

## **ViPlex Express**

LAN-Based Screen Management Software



**User Guide** 

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### **Change History**

Version	Release Date	Description		
V1.3.1	2018-06-04	<ul> <li>Supports external storage space checking.</li> <li>Supports APN configuration.</li> <li>Fixed the following 4 problems:</li> <li>The day of the week displayed on the digital clock is wrong.</li> <li>The time is not centered on the digital clock when the hour, minute and second are displayed.</li> <li>The city displayed on the weather widget is wrong.</li> <li>The connection with DHCP server is not stab</li> </ul>		
V1.3.0	2018-05-08	<ul> <li>Added several types of media, including analog clock, Office file and RSS.</li> <li>Added the function of zooming in or out the</li> </ul>		
	NOVASTI	<ul> <li>media page during solution editing.</li> <li>Added the function of setting the line spacing of texts and connecting the tail to head of texts when the texts are scrolling.</li> <li>Added the function of setting the content displayed on the digital clock.</li> <li>Added the function of customizing the weather</li> </ul>		
		<ul><li>label.</li><li>Added the function of connecting to the Taurus through a specified IP address.</li><li>Added the function of enabling and disabling</li></ul>		
		<ul> <li>the DHCP service.</li> <li>Added the function of binding a single or a batch of Taurus to VNNOX Lite.</li> <li>Optimized the method of registering the Taurus on NovaiCare and supported batch operation.</li> <li>Optimized the upgrade speed.</li> </ul>		
V1.2.0	2018-01-24	<ul> <li>Added several types of media, including clock, weather and container.</li> <li>Added the function module of advanced solution.</li> </ul>		
		<ul> <li>In the Play Management module, added the function of viewing screenshots.</li> </ul>		

Version	Release Date	Description
		<ul> <li>In the system settings, added the function of auto reconnection.</li> </ul>
V1.1.0	2017-11-22	<ul> <li>Added multiple function modules, including brightness adjustment, video source, screen status control, time synchronization management, color temperature, play log and font management.</li> <li>Modified several function modules, including play management, restart configuration, monitor, network configuration and server configuration.</li> <li>In the system settings, added the RF management and custom server functions.</li> </ul>
V1.0.0	2017-07-20	First release

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## **ViPlex Express Introduction**

ViPlex Express is a LAN-based screen management software. It can automatically search and connect to terminals in the same local area network (LAN), and is used for configuring screens, publishing solutions and controlling solution playing. Currently, it is available only for Windows PC.

ViPlex Express is used as the client software on PC for the Taurus series multimedia players.

ViPlex Express has multiple advantages described as follows.

- Friendly user interface: UI design takes full account of users' habits.
- Ease of use: The Taurus series players can be connected wirelessly and accessed easily.
- Synchronous playing: Capable of playing the same content on different screens synchronously.
- Dual Wi-Fi function: Capable of setting Wi-Fi AP mode and Wi-Fi Sta mode.
- 4G connection: Capable of setting mobile data network of the Taurus with 4G module.
- Terminal binding: The Taurus series players can be easily bound to the cloud-based publishing system VNNOX and the cloud-based monitoring system NovaiCare.

# 2 Installation of ViPlex Express

### Before You Begin

- Get the installation package of ViPlex Express. How to get: Visit www.novastar.tech.
- Install Framework 4.6.1 or a later version.

### **Operating Procedures**

- Step 1 Double click the installer "ViPlex Express V1.2.0 Setup.exe".
- Step 2 Click **Next** in the setup wizard.
- Step 3 Select installation path and click Next.
- Step 4 Select start menu folder and click Next.
- Step 5 Select additional tasks and click Next.
- Step 6 Click Install.
- Step 7 After the installation is done, select or deselect Run ViPlex Express and click Finish.

# **3** Login of Taurus

### **Required Information**

Get the actual values of the information in Table 3-1.

#### Table 3-1 Required information

Item	Account Name	Default Password
Connect Taurus Wi-Fi AP	AP+ <i>last 8 digits of the SN</i> For example: AP10000033	12345678
Log in Taurus	admin	123456

### **Operating Procedures**

ViPlex Express can connect to multiple Taurus series products.

