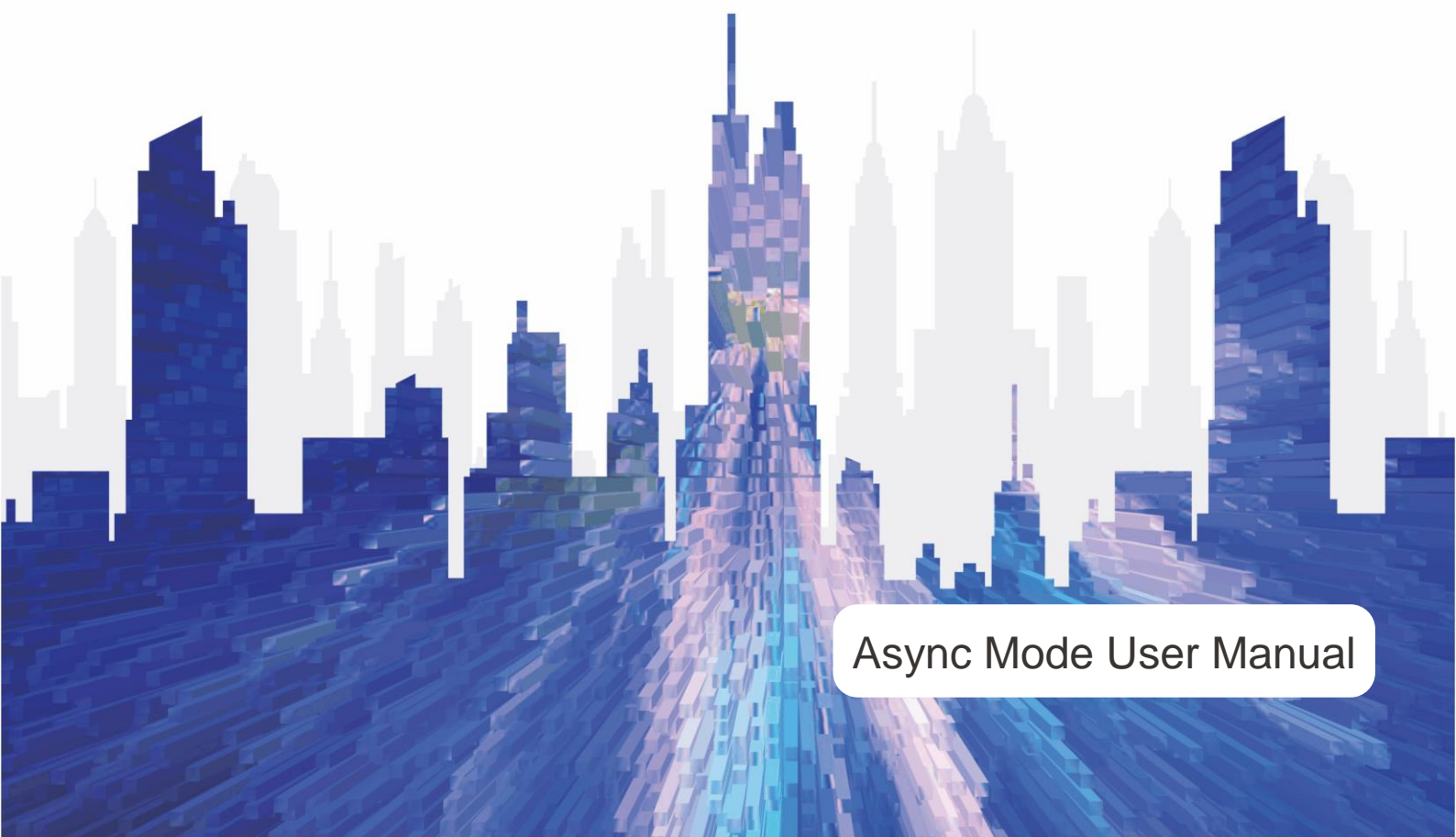




ViPlex Express



Async Mode User Manual

Contents

Contents	i
1 Software Introduction	1
2 Getting Started.....	1
2.1 Preparing a PC.....	1
2.2 Installing Software	2
2.3 Selecting Working Mode.....	2
2.4 Connecting to Displays.....	2
2.5 Logging In to Terminals	3
2.6 Creating Solutions	4
2.7 Publishing Solutions	6
2.8 Controlling Terminals	7
3 Solution Management.....	7
3.1 Creating Solutions	7
3.1.1 Creating a Regular-Screen Solution	7
3.1.2 Creating an Ultra-Long-Screen Solution	10
3.2 Scheduling Solutions	13
3.3 Publishing Solutions	15
3.4 USB Playback	16
3.5 Exporting/Importing Solutions.....	17
4 Terminal Control.....	19
4.1 Playback Management.....	21
4.1.1 Adjusting Volume in Real Time	21
4.1.2 Managing Terminal Solutions.....	21
4.2 Brightness Adjustment.....	23
4.2.1 Manual Adjustment	23
4.2.2 Smart Adjustment	23
4.3 Video Source	25
4.3.1 Video Source Parameter Configuration	25
4.3.2 Manual Switching.....	26
4.3.3 Scheduled Switching	27
4.3.4 HDMI Preferred.....	27
4.4 Screen Status Control	28
4.4.1 Manual Control	28
4.4.2 Timing Control.....	28
4.5 Power On/Off.....	29
4.6 Time Synchronization	30
4.6.1 Manual Time Synchronization.....	31
4.6.2 GPS Time Synchronization	31
4.6.3 NTP Time Synchronization	32

4.6.4 RF Time Synchronization.....	32
4.7 Restart Configuration.....	35
4.7.1 Restarting Immediately	35
4.7.2 Scheduled Restart	35
4.8 Color Temperature.....	36
4.9 Monitoring.....	36
4.10 Play Logs.....	37
4.10.1 Querying Play Logs	37
4.10.2 Exporting Play Logs.....	37
4.11 Font Management.....	38
4.11.1 Adding Fonts	38
4.11.2 Deleting Fonts.....	39
4.12 Network Configuration	40
4.12.1 Configuring Wired Network.....	40
4.12.2 Configuring Wi-Fi Network.....	42
4.12.3 Configuring Mobile Network.....	47
4.12.4 Configuring Network Detection	48
4.13 Server Configuration.....	48
4.13.1 Binding to VNNOX Standard/AD.....	49
4.13.2 Viewing iCare Binding Information	49
4.14 Terminal Upgrade	50
4.14.1 Online Upgrade.....	50
4.14.2 Local Upgrade	50
4.14.3 Flashing Firmware	51
4.15 Power Control.....	52
4.15.1 Configuring Power Tags.....	52
4.15.2 Controlling Power Manually	52
4.15.3 Controlling Power as Scheduled.....	53
4.16 RF Management.....	53
4.17 Sensor	54
4.18 Screen Information	55
5 VNNOX Login	57
6 System Settings.....	57
7 Audio and Video Decoder Specifications	57
7.1 Image	57
7.2 Audio	58
7.3 Video	58
8 Limitations on Cut-to-Display Windows for Regular Screens.....	59
9 Limitations on Playback Parameters for Ultra-long Screens.....	59

1 Software Introduction

ViPlex Express is a content publishing management system for PC, which is available for Windows and allows users to edit and play 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. You can set the number, coordinates, width, and height of windows based on your needs in a template.

+ 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 immediately refreshes 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

<https://www.vnnox.com/download>

Operating Procedure

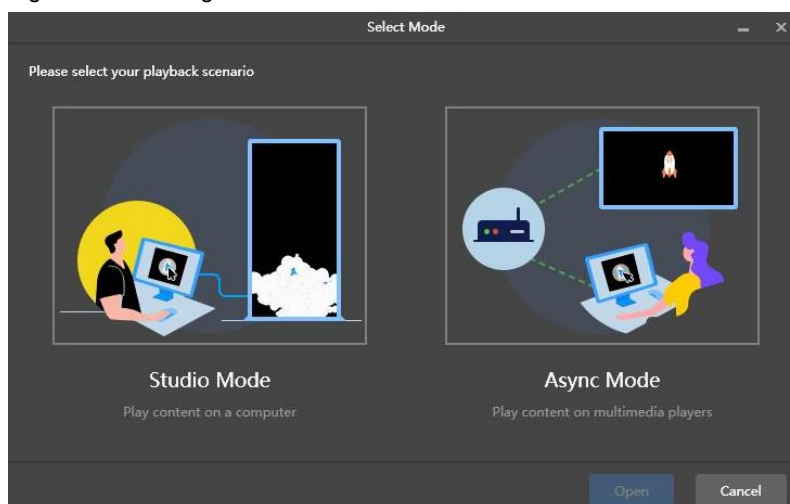
Double click the installer and install ViPlex Express according to the setup wizard.

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

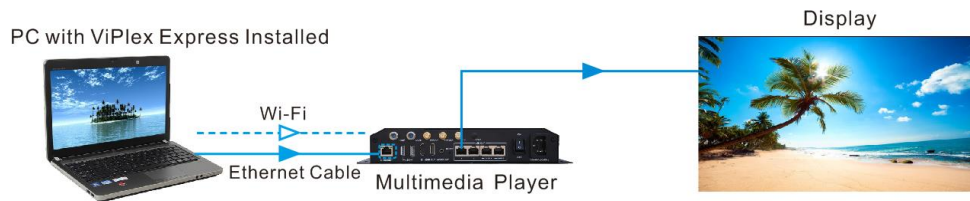
If you have installed ViPlex Express or selected a working mode before, the dialog box shown in Figure 2-1 will not appear. If ViPlex Express is in studio mode by default after opened, switch to the async mode by following the steps below:

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

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.

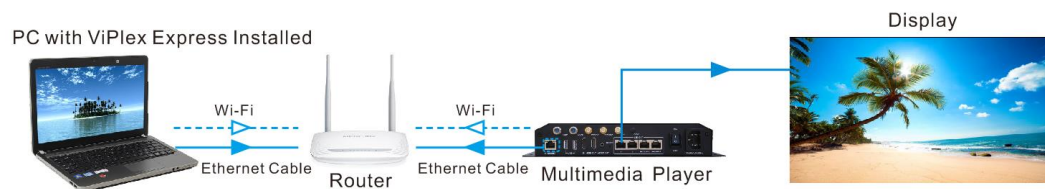
Note: Before enabling the DHCP service, turn off the firewall of the PC or set the ICMP echo reply policy.

+ Wi-Fi

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

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

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.

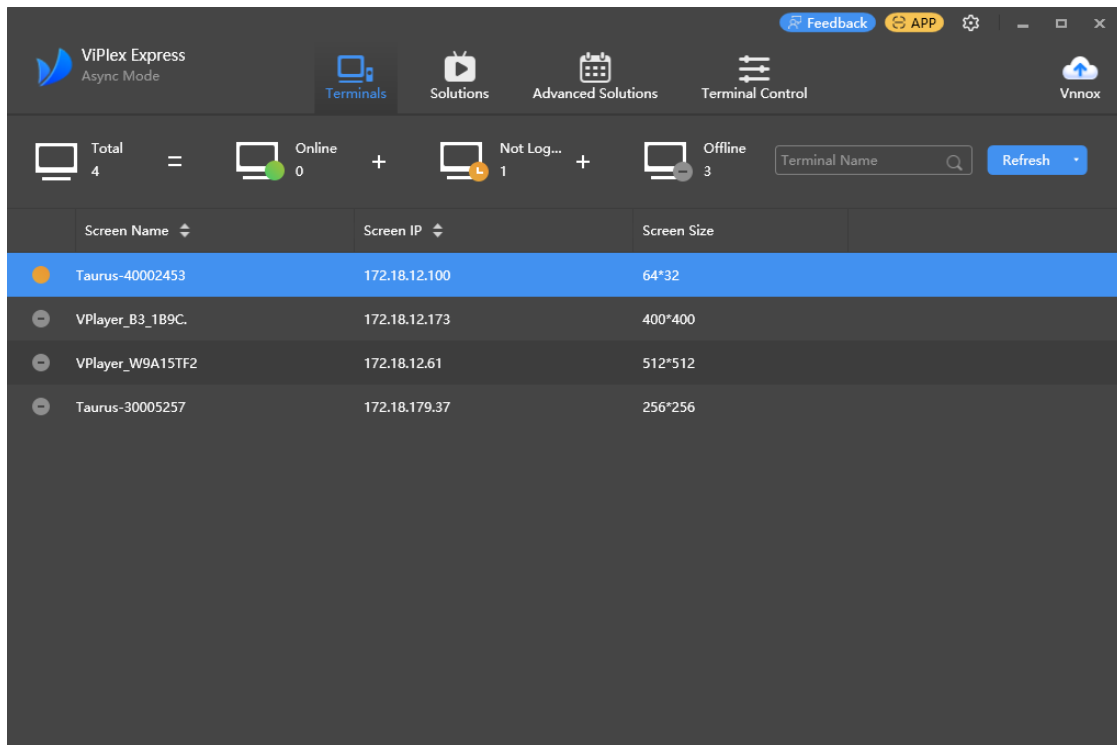
Required Information

Login user name and password of the multimedia player, for example, the default login user name of the Taurus series multimedia players is "admin" and the default password is "123456" (Taurus earlier than V4.6.0) or "SN2008@+" (Taurus V4.6.0 and later).

