **OK** in the pop-up dialog box.

- Enabling a rule: In the rule list, turn on the **Sure to enable** switch next to a rule.

Step 3   After setting, click **Apply**.

4.9 Color Temperature

Set the screen display's color temperature, including neutral white, standard white and cool white.

Step 1   Select the target terminal in the terminal list.

Step 2   Select a color temperature type.

4.10 Monitoring

Step 1   Select the target terminal in the terminal list.

Step 2   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

Step 3   If you want to clean up the hard disk, click **Clear All Media** to delete all the media and solutions.

4.11 Play Logs

View and export play logs.

4.11.1 Querying Play Logs

Step 1   Select the target terminal in the terminal list.

Step 2   Choose the time range of the play log that you want to view and then click **Query**.

Step 3   In the paly log list, click a play log name to view the summary and detailed information of the log.

4.11.2 Exporting Play Logs

Step 1   Select the target terminal in the terminal list.

Step 2   In the play log list, select the target play log.

Step 3   Click **Export**.

Step 4   In the pop-up dialog box, choose the export path and format.

Step 5   Click **OK**.

4.12 Font Management

Manage the fonts used by the terminal.

4.12.1 Adding Fonts

Step 1   Select the target terminal in the terminal list.

Step 2   Click next to **Name** to acquire local fonts on the PC.

Step 3   Select the target font in the pop-up dialog box.

Step 4   Click **OK**.

Step 5   Click **Update**. The update progress will be shown in the **Update result** column.

4.12.2 Deleting Fonts

Step 1   Select the target terminal in the terminal list.

Step 2   Click **Read back** at the bottom right to read back the fonts on the terminal.

Step 3   Click the link in the **Font** column of the target terminal. The **Font list in terminal** page is displayed.

Step 4   Select target fonts.

Step 5   Click **Delete**.

4.13 Network Configuration

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

4.13.1 Configuring Wired Network

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

Step 1   Select the target terminal in the terminal list.

Step 2   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.

Step 3   Click **Apply**.

4.13.2 Configuring Wi-Fi AP

Change the SSID, password and channel of a terminal.

Step 1   Select the target terminal from the terminal list.

Step 2   In the **Screen AP configuration** area, turn on AP.

Step 3   Enter the SSID and password of the terminal Wi-Fi AP.

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

Step 4   (Optional) Click **Show Advanced Options** to switch the channel of the Wi-Fi AP.

Step 5   Click **Apply**.

4.13.3 Configuring Wi-Fi Sta

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

Step 1   Select the target terminal in the terminal list.

Step 2   In the Wi-Fi configuration area, turn on Wi-Fi.

Step 3   Double click the Wi-Fi information of the router, enter the password and then click **OK**.

4.13.4 Configuring Mobile Network

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

Step 1   Insert 4G card into the slot.

Step 2   Select the target terminal in the terminal list.

Step 3   On the Mobile network configuration page, turn on mobile network.

Step 4   Click ![icon] to expand the APN configuration page.

Step 5   Click **Add**.

Step 6 Enter parameters according to the APN information provided by the carrier and then click **OK**.

Step 7 Select the APN and click **Connect**.

4.13.5 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 Select the target terminal in the terminal list.

Step 2 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.
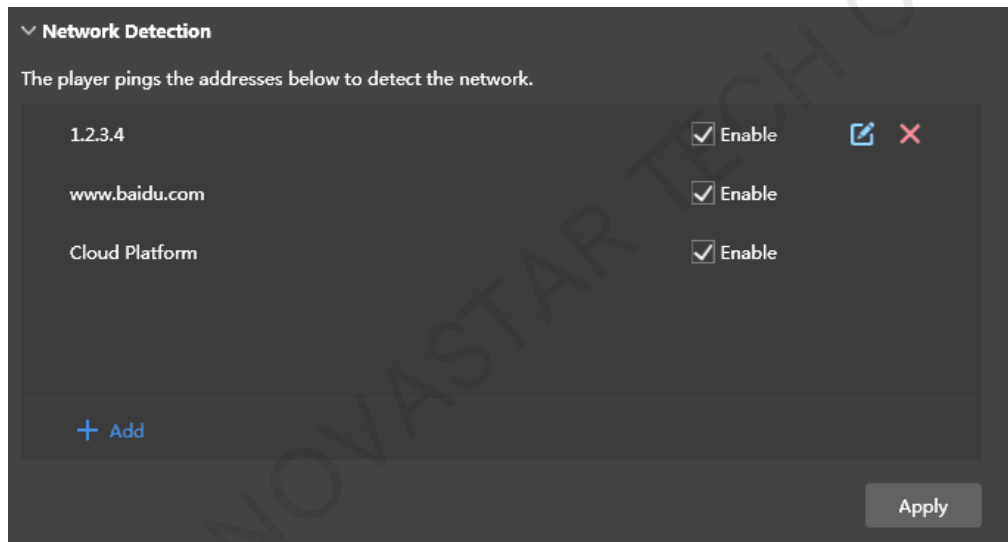
Step 3 Enable or disable detection addresses.