#### Step 1 Connect PC to the Taurus series products via one of the following methods.

- Wi-Fi AP of the Taurus
- External router
- Ethernet cable

#### Note:

If the IP addresses of the PC and Taurus are not in the same network segment and can be pinged successfully, click **Refresh** and select **Specify IP** to connect to Taurus manually.

If the PC and Taurus are connected through Ethernet cable and there is no other

DHCP servers in the network, click on the top right of the page and select **DHCP Service** to turn on DHCP service to connect to Taurus automatically.

- Step 2 Start ViPlex Express.
- Step 3 Click **Refresh**, and the screen list appears.
  - Image: Denotes that the Taurus is online and you can log in it.
  - Denotes that the Taurus is offline and you cannot log in it.
  - Denotes that logging in the Taurus is successful.

After Taurus is found by ViPlex Express, ViPlex Express will attempt to log in the Taurus automatically with the default account or the account used for last login.

Step 4 Automatic Login is successful or not.

- Yes. I is shown and the operation is finished.
- No. 🧧 is shown. Then go to Step 5.
- Step 5 Click **Connect** next to the screen information.
- Step 6 Enter your user name and password, and then click OK.

#### **Related Operations**

Right click the screen information to see the related operations.

- Logout: Log out of the Taurus.
- Rename: Rename the Taurus.
- Password Modification: Modify the password used for the user "admin" to log in the Taurus.
- Forget password: Delete the user name and password used for last login.

If the user enter the password of the user "admin" to log in Taurus, ViPlex Express will automatically save the account information and the user can log in Taurus automatically in future. In case of selecting forget password, the user will need to enter the account information again while logging in Taurus in future.





This chapter introduces how to create, edit, delete, import, export and publish solutions.

### **Creating Solutions**

Get the screen size before creating solutions.

- Step 1 Click New.
- Step 2 Enter the solution name, screen width and height, and then click OK. The editing page of the solution appears, as shown in Figure 4-1. Each area of the page is explained in Table 4-1.

Figure 4-1 Editing page of a solution

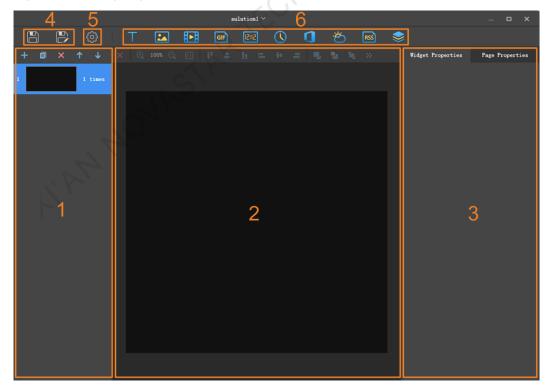


Table 4-1 Description of the editing page of a solution

No.	Name	Description
1	Editing area of solution page	Create, copy and delete pages, and adjust the order of pages.

		Pages are played according to the order from the top to bottom.
2	Editing area of page media	Delete media, zoom in or out the page and adjust media layout. Before operation, click to select the media.
3	Property editing area	Edit widget properties and page properties. Widgets are the media added in pages. Before editing the widget properties, click to select a widget.
4	Buttons for saving	Save a solution and save a solution as another solution.
5	Setting button	Set the default playing duration of a media.
6	Buttons for adding media	Add media to a solution page.

Media types supported by ViPlex Express are shown in Table 4-2.

Table 4-2 Media types

Icon	Description
Т	Text
	Image Supported formats: JPEG, BMP, GIF, PNG, WEBP
	Video Supported formats: MPEG-1/2, MPEG-4, H.264/AVC, MVC, H.265/HEVC, Google VP8, H.263, VC-1, Motion JPEG
GIF	GIF image
12:12	Digital clock
	Analog clock
1	Office file
Ö	Weather widget
RSS	RSS
<b>\$</b>	Container All the above types of media can be added in a container. When multiple media are added, the media will be played from the top to the bottom.