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 their network segments 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:

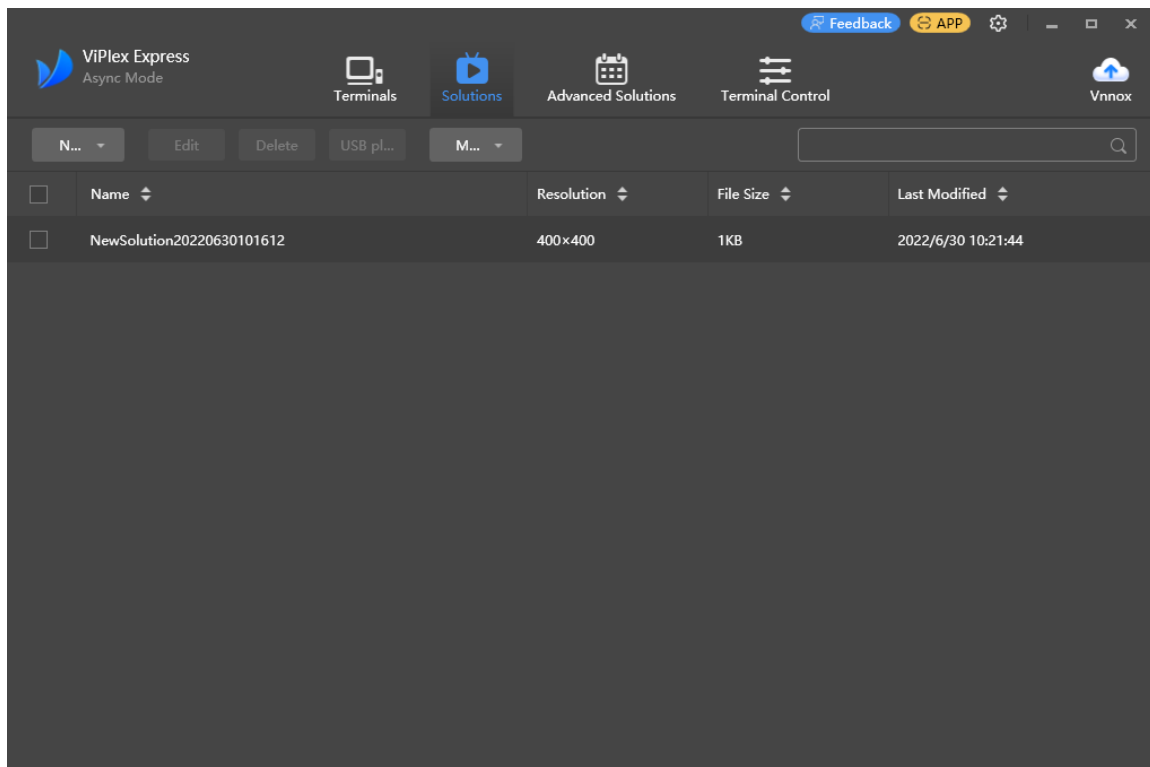
- Log Out: Log out of the terminal.
- Obtain SN: Obtain the SN of the terminal. Batch obtaining of SNs is supported.
- Rename: Rename the terminal.
- Change Password: Change the connection password of the Taurus Wi-Fi AP and the login password for the "admin" user.
- Forget Password: Delete the password 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

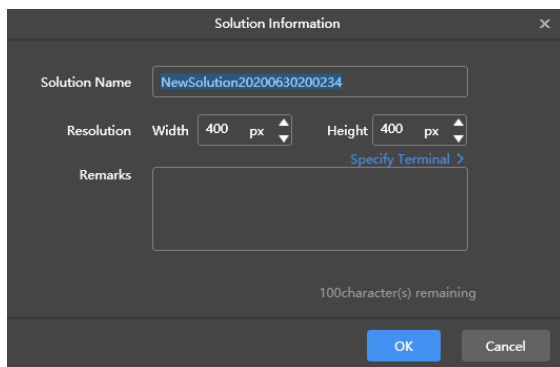
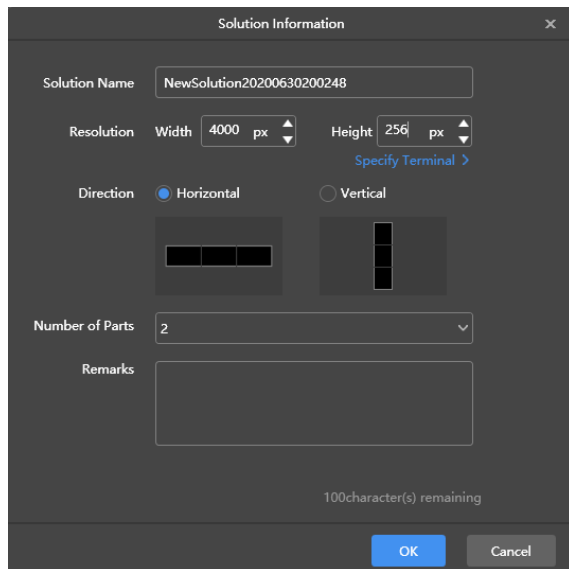


Figure 2-7 Solution information for an ultra-long screen



The 'Solution Information' dialog box contains the following fields and options:


- Solution Name:** A text input field containing 'NewSolution20200630200248'.
- Resolution:**
 - Width:** A numeric input field set to '4000' with a 'px' unit indicator.
 - Height:** A numeric input field set to '256' with a 'px' unit indicator.
 - A link labeled 'Specify Terminal >' is located below the height field.
- Direction:** Two radio buttons, 'Horizontal' (selected) and 'Vertical'.
- Visual Representation:** Two diagrams showing screen layouts. The 'Horizontal' diagram shows a single wide rectangle. The 'Vertical' diagram shows a single tall rectangle.
- Number of Parts:** A dropdown menu set to '2'.
- Remarks:** A large text area for notes.
- Character Count:** A status indicator at the bottom right shows '100character(s) remaining'.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.


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

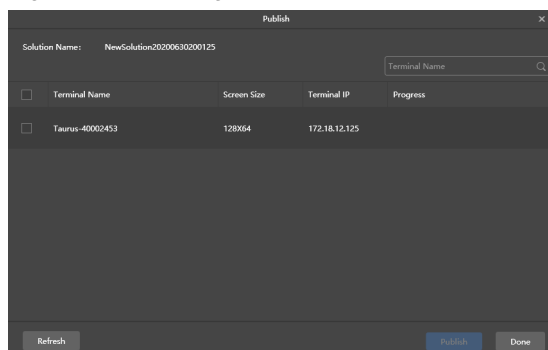
Solutions containing media can be published.

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



The 'Publish' dialog box contains the following elements:

- Solution Name:** A text input field containing 'NewSolution20200630200125'.
- Terminal Name:** A search input field with a magnifying glass icon.
- Table:** A table with columns: Terminal Name, Screen Size, Terminal IP, and Progress.

Terminal Name	Screen Size	Terminal IP	Progress
<input type="checkbox"/> Taurus-40002453	128X64	172.18.12.125	
- Buttons:** 'Refresh', 'Publish', and 'Done' buttons at the bottom.

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

Note: During solution publishing, ViPlex Express automatically converts the video formats 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.

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

The **Solution Information** dialog box appears.

Figure 3-1 Solution information

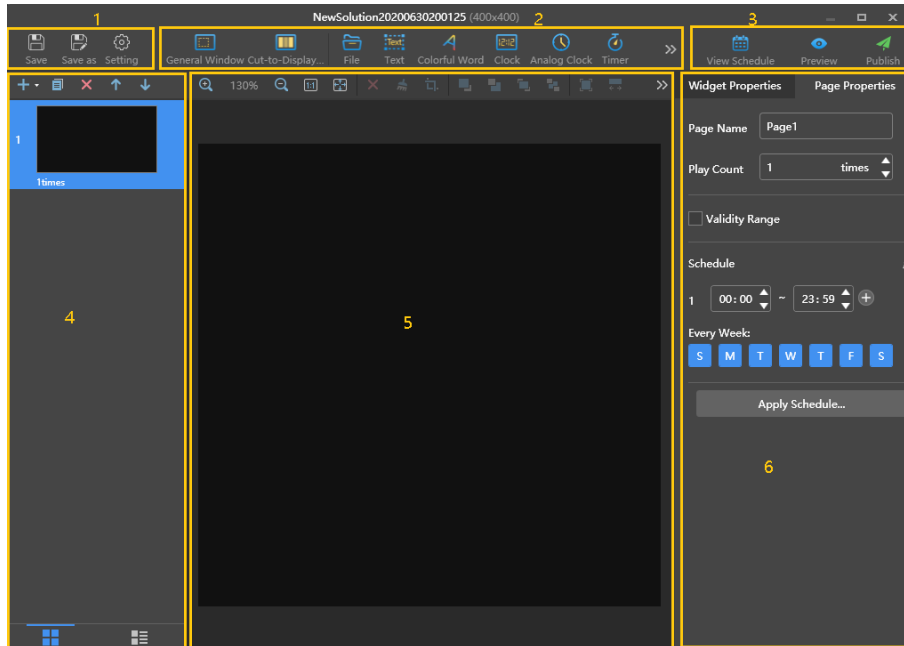
The image shows a 'Solution Information' dialog box with the following fields and controls:

- Solution Name:** A text input field containing 'NewSolution20200630200234'.
- Resolution:** Two spinners for 'Width' and 'Height', both set to '400 px'.
- Remarks:** A large text area for notes.
- Specify Terminal >:** A blue link to select a terminal.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom right.
- Footer:** '100character(s) remaining' text.

Step 3 Set a name and resolution for the solution, then click **OK** to access the solution editing page, as shown in [Figure 3-1](#).

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 3-2 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
		: Table	: 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


No.	Function	Description	
			selected page are displayed.)
5	Editing media on pages	 : Zoom editing area in	 : Zoom editing area out
		 : 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	<p>Used for editing widget and page properties</p> <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> – 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.
- Users can set the text color and merge the cells in the Excel file to be imported. Other properties of the cells in the Excel file currently cannot be displayed. Please scan the **Feedback** QR code in the navigation bar to give feedback if needed.
- 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 to 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 [4.17 Sensor](#).
- For the limitations on cut-to-display windows, see 8 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  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, 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 Table 9-1.

Application Example

The resolution of a screen is 23040×98 and the screen works with the TB60 multimedia player for content playback.

- Number of parts: $23040 / 096 = 5.625$ (Here an integer is required, so the number of parts is 6.)
- Screen width to be configured: $23040 / 6 = 3840$
- Screen height to be configured: $98 \times 6 = 588$

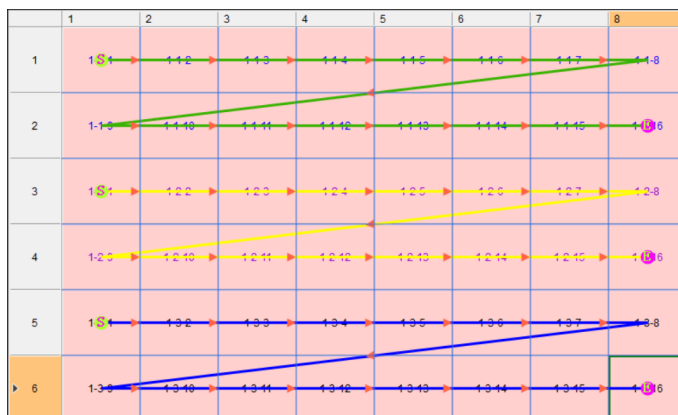
Note

The maximum pixel capacity of the TB60 is 2.3 million. Within the maximum pixel capacity, the maximum pixel width is 23040 and the maximum pixel height is 4096. For the detailed pixel capacity limits of other models of products, see Table 9-1.

Screen Configuration

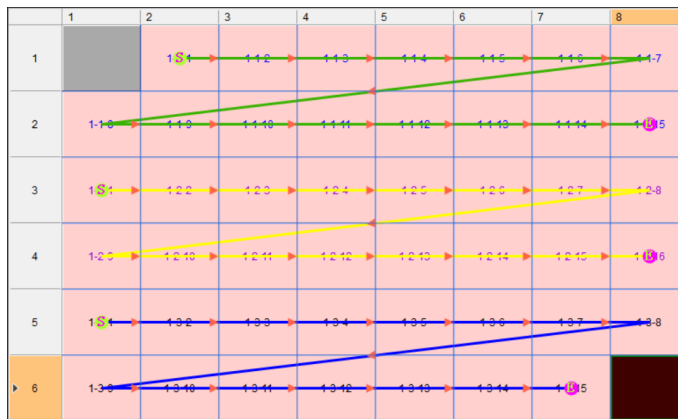
When you set the connection of receiving cards, if an Ethernet port loads two rows/columns or more, the connection must follow the shape of the letter Z, as shown in Figure 3-3.

Figure 3-3 Ultra-wide 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 3-4.

Figure 3-4 Blank receiving cards of an ultra-wide 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.
- Step 2 Click **New** and select **Ultra-Long Screen** from the drop-down menu.

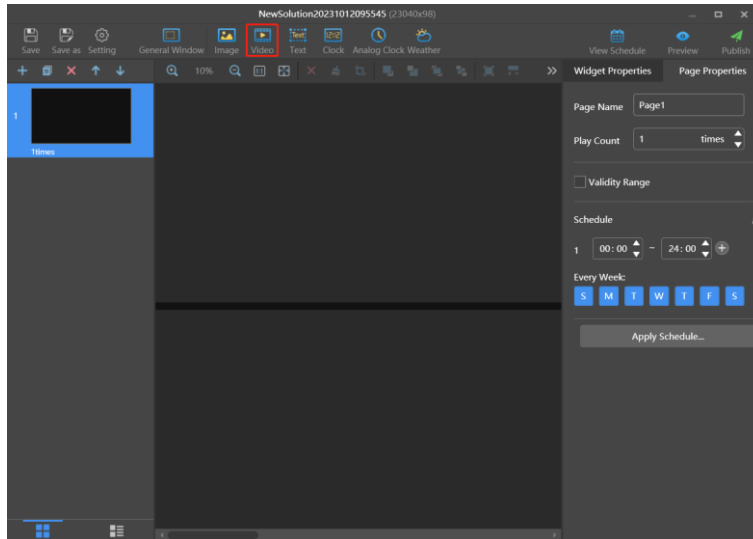
The **Solution Information** dialog box appears.

Figure 3-5 Solution information of an ultra-wide screen

- Step 3 Set the solution information and click **OK**.
- The resolution of the solution must be consistent with the actual pixel width and height of the screen.
 - Only images, text, videos and colorful text can be placed across the boundary.
- Step 4 At the top of the solution editing page, click **Video**.