- 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 4 Click **Apply**.

4.14 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 ![user icon] > **Player Authentication** on the homepage of the cloud platform.

4.14.1 Binding to VNNOX Standard/AD

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

Step 1 Select the target terminal from the terminal list.

Step 2 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.

Step 3 Click **Bind**.

4.14.2 Binding to iCare

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

Step 1 Select the target terminal from the terminal list.

Step 2 In **Bind to iCare**, select a server and enter the user name.

Step 3 Click **Bind**.

4.15 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.

4.15.1 Online Upgrade

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

Step 1 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 4-5. Go to Step 2.

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

Figure 4-5 Online upgrade
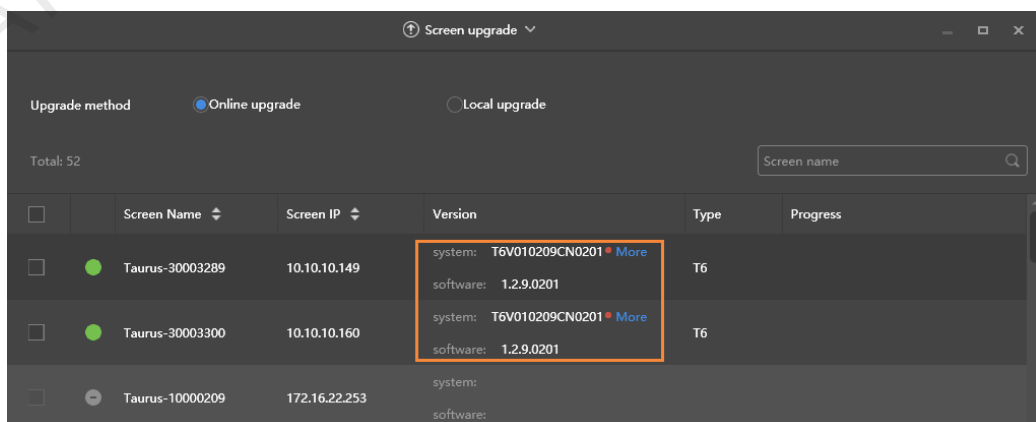
Step 2 Click **More** and view the related information of the new version.

Step 3 In the terminal information list, select one or more upgradable terminals and click **Upgrade**.

The upgrade progress is displayed.

4.15.2 Local Upgrade

Use local files to upgrade terminal versions.

Step 1   Select Local Upgrade.

Step 2   Select the upgrade package path.

Step 3   In the terminal information list, select one or more upgradable terminals and click **Upgrade**.

The upgrade progress is displayed.

4.16 Power Control

Configure power tag, remotely power on or off devices in real time, and set scheduled power control rules.

● Board power: Control power supplies using relays on terminals.

● 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.)

● Multi-function card power: Control power supplies using relays on the MFN300multi-function card.

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.

4.16.1 Configuring Power Tags

> **Note:**
>
> Only when the terminal software is V2.2.0 or later, the terminal supports power tag configuration which allows users to customize tags for terminal board power and external power. When the terminal software is earlier than V2.2.0, the **Power Control** page is compatible with the earlier version and a message is added to prompt users to upgrade the terminal to V2.2.0.

Step 1   Select the target terminal from the terminal list.

Step 2   Click **Configure Power Tag** to access the **Power Tag** page. Do the following according to the actual conditions.

● Board power: From the drop-down options, select the default option **Screen Power** or enter a custom tag.