Step 3 After the solution is edited, click los to save.

### **Editing Solutions**

In the solution list, select a solution and click **Edit** to enter the editing page.

#### **Deleting Solutions**

In the solution list, select a solution and click **Delete**.

#### **Importing Solutions**

- Step 1 Click Import.
- Step 2 In the pop-up dialog box, click **to** select the file path.
- Step 3 Click Next.
- Step 4 When **Progress** shows 100%, click **Done**.

#### Exporting Solutions

Only the solutions that contain media can be exported.

- Step 1 In the solution list, perform any of the following operations.
  - Exporting a single solution: Click I corresponding to the target solution.
  - Exporting solutions in batch: Select multiple solutions and click **Export**.
- Step 2 In the pop-up dialog box, click it to select the file path.
- Step 3 Click Export.
- Step 4 When Progress shows 100%, click Next.
- Step 5 Select the play mode and solution.
  - **Plug and play**: As soon as the USB drive that stores the solution is inserted into the Taurus, the solution will be played. During playing, the USB drive cannot be removed.
  - **Copy and play**: After the solution that is stored in the USB drive is copied to the Taurus, the solution will be played. During playing, the USB drive can be removed.
- Step 6 Click OK.
- Step 7 Enter the Taurus login password and click **OK**. If you click **Skip**, the Taurus will not identify the file.

After the USB drive that stores the solution is inserted into the Taurus, the solution will be played only if the passwords match.

#### Publishing Solutions

- A solution can be published after media are added to the solution.
- Only one solution can be sent to terminals each time.

- One solution can be sent to multiple terminals simultaneously.
- Step 1 Select a solution in the solution list and click **Publish**, or click **M** next to the solution information.
- Step 2 Click **Refresh** in the **Publish solution** dialog box to show the information of terminals which are logged in.
- Step 3 Select one or more terminals and click **Publish**.
- Step 4 When **Progress** shows 100%, click **Done**.



An advanced solution is a solution added with a playback schedule. Users can create, edit, delete, import, export and publish advanced solutions.

### **Creating Solutions**

Get the screen size before creating solutions.

- Step 1 Click New.
- Step 2 On the New Advanced Solution page, enter the solution name.
- Step 3 Click +
- Step 4 On the **Add Playback Plan** page, select an existing solution, and set the validity period, repetition mode and playback duration.
- Step 5 Click Add.
- Step 6 Click Cancel.
- Step 7 (Optional) Click the box next to **Non-Scheduled Content** to select a solution as non-schedule content.

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

Step 8 Click Add.

#### Editing Solutions

In the advanced solution list, select a solution and click Edit to enter the editing page.

#### **Deleting Solutions**

In the advanced solution list, select a solution and click **Delete**.

#### **Importing Solutions**

Step 1 Click Import.

Step 2 In the pop-up dialog box, click **to** select the file path.

#### Step 3 Click Next.

Step 4 When **Progress** shows 100%, click **Done**.

#### **Exporting Solutions**

Only the solutions that contain media can be exported.

- Step 1 In the advanced solution list, perform any of the following operations.
  - Exporting a single solution: Click Corresponding to the target solution.
  - Exporting solutions in batch: Select multiple solutions and click **Export**.
- Step 2 In the pop-up dialog box, click to select the file path.
- Step 3 Click Export.
- Step 4 When Progress shows 100%, click Next.
- Step 5 Select the play mode and solution.
  - **Plug and play**: As soon as the USB drive that stores the solution is inserted into the Taurus, the solution will be played. During playing, the USB drive cannot be removed.
  - **Copy and play**: After the solution that is stored in the USB drive is copied to the Taurus, the solution will be played. During playing, the USB drive can be removed.
- Step 6 Click OK.
- Step 7 Enter the Taurus terminal login password and click **OK**. If you click **Skip**, the Taurus will not identify the file.

After the USB drive that stores the solution is inserted into the Taurus, the solution will be played only if the passwords match.

#### Publishing Solutions

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- Step 3 Select one or more terminals and click **Publish**.
- Step 4 When **Progress** shows 100%, click **Done**.