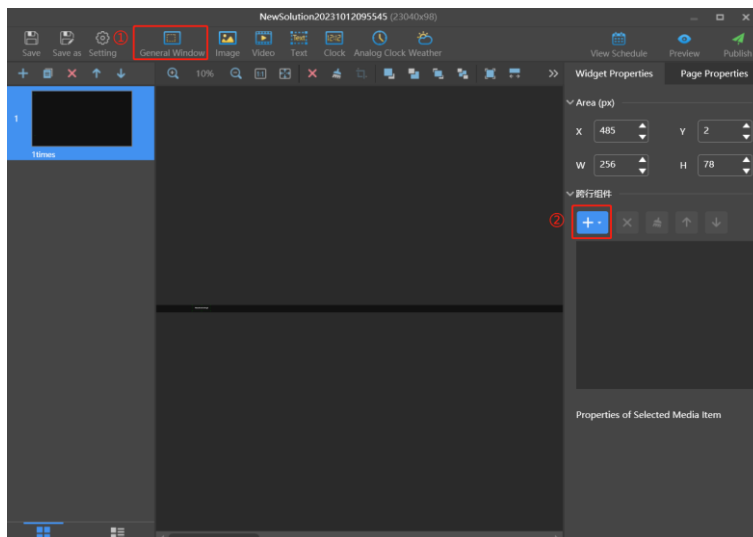
In the page media editing area, the page is displayed based on the actual screen resolution.



Figure 3-6 Ultra-long-screen solution editing page



- Step 5 Select a video (multiple videos can be added) from the folder and click **Open**.
To set playlist playback, choose **General Window** > + to add multiple videos.

Figure 3-7 Setting playlist playback



- Step 6 (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 7 After the solution editing is done, click .
- Step 8 Select players and click **Publish** to publish the solution.

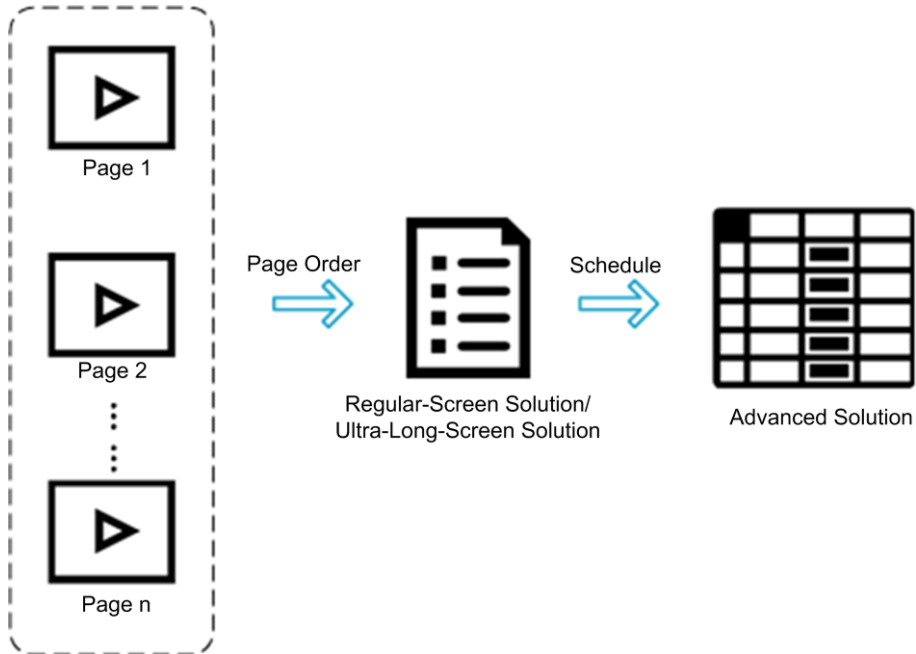
Note

- Ultra-long-screen solutions do not support synchronous playback.
- To ensure smooth playback, playing videos and text simultaneously is not recommended.

3.2 Scheduling Solutions

Applications

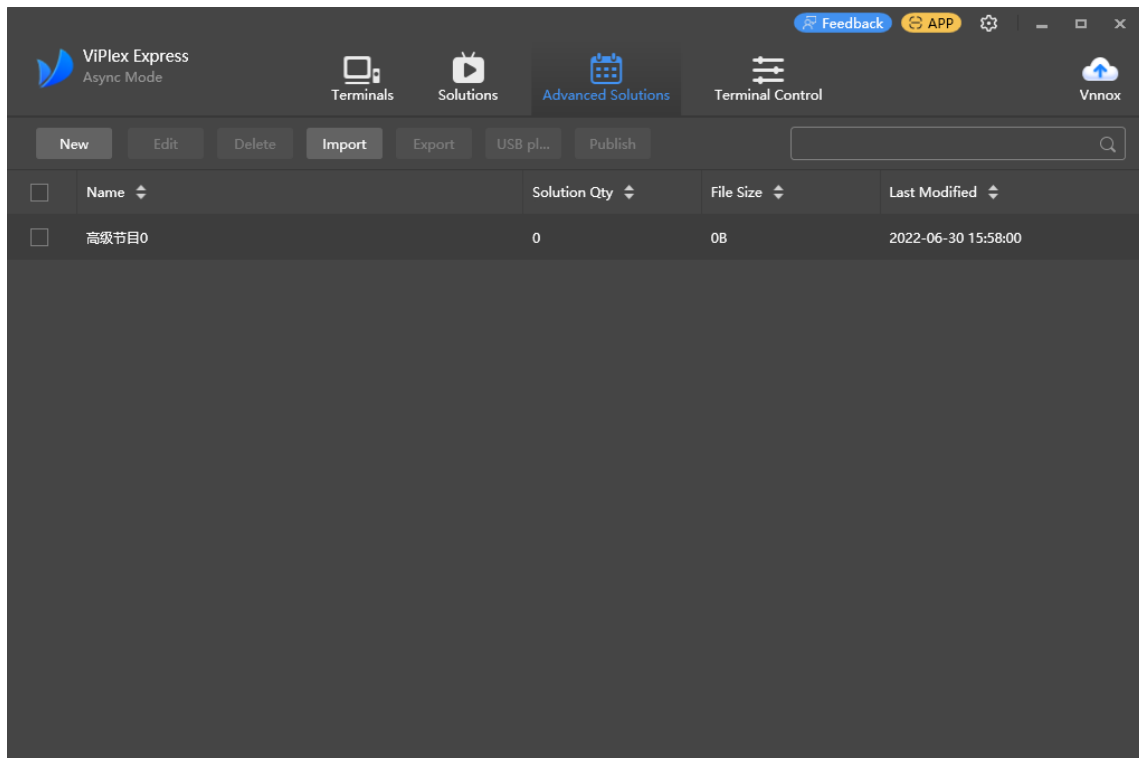
An advanced solution is a collection of scheduled regular-screen solutions or ultra-long-screen solutions.



Operating Procedure

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

Figure 3-8 Advanced solutions



Step 2 Click **New** to open the **New Advanced Solution** page.

Figure 3-9 New advanced solution

Step 3 Enter a name for the advanced solution.

Step 4 Click .

Figure 3-10 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 3-11 Adding non-scheduled content

Figure 3-11 shows the 'Edit Advanced Solution' dialog box. The dialog has a title bar 'Edit Advanced Solution' and a close button. Below the title bar is a 'Name' field containing 'AdvancedSolution1'. Underneath are five icons: a plus sign, a checkmark, an 'X', an up arrow, and a down arrow. A table follows with the following structure:

<input type="checkbox"/>	No.	Scheduled Solution	Validity Range	Repeat	Playback duration
<input type="checkbox"/>	1	NewSolution2020063...	Never expires	Every day	00:00:00-23:59:59
<input type="checkbox"/>	2	NewSolution2020063...	Never expires	Every day	00:00:00-23:59:59

Below the table, a note states: 'When the playback times of multiple solutions conflict, the solutions will be played according to their priorities, namely from bottom to top in the list.' Below this is a 'Non-Scheduled Content' section with a text input field and a note: 'During the non-scheduled period, the non-scheduled content will be played by default.' At the bottom are 'OK' and 'Cancel' buttons.

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.

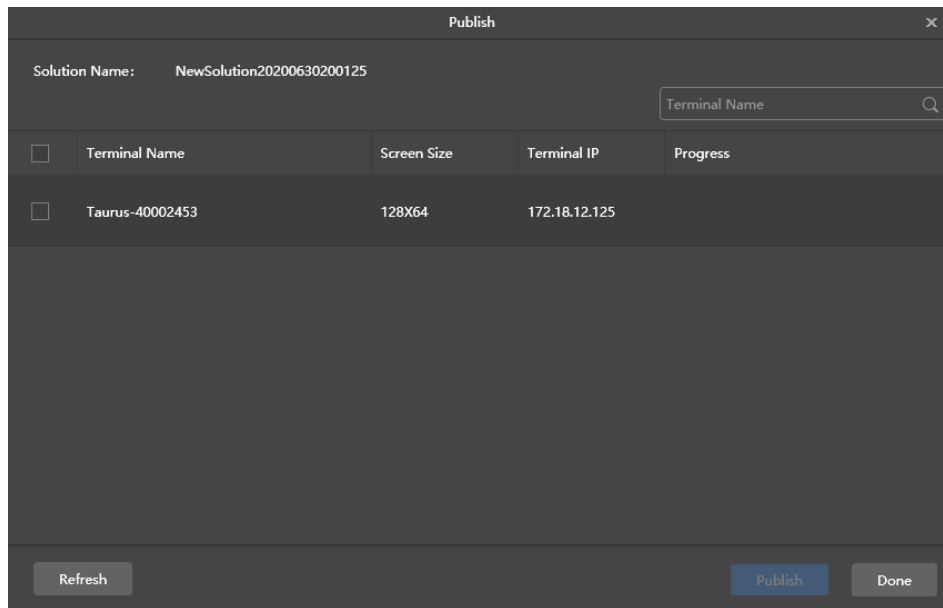
Operating Procedure

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 3-12 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 not supported by the terminal.

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

If the storage space of the terminal is insufficient, click **Clean Up & Republish** of the corresponding terminal to clean up storage. The solution will be published automatically after the cleanup.

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.

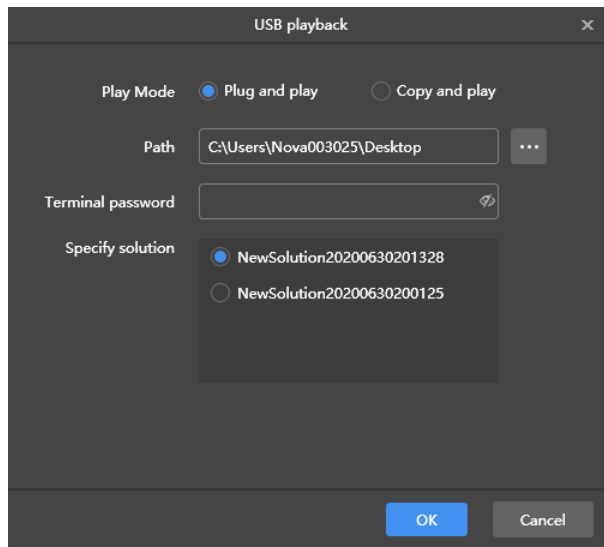
Operating Procedure

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 3-13 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 play 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.

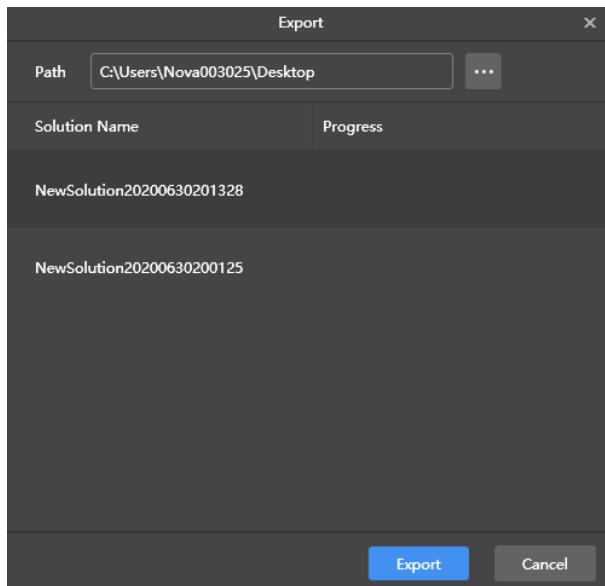
Operating Procedure


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 3-14 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 not supported by the terminal.

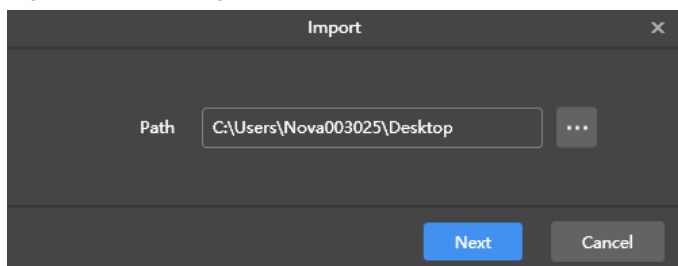
Step 5 After the solutions are exported successfully, close the dialog box.


Import solutions

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

Or click Import on the Advanced Solutions page.