● External power: From the drop-down options, select the default option **Screen Power** or enter a custom tag.

● Multi-function card power: View the tag selected or set for the multi-function card in NovaLCT.

Step 3   Click **OK**.

4.16.2 Controlling Power Manually

Step 1   Select the target terminal from the terminal list.

Step 2   Select **Manual** to enter the manual setting page.

Step 3   Turn on or off the power switch.

An example of information on the multi-function card power supply is shown in Figure 4-6.

Figure 4-6 Manual setting
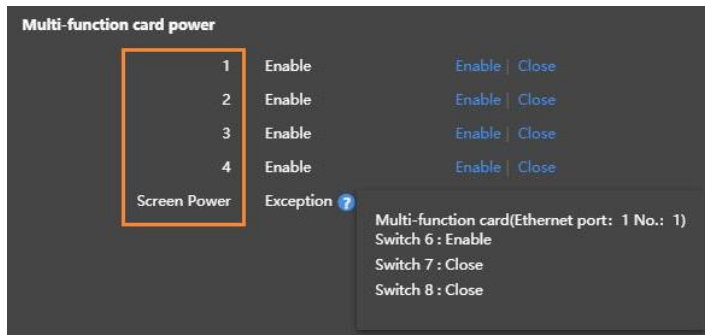
The tags in the orange box can be associated with one or more relay circuits. When multiple relay circuits are associated and each of them is turned on (or off), **Enable** (or **Close**) is displayed, otherwise **Mixture** is displayed and the detailed information of each circuit is provided.

4.16.3 Controlling Power as Scheduled

Step 1   Select the target terminal from the terminal list.

Step 2   Select **Timing** to enter the scheduled setting page. Perform the following operations according to actual needs.

- Create a rule: Click ➕. In the dialog box that appears, set the object, time and cycle to control and then click **OK**.

- Change a rule: Select a rule, click 🖉 to change the rule to control, and then click **OK**.

- Delete a rule: Select one or more rules and click ✕. In the dialog box that appears, click **OK**.

- Clear all rules: Click 🧹. In the dialog box that appears, click **OK**.

- Enable a rule: In the rule list, turn on **Sure to enable**.

Step 3   After the settings are done, click **Apply**.

4.17 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 synchronous playback. RF management is available for all the Taurus series products except the -4G models.

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

Step 1   Select the target terminal from the terminal list.

Step 2   Turn on RF synchronization.

Step 3   Set the current terminal as the master device or a slave device.

Step 4   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 5   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 RF signal.

Step 6   Click **Apply**.

4.18 Sensor

Set sensor information so that the terminal can collect environment monitoring data by using sensors.

When the related information of RF synchronization is displayed, as shown in Figure 4-7, it indicates that environment monitoring data synchronization is enabled on the current terminal. For related operations, see 4.17 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 4-7 RF synchronization- environment monitoring data

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

Step 4   After the configuration is done, click **Apply**.

4.19 Screen Information

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

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~48K Hz	MP1, MP2, MP3	N/A
Windows Media Audio	WMA Version 4, 4.1, 7, 8, 9, wmapro	2	8kbps~320Kbps	8KHZ~48K Hz	WMA	Non-support WMA Pro, lossless and MBR
WAV	MS-ADPCM, IMA-ADPCM, PCM	2	N/A	8KHZ~48K Hz	WAV	Support 4bit MS-ADPCM, IMA-ADPCM
OGG	Q1~Q10	2	N/A	8KHZ~48K Hz	OGG, OGA	N/A
FLAC	Compress Level 0~8	2	N/A	8KHZ~48K Hz	FLAC	N/A
AAC	ADIF, ATDS Header AAC-LC and AAC-HE, AAC-ELD	5.1	N/A	8KHZ~48K Hz	AAC, M4A	N/A
AMR	AMR-NB, AMR-WB	1	AMR-NB 4.75~12.2kbps@	8KHZ, 16KHz	3GP	N/A

Type	Codec	Channel	Bit rate	Sampling rate	File Format	Remarks
			8kHz AMR-WB 6.60~23.85kbps @16kHz			
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

Type	Codec	Supported Image Size	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	File Format	Remarks
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.

Trademark

NOVASTAR is a trademark of Xi'an NovaStar Tech Co., Ltd.

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