### 6.1 General Function

There is a **Read back** button in each of the functions of screen control to read back terminal inforamtion to ViPlex Express so that the latest date are shown in the software.

### 6.2 Play Management

Manage the play mode, volume and content of terminals.

### Enabling Synchronous Playing

Enabling or disabling the synchronous playing function will restart the terminal.

- Step 1 Select the target terminal in the terminal list.
- Step 2 Select Enable next to Synchronous Playing.
- Step 3 Click **Confirm** in the pop-up dialog box.

### Adjusting Volume in Real Time

Drag the slider or enter a value to adjust volume. Volume can be adjusted only in asynchronous mode.

### Managing Terminal Solutions

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

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

Stoping 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.

### 6.3 Brightness Adjustment

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

### Manual Adjustment

Step 1 Select the target terminal in the terminal list.

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

### Smart Adjustment

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

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

Step 1 Choose **Smart** to enter the smart adjustment page.

Step 2 Perform the following operations based on actual needs.

- Creating a rule: Click **L**. In the pop-up dialog box, choose **Timing** or **Auto**, and then set the corresponding brightness adjustment rules. At last, click **Add**.
- Modifying a rule: Select a rule and click . Then, modify the rule and click **OK**.
- Deleting rules: Select one or more rules and click . In the pop-up dialog box, click Confirm.
- Clearing rules: Click and then click **Confirm** in the pop-up dialog box.
- Enabling a rule: In the rule list, turn on the **Enable** switch next to a rule.
- Viewing the current brightness: Click

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

### 6.4 Video Source

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

### Manual Mode

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

- Step 1 Select the target terminal in the terminal list.
- Step 2 Choose Manual and configure parameters.
- Step 3 Click Apply.

### **Timing Mode**

Switch between the internal input source and HDMI input source at regular time.

Step 1 Select the target terminal in the terminal list.

- Step 2 Choose **Timing** and configure rules. Perform the following operations based on actual needs.
  - Creating a rule: Click . In the pop-up dialog box, choose **Internal** or **HDMI**, and then set the time and cycle to use the video source. At last, click **Add**.
  - Modifying a rule: Select a rule and click *I*. Then, modify the time and cycle to use the video source. At last, click **OK**.
  - Deleting rules: Select one or more rules and click . In the pop-up dialog box, click **Confirm**.
  - Clearing rules: Click 📥 and then click **Confirm** in the pop-up dialog box.
  - Enabling a rule: In the rule list, turn on the **Sure to enable** switch next to a rule.
  - HDMI parameter configuration: Choose to enable the full screen zoom function or not, and set the position of the playing window.

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

#### HDMI Preferred Mode

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

- Step 1 Select the target terminal in the terminal list.
- Step 2 Choose HDMI preferred.
- Step 3 Choose whether to enable **Full screen zoom** and set the output position, that is, the position of the playback window.
- Step 4 After configuration, click **Apply**.

### 6.5 Screen Status Control

Set the current playing status of the screen.

### Manual Control

- Step 1 Select the target terminal in the terminal list.
- Step 2 Choose Manual to enter the manual settings page. Then, click Blackout or Normal.

### Timing Control

- Step 1 Select the target terminal in the terminal list.
- Step 2 Choose **Timing** to enter the timing settings page. Then, perform the following operations based on actual needs.
  - Creating a rule: Click III. In the pop-up dialog box, choose **Blackout** or **Normal**, and then set the playing time and cycle of the screen. At last, click **Add**.

- Modifying a rule: Select a rule and click *I*. Then, modify the playing time and cycle of the screen. At last, click **OK**.
- Deleting rules: Select one or more rules and click K. In the pop-up dialog box, click **Confirm**.
- Clearing rules: Click 🖾 and then click **Confirm** in the pop-up dialog box.
- Enabling a rule: In the rule list, turn on the **Enable** switch next to a rule.

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

### 6.6 Time Synchronization Management

Set time synchronization rules of the Taurus.