Figure 3-15 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

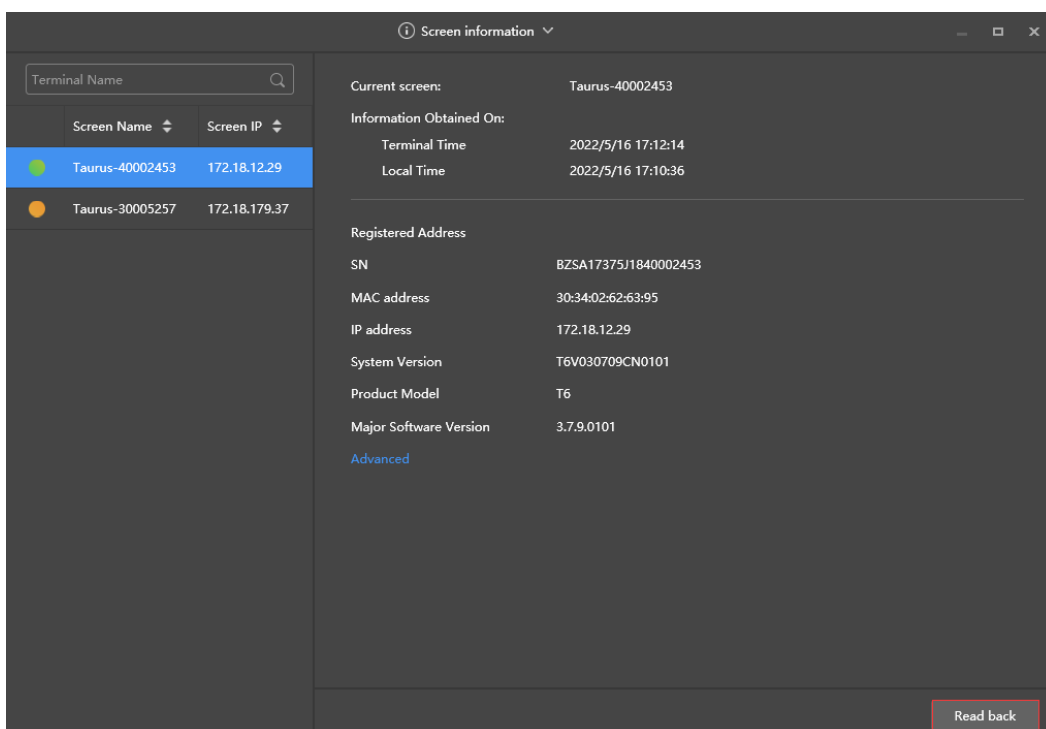
Function	Sub-Function	Taurus LED Players	Taurus LCD Players	VPlayer
Playback management	Adjust volume in real time	√	√	
	Manage terminal solutions	√	√	
Brightness adjustment	-	√		
Video source	Configure video source parameters	√		
	Switch video source	√		
Screen status control	-	√		
Time synchronization	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	√	√	
Terminal upgrade	Online upgrade	√	√	√

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

Common Operations

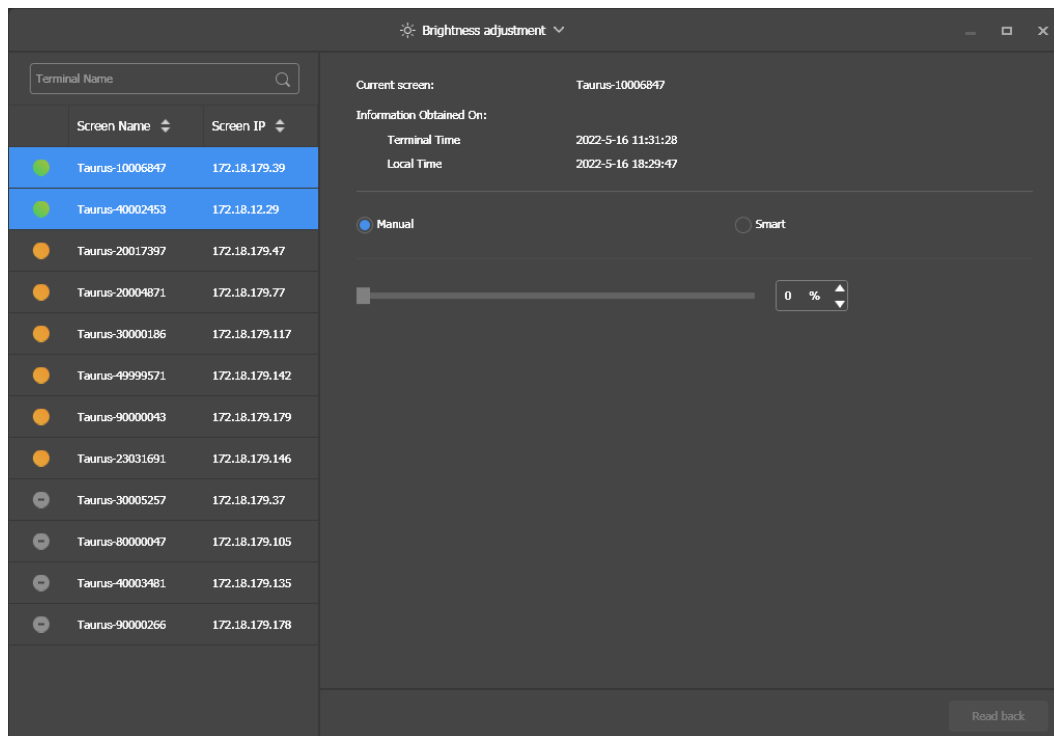
- Click the **Read back** button to read terminal information back to ViPlex Express and display it.

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

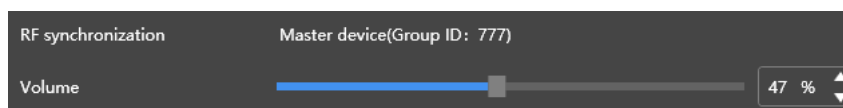
Manage the playback mode, volume, and content of terminals.

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 [4.16 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



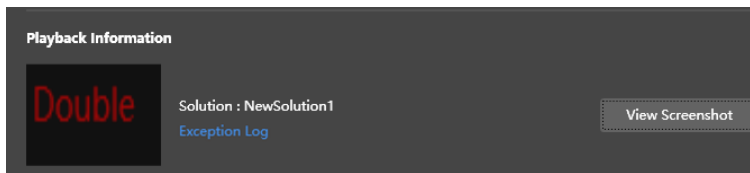
4.1.2 Managing Terminal Solutions

Note:

Only T30/T50/T60/TB30/TB40/TB50/TB60 support exception log and requirements check.

- 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




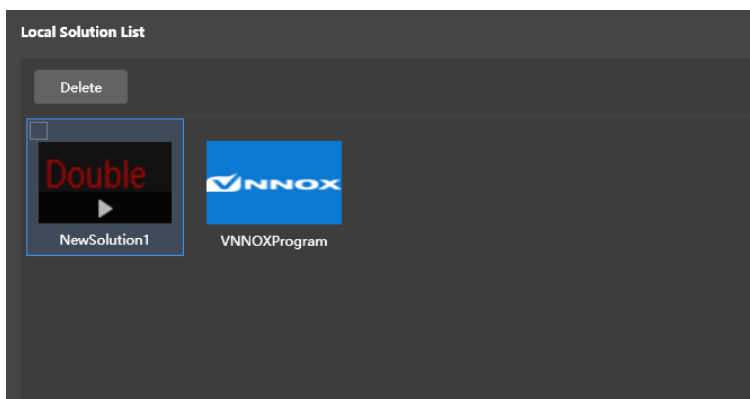
- Exception log: Click **Exception Log** to view the details of the exceptions occurring during playback.
- Playing a solution: Move the mouse to the thumbnail of the solution and click .

Figure 4-5 Solution list




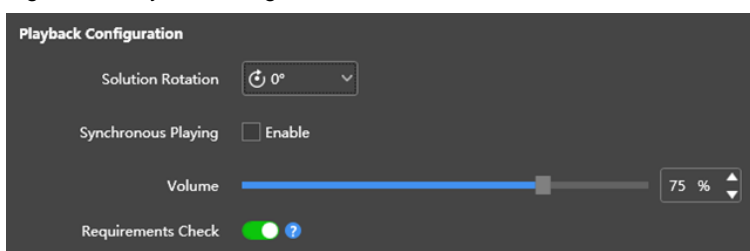
- Stopping playing a solution: Move the mouse to the thumbnail of the solution and click .
- Deleting a solution: Select a solution in the solution thumbnail list and click **Delete**.
- Rotating a solution: Select a rotation angle from the drop-down box next to **Solution Rotation**. The rotation angle is absolute.
- Synchronous playing: Enable or disable the synchronous playback.
- Requirements Check: After this function is enabled, the device can automatically detect the media not meeting the requirements.

Figure 4-6 Playback configuration

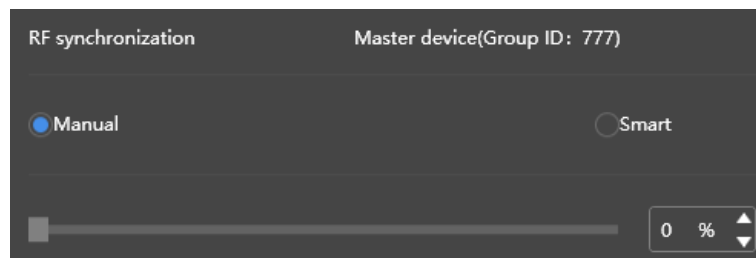


4.2 Brightness Adjustment

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 [4.16 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.

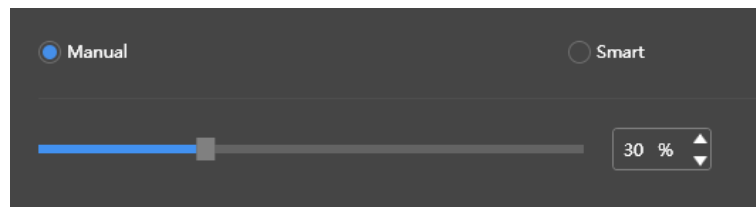
Figure 4-7 RF synchronization-brightness



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**, set the corresponding brightness adjustment rules, and then click **Add**.

Figure 4-9 Smart brightness adjustment

Manual ☐ Smart ☒

Auto brightness adjustment table

+ [Edit] [Delete] [Share] Brightness Mapping Table

<input type="checkbox"/>	Start time	Adjustment...	Repeat	Validity Range	Enable
<input type="checkbox"/>	00:00:00	Auto	Never	2020-08-03 ~ 2020-08-03	<input checked="" type="checkbox"/>
<input type="checkbox"/>	00:00:00	Timing 30%	Never	2020-06-23 ~ 2020-06-23	<input checked="" type="checkbox"/>
<input type="checkbox"/>	08:00:00	Auto	Never	2020-06-23 ~ 2020-06-23	<input type="checkbox"/>

Apply

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

Figure 4-10 Scheduled brightness adjustment

New

Timing ☒ Auto ☐

Timing brightness: 10 %

Repeat: Every day

Execution time: 00:00:00

Validity Range: 2020/8/17 ~ Never expires

Add Close

- 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 allows users to divide the ambient brightness into several subsections, set corresponding screen brightness for each subsection, and specify a brightness collection interval and the number of times to collect brightness. The screen brightness automatically changes according to the ambient brightness subsection to which the collected ambient brightness belongs.

Figure 4-11 Automatic brightness adjustment

New

☐ Timing ☒ Auto

Repeat: Every day

Execution time: 00:00:00

Validity Range: 2020/8/17 ~ Never expires

Add Close

Figure 4-12 Brightness mapping table

Brightness Mapping Table

☒ If ambient brightness reading fails, adjust the brightness to 10 %

+ - Quick subsection

Ambient brightness (Lux)	Screen Brightness (%)	Operate
65534	100	
58981	90	
52427	80	
45874	70	
39320	60	

Brightness Collection Interval: 3 s Times to Collect Brightness: 5

OK Cancel

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 **Internal Source Resolution** area, specify a resolution and click **Apply**.

This resolution refers to the operating system resolution of the Taurus multimedia player and must be higher than the screen resolution.

Note:

Only the TB30, TB40, TB50 and TB60 support custom resolutions.

Step 4 In the **Parameter Configuration** area, configure the following parameters.

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

- $64 \text{ pixels} \leq \text{Video source width} \leq 2048 \text{ pixels}$
- Support for zooming out only

Figure 4-13 Parameter configuration

The screenshot shows the 'Video source' configuration window. On the left, a table lists terminals:

Screen Name	Screen IP
Taurus-40002453	172.18.12.29
Taurus-30005257	172.18.179.37

The main configuration area for 'Taurus-40002453' includes:

- Current screen:** Taurus-40002453
- Information Obtained On:**
 - Terminal Time: 2022/5/16 16:59:08
 - Local Time: 2022/5/16 16:57:30
- Internal Source Resolution:** Resolution (px) 1280x720p-60
- Control Mode:** Manual (selected), Timing, HDMI preferred
- Video Source Type:** HDMI
- Parameter Configuration:**
 - Output Position (px): X: 0, Y: 0
 - HDMI Source Resolution: Width: 1920, Height: 1080
 - Full Screen Zoom: ☐ Enable

Buttons for 'Apply', 'Read back', and 'Apply' are visible at the bottom.

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

4.3.2 Manual Switching

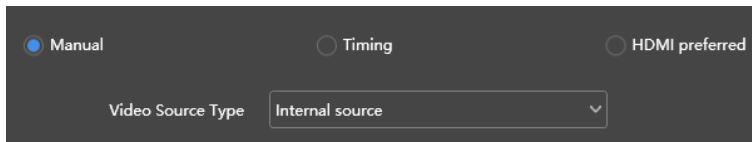
Immediately switch between the internal input source and HDMI input source.

Step 1 Choose Terminal Control > Video source.

Step 2 Select the target terminal in the terminal list.

Step 3 In the **Control Mode** area, choose **Manual** and configure the parameters.

Figure 4-14 Manual switching



Step 4 Click **Apply**.

4.3.3 Scheduled Switching

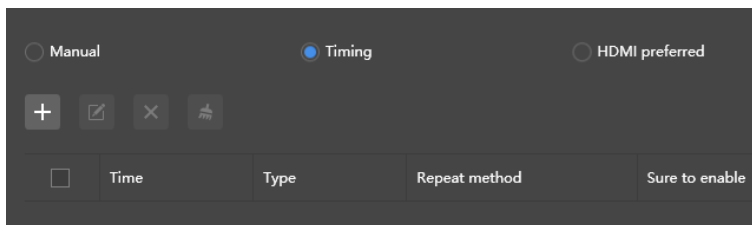
Switch between the internal input source and HDMI input source as scheduled.

Step 1 Choose Terminal Control > Video source.

Step 2 Select the target terminal in the terminal list.

Step 3 In the **Control Mode** area, choose **Timing**.