- Step 1 Select the target terminal in the terminal list.
- Step 2 Select a time synchronization mode.
  - **Manual**: Select a time zone from the **Time zone** drop-down list and the Taurus will synchronize the time according to the time in the selected time zone.
  - NTP: After an NTP server is configured, choose the configured NTP server from the Server drop-down list, and the Taurus will synchronize the time according to the NTP server time.

Note: To configure an NTP server, click at the top right of the page and choose **Custom server**.

- **RF**: After you install a time synchronization device, set the following information for time synchronization.
  - **Group ID**: Enter the same group ID for the Taurus units that need time synchronization. That means you put those Taurus units in the same group.
  - **Reference device of time synchronization**: Other Taurus units in the same group will synchronize the time according to the time of the reference device.
  - **Time source of reference device**: The reference device can synchronize the time according to the NTP server time.

Step 3 After setting, click Apply.

### 6.7 Restart Configuration

Restart terminals immediately and configure restart rules.

### **Restarting Taurus**

- Step 1 Select the target terminal in the terminal list.
- Step 2 Click Restart promptly.
- Step 3 Click **Confirm** in the pop-up dialog box to restart the terminal immediately.

### **Configuring Restart Rules**

Step 1 Perform the following operations based on actual needs.

- Creating a rule: Click +. Set the time and cycle to restart a terminal in the pop-up dialog box and then click **Add**.
- Modifying a rule: Select a rule and click is to modify the time and cycle to restart a terminal and then click **OK**.
- Deleting rules: Select one or more rules and click . Then click **Confirm** in the pop-up dialog box.
- Clearing rules: Click and then click **Confirm** in the pop-up dialog box.
- Enabling a rule: In the rule list, turn on the **Sure to enable** switch next to a rule.

Step 2 After setting, click Apply.

### 6.8 Color Temperature

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

- Step 1 Select the target terminal in the terminal list.
- Step 2 Select a color temperature type.

### 6.9 Monitor

- Step 1 Select the target terminal in the terminal list.
- Step 2 Check the terminal hardware information listed below. If the terminal has an external storage device, you can also check the external storage information.
  - Disk size
  - Memory availability
  - CPU usage
  - Ambient brightness
- Step 3 If you want to clean up the hard disk, click **Clear All Media** to delete all the media and solutions.

### 6.10 Play Log

View and export play logs.

### Viewing Play Logs

Step 1 Select the target terminal in the terminal list.

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

Step 3 In the paly log list, click a play log name to view the log details.

### Exporting Play Logs

- Step 1 Select the target terminal in the terminal list.
- Step 2 In the paly log list, select the target play log.
- Step 3 Click Export.
- Step 4 In the pop-up dialog box, choose the export path and format.
- Step 5 Click OK.

### 6.11 Font Management

Manage the fonts used by the Taurus.

#### Adding Font Names

- Step 1 On the top of the Font management page, choose Font name.
- Step 2 Select the target terminal in the terminal list.
- Step 3 Click en next to Name to acquire local fonts on the PC.
- 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.

#### Adding Font Files

- Step 1 On the top of the Font management page, choose Font file.
- Step 2 Select the target terminal in the terminal list.
- Step 3 Click mext to Name.
- Step 4 Select the path of the font file in the pop-up dialog box.
- Step 5 Click Open.
- Step 6 Click Update. The update progress will be shown in the Update result column.

### **Deleting Fonts**

- Step 1 Select the target terminal in the terminal list.
- Step 2 Click Read back at the bottom right to read back the fonts on the terminal.
- Step 3 Click the link in the **Font** column of the target terminal. The **Font list in terminal** page is displayed.
- Step 4 Select target fonts.
- Step 5 Click Delete.

### 6.12 Network Configuration

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

### **Configuring Wired Network**

It is required to set static IP address for Taurus while connecting Taurus via Ethernet cable. Set IP address based on actual needs while connecting Taurus to the Internet via Ethernet cable.

- Step 1 Select the target terminal in the terminal list.
- Step 2 In the **Wired network configuration** area, perform the following operations based on actual needs.
  - Select Enable next to Dynamic DHCP to get IP address automatically.
  - Deselect Enable next to Dynamic DHCP and configure static IP address.
- Step 3 Click Apply.

#### Configuring Wi-Fi AP

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

- Step 1 In the Screen AP configuration area, enter the SSID and password of terminal Wi-Fi AP.
- Step 2 Click Apply.

### Configuring Wi-Fi Sta

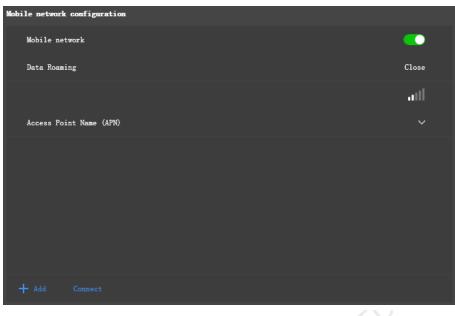
If the external router is connected to the Internet, terminals can access Internet via the external router after Wi-Fi Sta is configured.

- Step 1 In the Wi-Fi configuration area, turn on Wi-Fi.
- Step 2 Double click the Wi-Fi information of the external router, enter password and then click **OK**.

### **Configuring Mobile Network**

Terminals with 4G module can access Internet via the mobile network.

- Step 1 Insert 4G card into the slot.
- Step 2 On the Mobile network configuration page, turn on Mobile network.
- Step 3 Click D to expand the APN configuration page.



- Step 4 Click Add.
- Step 5 Enter parameters according to the APN information provided by the carrier and then click **OK**.
- Step 6 Select the APN and click **Connect**.

### 6.13 Server Configuration

### 6.13.1 Binding VNNOX Players

You can bind a terminal to VNNOX Lite and create an asynchronous player, or bind to an existing asynchronous player on VNNOX Pro. Multiple terminals can be selected and bound to VNNOX Lite in batches.

#### Viewing Authentication Information

- Step 1 Visit http://www.vnnox.com and log in to VNNOX Lite or VNNOX Pro.
- Step 2 Enter the player authentication information page and view the server address, authentication user name and password.
  - VNNOX Lite: Choose > Account.
  - VNNOX Pro: Choose -> Organization Management > System Management and click the Player Authentication tab.

#### **Binding Players**

- Step 1 Select the target terminal from the terminal list.
- Step 2 In **Configure parameters for connecting screens to VNNOX**, select VNNOX server and enter the authentication user name and password. The authentication information must be consistent with the information on VNNOX.

Step 3 Click C next to Player.

Step 4 Perform one of the following operations as required and click **Bind**.

- Select **Bind to VNNOX Lite** from the drop-down list to bind the terminal to VNNOX Lite and create an asynchronous player.
- Select an asynchronous player from the drop-down list to bind the terminal to the existing player on VNNOX Pro.

### 6.13.2 Binding NovaiCare

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

- Step 1 Select the target terminal from the terminal list.
- Step 2 In **Configure parameters for connecting screens to NovaiCare**, select the server address and enter the login user name of the NovaiCare server.
- Step 3 Click Send.

### 6.14 Screen Upgrade

Upgrade the application software and system software of terminals.

Note: Keep the power on during upgrade.

### Upgrading Application Software

- Step 1 Select Screen software.
- Step 2 Select upgrade package path.

Step 3 Select one or more terminals in terminal information list and click Upgrade.

### Upgrading System Software

- Step 1 Select Screen system.
- Step 2 Select upgrade package path.
- Step 3 Select one or more terminals in terminal information list and then click Upgrade.

### 6.15 Screen Information

Show terminal IP address, system software version, application software version, etc.

## System Settings

At the top right of the software user interface, click with the system menu and choose to edit a menu item.