Figure 4-15 Scheduled switching




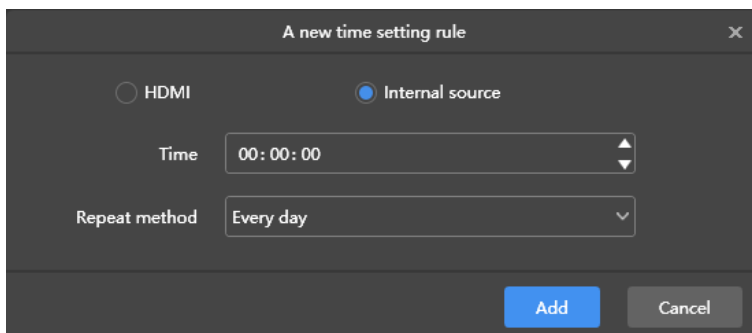
Step 4 Click . In the pop-up dialog box, choose **Internal** or **HDMI**, and then set the time and cycle to use the video source. At last, click **Add**.

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 synchronous mode.

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

Step 2 Select the target terminal in the terminal list.

Step 3 In the Control Mode area, choose HDMI preferred.

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

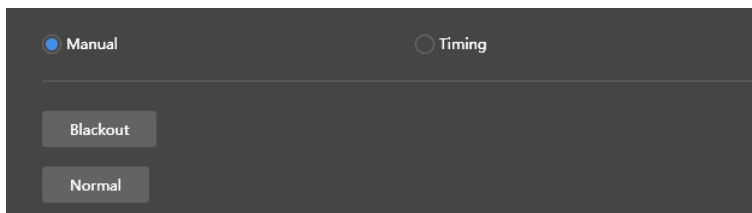
4.4 Screen Status Control

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 4-17 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**, set the playback time and interval, and then click **Add**.

Figure 4-18 Scheduled control

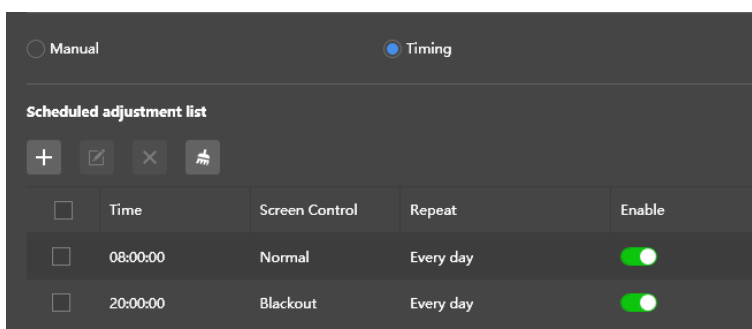


Figure 4-19 Creating a scheduled rule

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

4.5 Power On/Off

Scenarios

Schedule the power on/off of players.

Operating Procedure

Step 1 Choose **Terminal Control > On/Off**.

Step 2 In the **Power On/Off** area, click **+** to create a scheduled control command.

Step 3 Specify the time to power on and off the player and select a repeat method.

The interval between the power-on time and power-off time cannot be less than 2 minutes. When the power-off time is earlier than the power-on time, the device will be powered off on the next day.

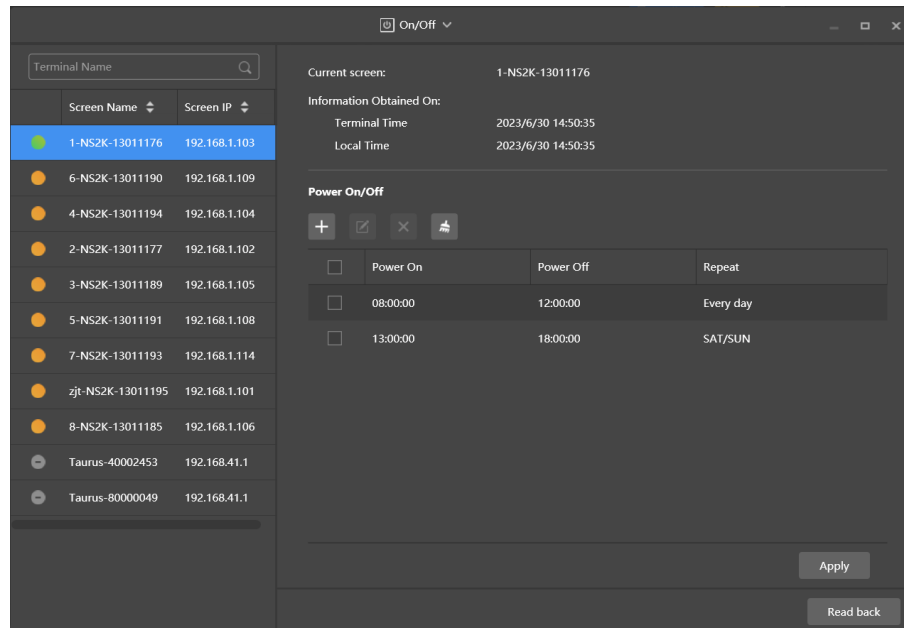
Step 4 After the settings, click **Add** to save the command.

Figure 4-20 Creating a scheduled control command.

Step 5 Select a player from the terminal list.

Step 6 Select a command and click **Apply** to apply the command. (If no command is selected, all the commands will be applied by default.)

Figure 4-21 Scheduling power on/off



4.6 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.
Automatic	GPS time synchronization: Radio signal from a GPS satellite	Sync the time of the Taurus with GPS, NTP, or RF. All these three methods are applicable to synchronous playback. <ul style="list-style-type: none"> The accuracy of GPS time synchronization depends on the satellite signal and it is suitable for outdoor applications without obstructions around The accuracy of NTP time synchronization depends on the network speed and it is suitable for situations with a low requirement for synchronization. RF time synchronization does not depend on the network and has a high synchronization performance. It is suitable for situations with an increased requirement for synchronization.
	NTP time synchronization: Time of the NTP server	
RF	Time of the reference device	

Note:

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

4.6.1 Manual Time Synchronization

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 4-22 Selecting a time zone

- Step 4 After the settings, click **Apply**.

4.6.2 GPS Time Synchronization

Prerequisites

- Before GPS time synchronization, users need to buy and install network modules.
- The Taurus terminal version is V3.3.0 or later.

Operating Procedure

- Step 1 Choose Terminal Control > Time synchronization management.
- Step 2 Select the target terminal from the terminal list.
- Step 3 (Optional) Select a time zone from 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 Check **Automatically sync time** and select GPS time synchronization.

Figure 4-23 GPS time synchronization

Time synchronization

Time zone: (UTC+08:00) Asia/Shanghai

Date and time: 2021/3/15 17:42:07

☒ Automatically sync time

☒ GPS time synchronization ☐ NTP

When using GPS for time synchronization, please make sure that a GPS antenna is connected to the terminal and the terminal is placed outdoors without obstructions around.

Apply

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

4.6.3 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 Check **Automatically sync time** and **NTP**, 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 4-24 Selecting an NTP server

Time synchronization

To use GPS for time synchronization, please install a network module for the terminal.

Time zone: (UTC+08:00) Asia/Shanghai

Date and time: 2021/3/15 17:31:44

☒ Automatically sync time

☐ GPS time synchronization ☒ NTP

NTP server: China

Apply

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

4.6.4 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 time 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 4-25 Master device

The screenshot shows a 'Parameter Information' dialog box with the following settings:

- RF synchronization:** Toggled on (green indicator).
- Set this terminal as:** Radio buttons for 'Master device' (selected) and 'Slave device'.
- Group ID:** A text input field containing '123'. Below it, a note states: 'Please enter a new group ID for the master device. Numbers and letters are supported.'
- Apply RF synchronization to:** A list of checkboxes:
 - ☒ Time synchronization
 - ☐ Brightness Synchronization
 - ☐ Volume Synchronization
 - ☐ Environment monitoring data
- Apply:** A button at the bottom right.

Figure 4-26 Slave device

Parameter Information

RF synchronization ☒

Set this terminal as ☐ Master device ☒ Slave device

Group ID

Please enter a new group ID for the master device. Numbers and letters are supported.

Apply RF synchronization to ☒ Time synchronization
☐ Brightness Synchronization
☐ Volume Synchronization
☐ Environment monitoring data

Apply

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 4-27 RF synchronization-Time synchronization

Time synchronization

To use GPS for time synchronization, please install a network module for the terminal.

RF synchronization Master device(Group ID : 777)

Time zone

Date and time

☒ Automatically sync time

☐ GPS time synchronization ☒ NTP

NTP server

Apply

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.

- GPS time synchronization: Check **Automatically sync time** and select GPS time synchronization.

Note:

GPS time synchronization can be implemented when the master device meets the prerequisites in [4.6.2 GPS Time Synchronization](#).

- NTP synchronization: Check **Automatically sync time**, select NTP time synchronization, 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**.

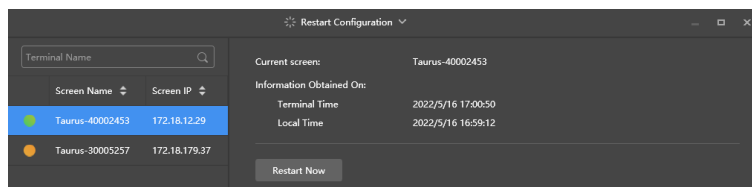
4.7 Restart Configuration

Restart terminals immediately and configure restart rules.

4.7.1 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 4-28 Restart



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

4.7.2 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 4-29 Scheduled adjustment

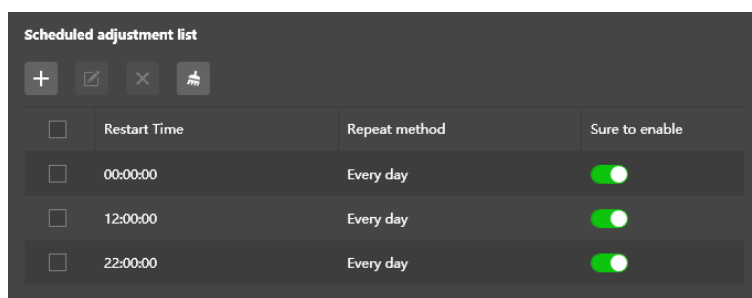


Figure 4-30 Creating a scheduled rule

A new time setting rule

Time: 00:00:00

Repeat method: Every day

Add Cancel

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

4.8 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 4-31 Color temperature

Color temperature

Terminal Name: [Search]

Screen Name	Screen IP
Taurus-40002453	172.18.12.29
Taurus-30005257	172.18.179.37

Current screen: Taurus-40002453

Information Obtained On:

Terminal Time: 2022/5/16 17:03:45

Local Time: 2022/5/16 17:02:07

Neutral white Standard white Cool white

Read back

4.9 Monitoring

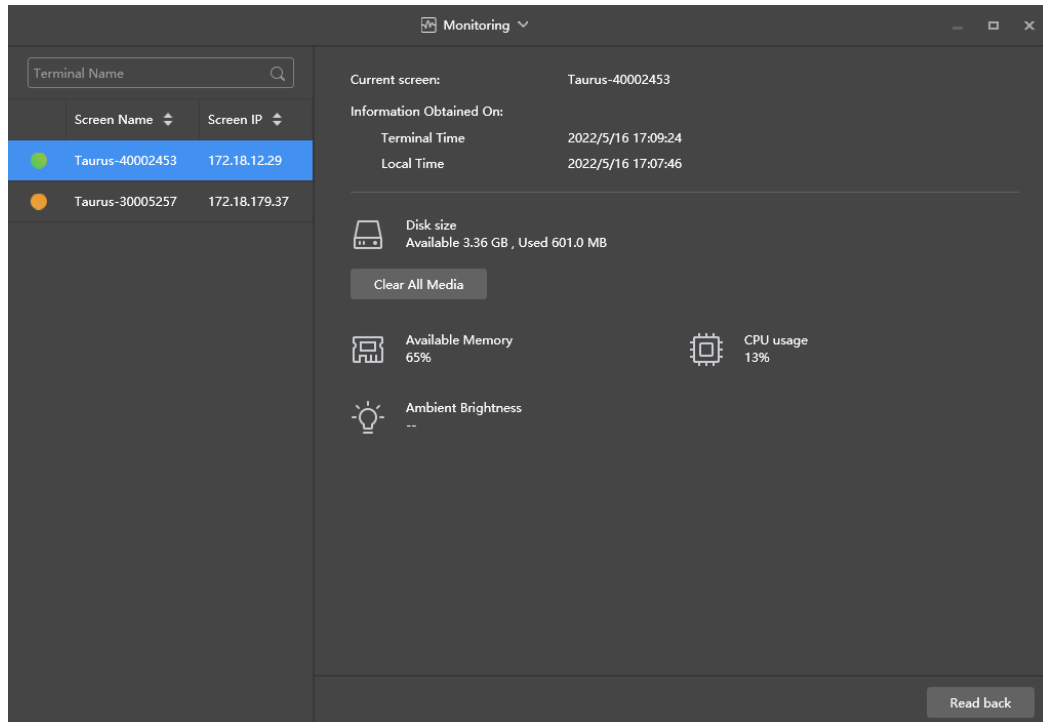
Step 1 Choose **Terminal Control > Monitoring**.

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 4-32 Monitoring



Step 4 Click **Clear All Media**, select the cleanup scope and click **OK**.

4.10 Play Logs

View and export play logs.

4.10.1 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 play log list, click a play log name to view the summary and detailed information of the log.

4.10.2 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**.

4.11 Font Management

Manage the fonts supported by the Taurus.

4.11.1 Adding Fonts

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

Step 2 Select the target terminal in the terminal list.


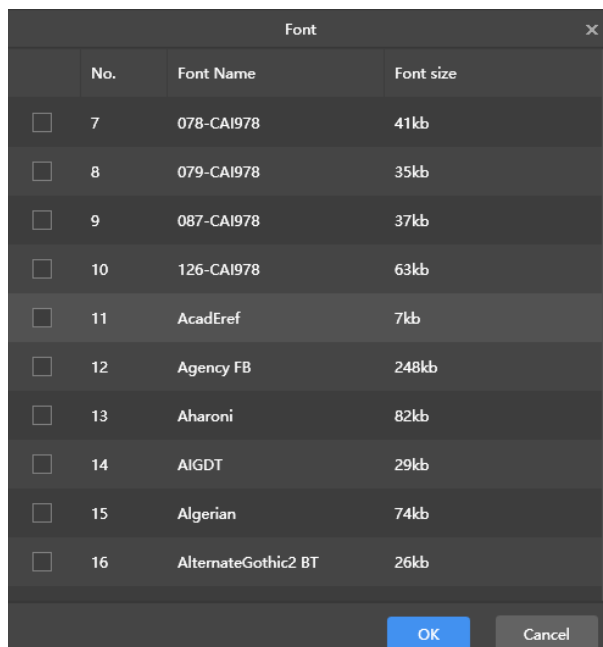
Step 3 Click  next to **Name** to acquire local fonts on the PC.

Figure 4-33 Local fonts



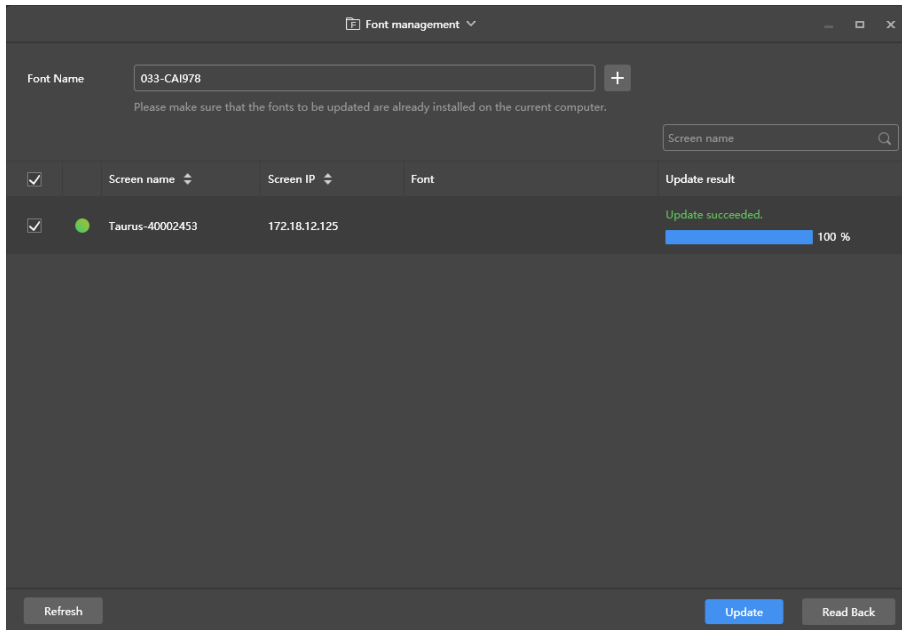
	No.	Font Name	Font size
<input type="checkbox"/>	7	078-CAI978	41kb
<input type="checkbox"/>	8	079-CAI978	35kb
<input type="checkbox"/>	9	087-CAI978	37kb
<input type="checkbox"/>	10	126-CAI978	63kb
<input type="checkbox"/>	11	AcadEref	7kb
<input type="checkbox"/>	12	Agency FB	248kb
<input type="checkbox"/>	13	Aharoni	82kb
<input type="checkbox"/>	14	AIGDT	29kb
<input type="checkbox"/>	15	Algerian	74kb
<input type="checkbox"/>	16	AlternateGothic2 BT	26kb

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.

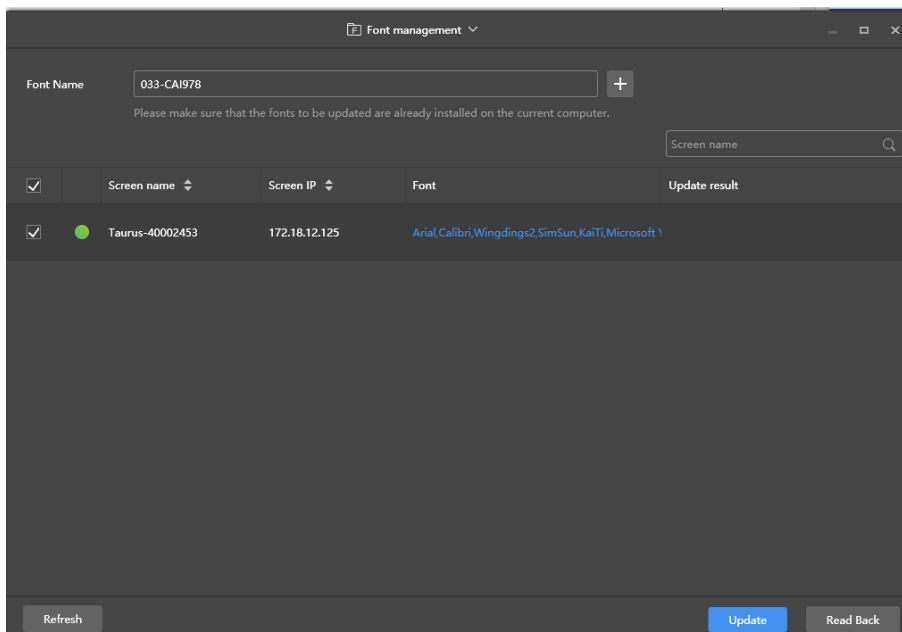
Figure 4-34 Adding a font



4.11.2 Deleting Fonts

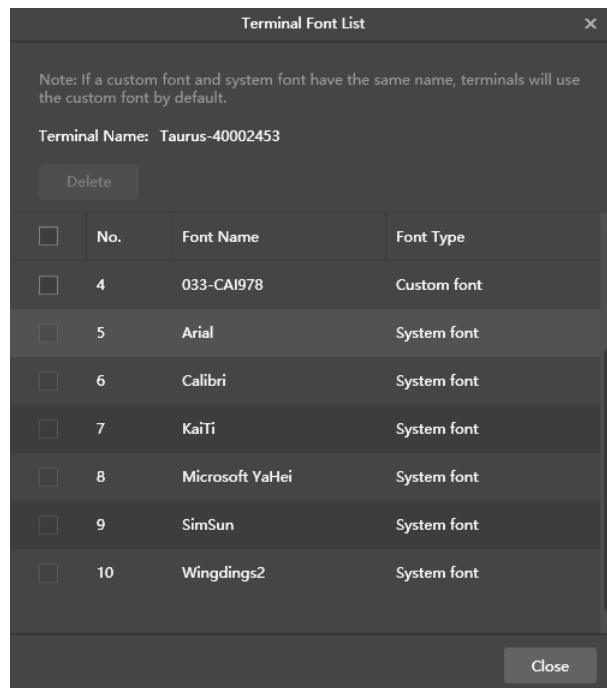
- Step 1 Choose **Terminal Control > Font management**.
- Step 2 Select the target terminal in the terminal list.
- Step 3 Click **Read back** at the bottom right to read back the fonts on the terminal.

Figure 4-35 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 4-36 Terminal font list



Step 5 Select target fonts.

Step 6 Click **Delete**.

4.12 Network Configuration

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

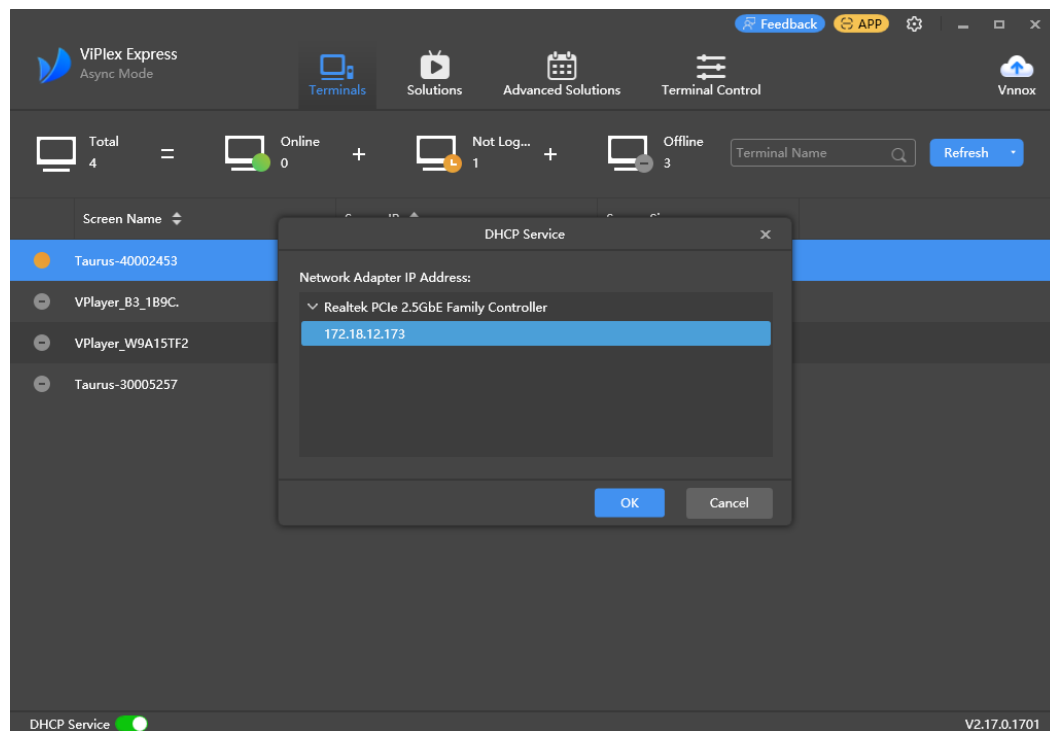
4.12.1 Configuring Wired Network

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 connect to the Taurus automatically.

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

Figure 4-37 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 **DHCP** to get an IP address automatically.
 - Deselect **Enable** next to **DHCP** and configure a static IP address.

Figure 4-38 Wired network configuration

Wired Network Wi-Fi Network Mobile Network Network Detection

DHCP ☒ Enable

IP Address 172 . 18 . 12 . 14

Subnet Mask 255 . 255 . 255 . 0

Gateway 172 . 18 . 12 . 1

DNS 172 . 16 . 0 . 202

DNS2 172 . 16 . 0 . 201

Apply Read back

Step 4 Click **Apply**.

4.12.2 Configuring Wi-Fi Network

Configure the Wi-Fi AP and Wi-Fi Sta of the terminal.

4.12.2.1 Configuring Wi-Fi AP

Change the SSID, password and channel of a terminal and set AP isolation.

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

Step 2 Select the target terminal from the terminal list.

Step 3 Go to **Wi-Fi Network > Player Wi-Fi AP** and do the following as required.

- AP: Turn on/off the terminal Wi-Fi AP.
- Hotspot Name and Password: Change the SSID 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 printed on the SSID label of the product.

- Isolate from Local Network: After enabled, the Wi-Fi AP of the terminal is isolated from the local network and users cannot access the local network by connecting to the Wi-Fi AP.
- 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 4-39 Player Wi-Fi AP configuration

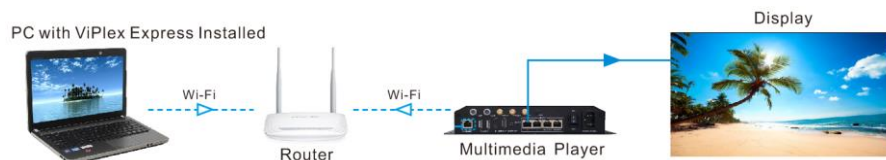
Step 4 Click **Apply**.

4.12.2.2 Configuring Wi-Fi Sta

Application Scenarios

The Taurus terminals designed with dual Wi-Fi modes, such as T3, T6, TB3, TB6, and TB8, support the following functions after users configure Wi-Fi Sta for the Taurus with ViPlex Express.

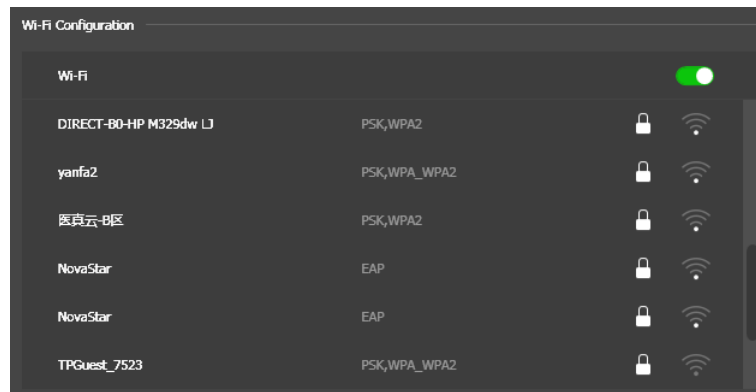
- If the router is connected to the Internet, terminals can access the Internet via the router after Wi-Fi Sta is configured.
- The PC with ViPlex Express installed and the multimedia player are connected to the same WLAN via the Wi-Fi AP of the router.



Operating Procedure

- Step 1 Choose **Terminal Control > Network configuration**.
- Step 2 Select the target terminal from the terminal list.
- Step 3 Go to **Wi-Fi Network > Wi-Fi Configuration** area and turn on Wi-Fi.

Figure 4-40 Wi-Fi configuration

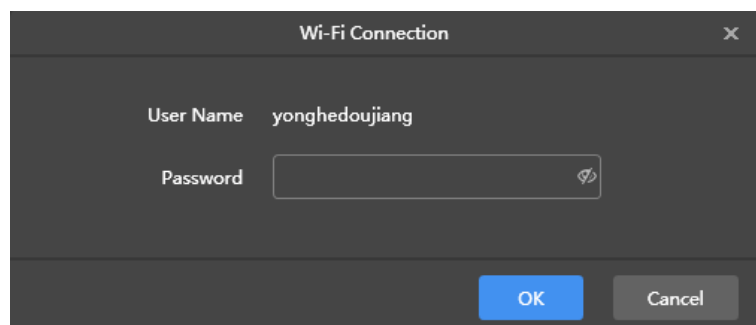


Step 4 Double click the Wi-Fi information of the router, enter the password and then click **OK**.

Note:

When the terminal version is V3.8.2 or later, Wi-Fi without a password can be connected. To connect Wi-Fi without a password, you do not have to enter a password in [Step 4](#) and only need to click **OK**.

Figure 4-41 Wi-Fi connection



4.12.2.3 Switching Wi-Fi Mode

Application Scenarios

For the Taurus terminals designed with a single Wi-Fi mode, such as T1-4G, TB1-4G, TB2-4G, TB4, and TB4A, users can switch the built-in Wi-Fi AP mode to Wi-Fi Sta mode with ViPlex Express to allow for WLAN connection configuration of the Taurus terminals.

Prerequisites

Table 4-2 Product model and version requirements

Taurus	Firmware Version	ViPlex Express Version
T1-4G	V3.2.0 and later	V2.6.2.0201 and later
TB1-4G		
TB2-4G		
TB4		

Taurus	Firmware Version	ViPlex Express Version
TB4A		
TB30		
TB40		
TB50		
TB60		

Operating Procedure

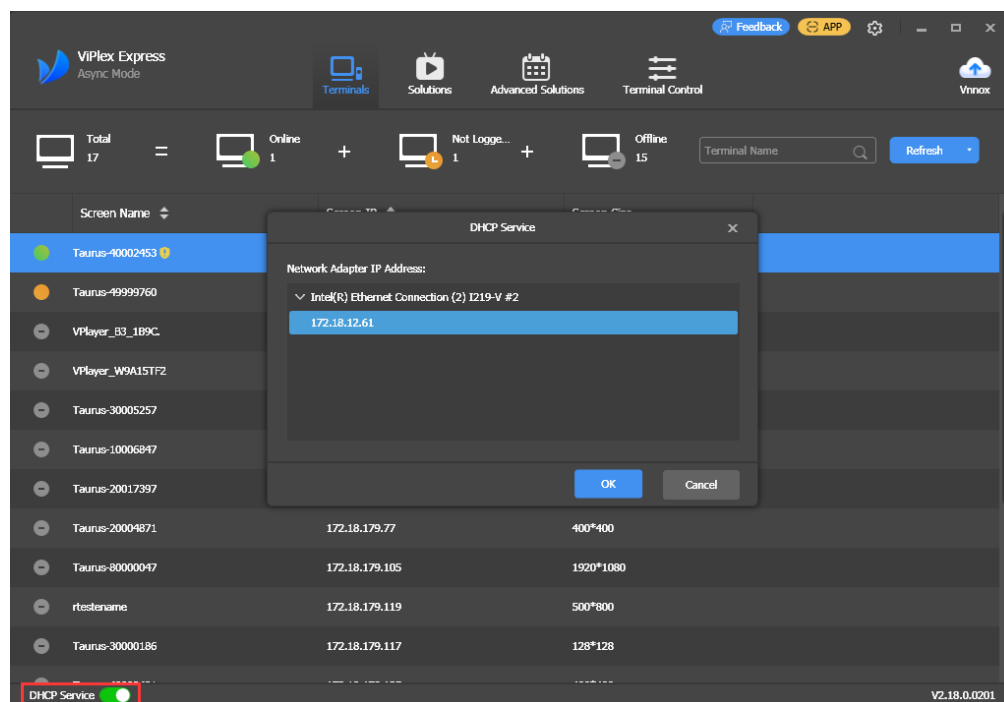
Note:

This section introduces how to switch the built-in Wi-Fi AP mode of a terminal to Wi-Fi Sta mode. To ensure that the mode switching is not affected by network disconnection, connect the PC with ViPlex Express installed to the terminal with an Ethernet cable.

Log In to Terminals

- Step 1 Open ViPlex Express.
- Step 2 At the bottom left of the page that appears, turn on the DHCP service, select a local IP address and click **OK**.


Figure 4-42 DHCP service switch



- Step 3 Click **Refresh** to refresh the screen list.

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.

- : Denotes that the Taurus is online and you can log in to it. Go to [Step 4](#).
- : Denotes the Taurus is offline and you cannot log in to it.

- : Denotes you have successfully logged into the Taurus.

Step 4 Click **Connect** next to the screen information.

Step 5 Enter the password for the "admin" user and click **OK**.

The login user name of the Taurus series multimedia players is "admin" and the default password is "123456".

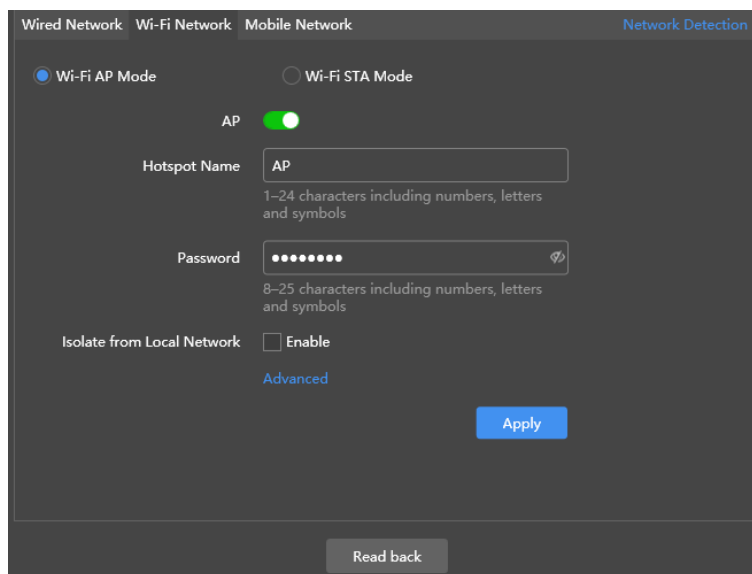
Switch the Wi-Fi Mode

Step 6 Choose **Terminal Control > Network configuration**.

Step 7 Select the target terminal from the terminal list.

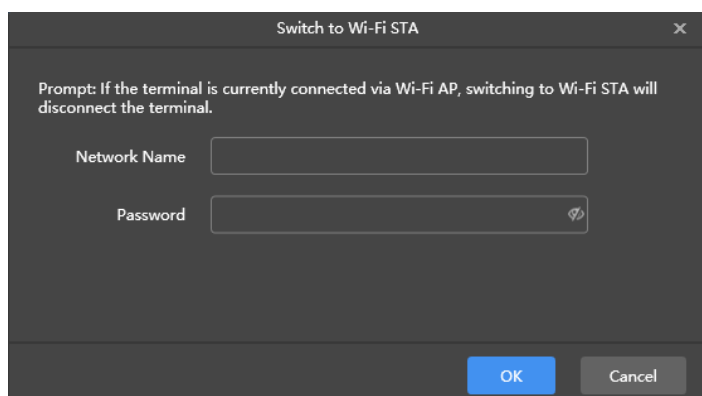
Step 8 Click Wi-Fi Network.

Figure 4-43 Network configuration

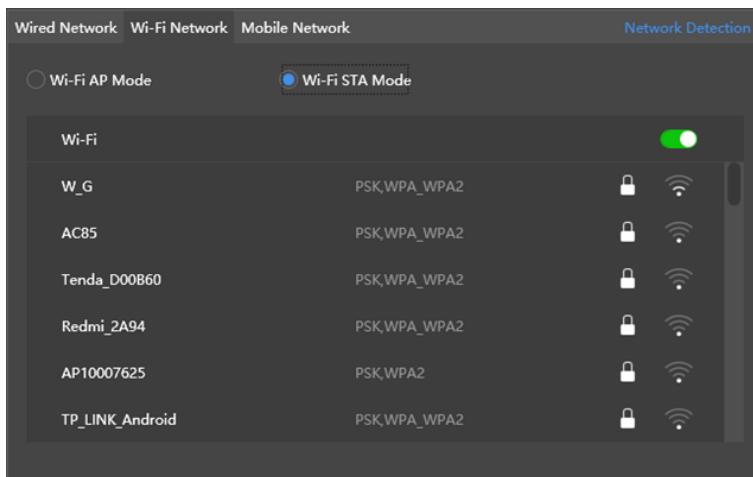


Step 9 Select **Wi-Fi-STA Mode**. In the box that appears, enter the network name and password of the Wi-Fi AP.

Figure 4-44 Wireless network configuration



Step 10 Click **OK**. The connection is successful, as shown in the figure below.

**Notes:**


- Make sure the **CLOUD** indicator is always on, which denotes that the Internet connection is available.
- Make sure the frequency band of the connected Wi-Fi is 2.4 GHz.

Step 11 Unplug the Ethernet cable between the PC and the Taurus.

The priority of the Internet connection methods for the Taurus is in the following order: Wired network > Wi-Fi network > 4G network. After you switch to Wi-Fi Sta mode in ViPlex Express, if a wired network is connected at the same time, the Wi-Fi network will be disconnected automatically.

4.12.3 Configuring Mobile Network

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



- Step 1 Insert the 4G card into the SIM card slot.
- Step 2 Choose **Terminal Control > Network configuration**.
- Step 3 Select the target terminal in the terminal list.
- Step 4 Go to **Mobile Network > Physical SIM** and turn on 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.

Notes:

- [Step 5](#) to [Step 8](#) are required for customizing an APN or setting an APN for a new SIM card.
- To add and connect to an APN for multiple terminals, select the terminals, click **Add & Connect to APN**, enter the required information, and click **OK**.

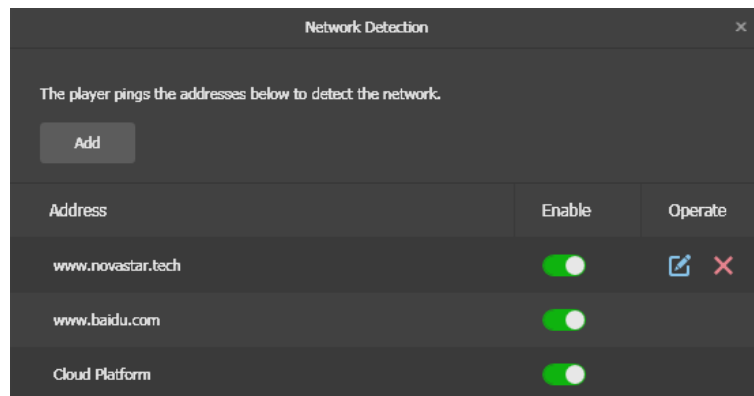
4.12.4 Configuring Network Detection



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 Click **Network Detection** to configure detection addresses.
- Click **Add** to add an address.
 - Click  to modify an address.
 - Click  to delete an address.

The default configuration cannot be modified and deleted.

Figure 4-45 Network detection




- Step 4 Enable or disable detection addresses.
- Set the toggle button under **Enable** to  to detect the terminal network by pinging the corresponding address.
 - Set the toggle button under **Enable** to  to detect terminal network not by pinging the corresponding address.
- Step 5 Click **Apply**.

4.13 Server Configuration

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

How to obtain player authentication information:

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

4.13.1 Binding to VNNOX Standard/AD

You can bind a terminal to VNNOX Standard/AD.

- 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 4-46 Binding to VNNOX Standard/AD

- Step 4 Click **Bind**.

4.13.2 Viewing iCare Binding Information

Notes:

This function is displayed only when the device has been bound to iCare.

View the binding information of the current terminal.

- Step 1 Choose **Terminal Control > Server configuration**.
- Step 2 Select the target terminal from the terminal list.
- Step 3 In **Bind to iCare**, view the binding information of the current terminal.

Figure 4-47 Binding information

4.14 Terminal Upgrade

- When the Taurus is earlier than V2.1.4, it cannot be directly upgraded to V3.0.0 or later. Users have to upgrade it to V2.1.4 by local upgrade first.
- When the Taurus is later than V2.1.4, there is no limit to the version during the upgrade.

Note:

Do not disconnect the power supply during the upgrade. The Taurus will restart once.

4.14.1 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.


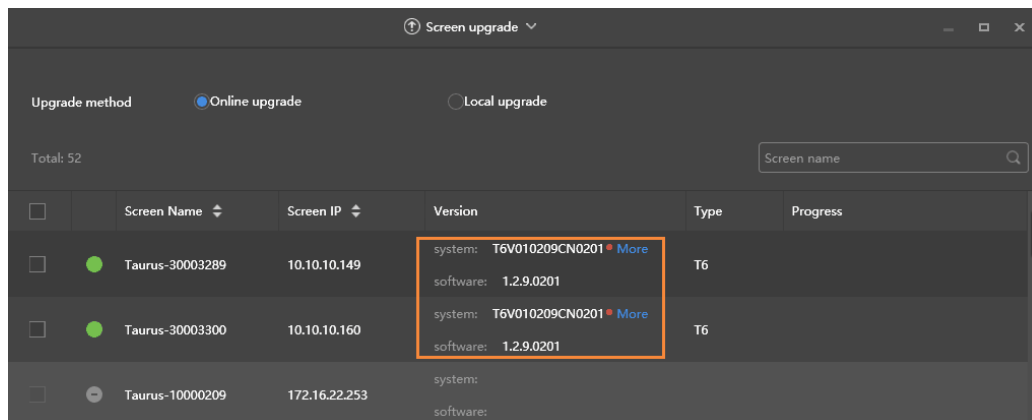
- Yes. The current version information and  will be displayed, as shown in [Figure 4-48](#). Go to [Step 3](#).
- No. Only the current version information is displayed. No further operation is required.

Figure 4-48 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.

4.14.2 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.

4.14.3 Flashing Firmware

Flashing firmware can roll back the terminal firmware to any version earlier than V4.6.0.

Prerequisites

- terminals of V4.6.0 and later supports firmware version rollback via flashing firmware.
- The terminal and PC with ViPlex Express installed are connected via serial cable.
- The required version package is obtained.
- Make sure the terminal is connected correctly during flashing.
- Flashing firmware for the first time requires users to install the driver. See detailed operations in Step 1 to Step 2.

Operating Procedure

Example: Roll back Taurus V4.6.0 to V4.5.0.

Step 1 Ask the technical engineers for the driver installation file.

Step 2 Unzip the installation file and double click "DriverInstall.exe" to install the driver.

Step 3 Unzip the Taurus firmware packages of V4.6.0 and V4.5.0.

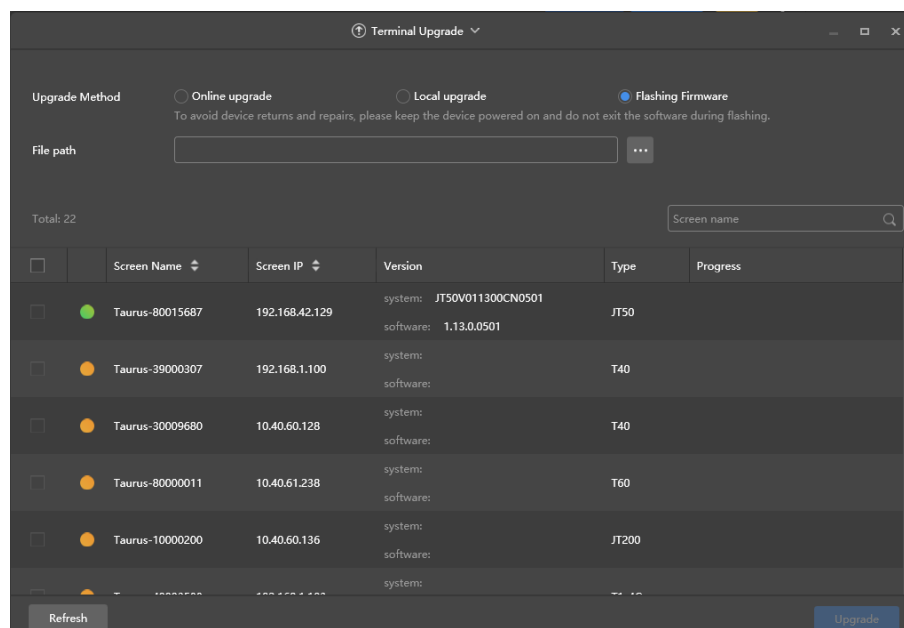
Step 4 Copy the ".ini" configuration file in the V4.6.0 firmware package to the unzipped V4.5.0 firmware package.


Step 5 Zip the V4.5.0 firmware package containing the ".ini" configuration file.

Step 6 In ViPlex Express, choose **Terminal Control > Terminal Upgrade**.

Step 7 Select **Flashing Firmware**.

Figure 4-49 Flashing firmware



Step 8 Click , select V4.5.0 flashing package from the folder that appears, and click **Upgrade**.

Step 9 (Optional) After the flashing is complete, check whether the flashing is successful on the **Terminal Upgrade** page.

If the flashing is abnormal, flash the terminal firmware again with the factory flashing software.

4.15 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.

4.15.1 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**.

4.15.2 Controlling Power Manually

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

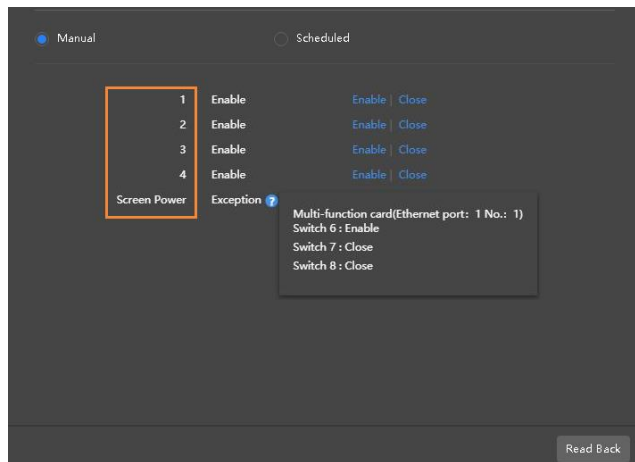
Step 2 Select the target terminal from the terminal list.

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 4-50](#).

Figure 4-50 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.

4.15.3 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**.

4.16 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.

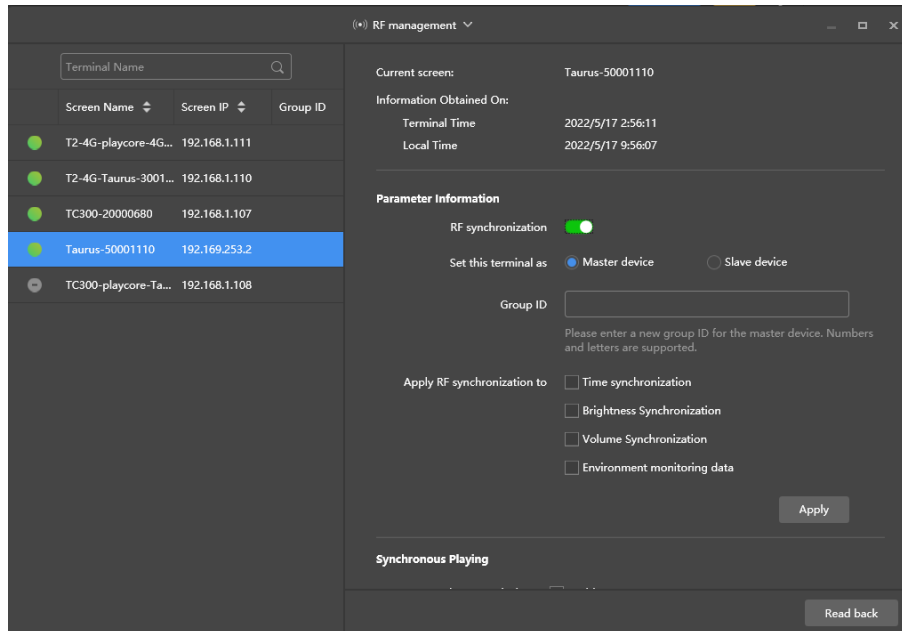
- Step 1 Choose **Terminal Control > RF management**.
- Step 2 Select the target terminal from the terminal list.
- Step 3 Turn on **RF synchronization**.
- Step 4 Set the current terminal as the master device or a slave device.
- Step 5 Set a group ID.

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 4-51 RF management



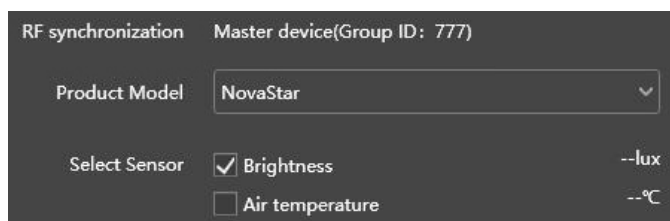
Step 7 Click **Apply**.

4.17 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 4-52](#), it indicates that environment monitoring data synchronization is enabled on the current terminal. For related operations, see [4.16 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 be the same as the master device via RF signal.

Figure 4-52 RF synchronization- environment monitoring data



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

Step 2 Select the target terminal from the terminal list.

Step 3 Select a sensor manufacturer. Sensors of only NovaStar, Nenghui and Jingxun Changtong are supported.

Step 4 Select a sensor type.

- NovaStar: Brightness, temperature
- Nenghui: Air temperature, air humidity, air pressure, wind direction, CO₂, 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 4-53 Sensor types

Parameter Configuration

Product Model: **Nenghui**

Select Sensor

<input type="checkbox"/> Air temperature	--°C
<input type="checkbox"/> Air humidity	--%RH
<input type="checkbox"/> Air pressure	--kPa
<input type="checkbox"/> Wind direction	--°
<input type="checkbox"/> CO2	--ppm
<input type="checkbox"/> Wind speed	--Level
<input type="checkbox"/> PM2.5	--µg/m ³
<input type="checkbox"/> PM10	--µg/m ³
<input type="checkbox"/> Noise	--dB
<input type="checkbox"/> Brightness	--lux

Apply

Step 5 After the configuration is done, click **Apply**.

4.18 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 4-54 Terminal information

The screenshot shows a web interface titled "Screen information". On the left, there is a search bar labeled "Terminal Name" and a table with two columns: "Screen Name" and "Screen IP". The table lists two terminals: "Taurus-40002453" with IP "172.18.12.29" (highlighted in blue) and "Taurus-30005257" with IP "172.18.179.37". On the right, the details for the selected terminal "Taurus-40002453" are displayed. It includes the "Current screen" name, "Information Obtained On" dates for "Terminal Time" and "Local Time", and a "Registered Address" section with fields for SN, MAC address, IP address, System Version, Product Model, and Major Software Version. A "Read back" button is located at the bottom right.

Screen Name	Screen IP
Taurus-40002453	172.18.12.29
Taurus-30005257	172.18.179.37

Current screen: Taurus-40002453

Information Obtained On:

Terminal Time	2022/5/16 17:17:13
Local Time	2022/5/16 17:15:34


Registered Address

SN	BZSA17375J1840002453
MAC address	30:34:02:62:63:95
IP address	172.18.12.29
System Version	T6V030709CN0101
Product Model	T6
Major Software Version	3.7.9.0101

[Advanced](#)

Read back

5 VNNOX Login

At the top right of the page, click  to enter VNNOX login page. VNNOX supports remote content management and terminal control.

For related operations, see VNNOX user manual.

6 System Settings

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

Table 6-1 System settings

Menu	Description
Language	Set the display 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.
Preferences	<ul style="list-style-type: none"> Set the location to save files, including ViPlex Express configuration files, data, temporary files, etc. Specify an FTP library version to improve the network adaptability of ViPlex Express. Choose whether to remember the connection password. After Remember Password is deselected, users have to enter the password when connecting to a terminal each time. Enable or disable automatic refresh of terminal list, and set the refresh interval.
Video Tutorials	View the instructional videos of ViPlex Express.
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.

7 Audio and Video Decoder Specifications

7.1 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

Type	Codec	Supported Image Size	Container	Remarks
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

7.2 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 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

7.3 Video

Type	Codec	Supported Image Size	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	File Format	Remarks
MPEG-1/2	MPEG-1/2	48x48 pixels~1920x1080 pixels	30fps	80Mbps	DAT, MPG, VOB, TS	Support Field Coding
MPEG-4	MPEG4	48x48 pixels~1920x1080 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: 48x48 pixels~4096x2304	T3&T6&TB3&TB4&TB6&TB8: 4K@25fps,	T3&T6&TB3&TB4&TB6&TB8: 100Mbps	AVI, MKV, MP4, MOV, 3GP, TS, FLV	Support Field Coding, MBAFF

Type	Codec	Supported Image Size	Maximum Frame Rate	Maximum Rate (Ideal Case)	Bit	File Format	Remarks
		pixels Other models: 48x48 pixels~1920x1080 pixels	1080P@60fps Other models: 1080P@60fps	Other models: 57.2Mbps			
MVC	H.264 MVC	48x48 pixels~1920x1080 pixels	60fps	38.4Mbps		MKV, TS	Support Stereo High Profile only
H.265/HEVC	H.265/HEVC	T3&T6&TB3&TB4&TB6&TB8: 64x64 pixels~4096x2304 pixels Other models: 64x64 pixels~1920x1080 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	48x48 pixels~1920x1080 pixels	30fps	38.4 Mbps		WEBM, MKV	N/A
H.263	H.263	SQCIF(128x96), QCIF(176x144), CIF(352x288), 4CIF(704x576)	30fps	38.4Mbps		3GP, MOV, MP4	Not support H.263+
VC-1	VC-1	48x48 pixels~1920x1080 pixels	30fps	45Mbps		WMV, ASF, TS, MKV, AVI	N/A
MOTION JPEG	MJPEG	48x48 pixels~1920x1080 pixels	30fps	38.4Mbps		AVI	N/A

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

8 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 x height)	4096 x 288 pixels	1920 x 1080 pixels
Number of parts	Cut horizontally: Actual screen width/Playback window width ≤8 Cut vertically: Actual screen height/Playback window height ≤8	

9 Limitations on Playback Parameters for Ultra-long Screens

Table 9-1 Ultra-long-screen-solution playback parameter description

Maximum Pixel Width/Height	TB10	Pixel capacity up to 650,000 Maximum pixel width: 23,040 Maximum pixel height: 4096
	TB30	Pixel capacity up to 650,000 Maximum pixel width: 23,040 Maximum pixel height: 4096
	TB40/TB50	Pixel capacity up to 1,300,000 Maximum pixel width: 23,040

		Maximum pixel height: 4096
	TB60	Pixel capacity up to 2,300,000 Maximum pixel width: 23,040 Maximum pixel height: 4096
Minimum Solution Resolution		3841
Maximum Image Resolution and Quantity		Up to 10 images can be displayed simultaneously when the resolution lower than 1080p. Up to 2 images can be displayed simultaneously when the resolution higher than 2K and lower than 4K.
Maximum Video Resolution and Quantity		Resolution: No restrictions Quantity: 1 (You are advised to set the video resolution according to the screen resolution.)
Maximum Pixel Width of Text		<ul style="list-style-type: none">• Text sharpening enabled<ul style="list-style-type: none">– Maximum pixel width: 23040– Maximum number of characters: 3000• Text sharpening disabled<ul style="list-style-type: none">– Maximum pixel width: 16384• Maximum number of characters: Table 9-2
General Window Quantity		1
Supported Image Formats	ViPlex Express	JPG, JPEG, BMP, GIF, PNG, WEBP
	VNNOX Standard	JPG, PNG, ICO, JPEG, BMP, GIF
Supported Video Formats		MP4, FLV

Table 9-2 Scrolling text limitations

Horizontal Scrolling	Font Size	8	12	14	16	18	24	32	64	96	128	256
	Number of Characters	2048	1365	1170	1024	911	685	512	256	170	127	62
Vertical Scrolling	Font Size	8	12	14	16	18	24	32	64	96	128	256
	Number of Characters	1504	1002	859	752	668	501	376	188	125	94	47

Copyright © 2023 Xi'an NovaStar Tech Co., Ltd. All Rights Reserved.

No part of this document may be copied, reproduced, extracted or transmitted in any form or by any means without the prior written consent of Xi'an NovaStar Tech Co., Ltd.

Trademark

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

Statement

Thank you for choosing NovaStar's product. This document is intended to help you understand and use the product. For accuracy and reliability, NovaStar may make improvements and/or changes to this document at any time and without notice. If you experience any problems in use or have any suggestions, please contact us via the contact information given in this document. We will do our best to solve any issues, as well as evaluate and implement any suggestions.

| [Official website](http://www.novastar.tech)
| www.novastar.tech

| [Technical support](mailto:support@novastar.tech)
| support@novastar.tech