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Menu	Description
Language	Set system language, including Chinese, English and Japanese.
RF management	Manage the playback of all Taurus units except the reference device when the RF time synchronization mode is enabled. Before operation, enter the password " <b>admin</b> ".
Custom server	Add, modify or delete custom servers.
DHCP service	Turn on or off DHCP service.
	If the PC and Taurus are connected through Ethernet cable and there is no other DHCP servers in the network, turn on DHCP server to connect to Taurus automatically. If the connection is not stable, please set a static IP address for the PC.
. (	Note: Before you turn on the DHCP service, turn off the firewall of the PC or set the policy for ICMP echo reply.
Setting	• Set the storage path of files, including the ViPlex Express configuration files, data, temporary files, etc.
1r	• Enable or disable the terminal auto reconnection function, and set the reconnection interval.
Help	View ViPlex Express User Guide.
About	Show the version of ViPlex Express and the official website of NovaStar.

# 8 Audio and Video Decoder Specifications

### 8.1 Image

### 8.1.1 Decoder

Туре	Codec	Supported Image Size	Container	Remarks	
JPEG JFIF file format 1.02		48x48pixels~8176x8176pixles	JPG, JPEG	Not Support Non-interleaved Scan	
		TE		Software support SRGB JPEG	
		TAR		Software support Adobe RGB JPEG	
BMP	BMP	No Restriction	BMP	N/A	
GIF	GIF	No Restriction	GIF	N/A	
PNG	PNG	No Restriction	PNG	N/A	
WEBP	WEBP	No Restriction	WEBP	N/A	

### 8.1.2 Encoder

Туре	Codec	Supported Image Size	Maximum Data Rate	File Format	Remarks
JPEG	JPEG Baseline	96x32pixels~8176x8176pixles	90Mpixels/Second	JFIF file format 1.02	N/A

### 8.2 Audio

### 8.2.1 Decoder

Туре	Codec	Channel	Bit rate	Sampling rate	File Format	Remarks
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Туре	Codec	Channel	Bit rate	Sampling rate	File Format	Remarks
MPEG	MPEG1/2/2.5 Audio Layer1/2/3	2	8kbps~320Kb ps, CBR and VBR	8KHZ~48 KHz	MP1, MP2, MP3	N/A
Windows Media Audio	WMA Version 4, 4.1, 7, 8, 9, wmapro	2	8kbps~320Kb ps	8KHZ~48 KHz	WMA	Non-support WMA Pro, lossless and MBR
WAV	MS-ADPCM, IMA-ADPCM, PCM	2	N/A	8KHZ~48 KHz	WAV	Support 4bit MS-ADPCM, IMA-ADPCM
OGG	Q1~Q10	2	N/A	8KHZ~48 KHz	OGG, OGA	N/A
FLAC	Compress Level 0~8	2	N/A	8KHZ~48 KHz	FLAC	N/A
AAC	ADIF, ATDS Header AAC-LC and AAC-HE, AAC-ELD	5.1	N/A	8KHZ~48 KHz	AAC, M4A	N/A
AMR	AMR-NB, AMR-WB	1 	AMR-NB 4.75~12.2kbp s@8kHz AMR-WB 6.60~23.85kb ps@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

### 8.2.2 Encoder

Туре	Codec	Channel	Bit rate	Sampling rate	Container	Remarks
AMR	AMR-NB, AMR-WB	2	4.75kbps~12.2Kbps , CBR	8KHZ, 16KHZ	3GPP	N/A
AAC	AAC-ADTS-LC	1	4.75kbps~60Kbps, CBR	8KHZ~44.1KH Z	AAC, 3GPP, Mpeg2TS	N/A

### 8.3 Video

### 8.3.1 Decoder

Туре	Codec	Supported Image Size	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	File Format	Remarks
MPEG -1/2	MPEG -1/2	48x48pixels~192 0x1088pixels	30fps	80Mbps	DAT, MPG, VOB, TS	Support Field Coding
MPEG -4	MPEG 4	48x48pixels~192 0x1088pixels	30fps	38.4Mbps	AVI, MKV, MP4, MOV, 3GP	Not support MS MPEG4 v1/v2/v3 Not support GMC
H.264/ AVC	H.264	48x48pixels~ 4096x2304pixels	T1&T2&TB1& TB2: 1080P@60fps Other models: 4K@25fps,10 80P@60fps	T1&T2&TB1& TB2: 57.2Mbps Other models: 100Mbps	AVI, MKV, MP4, MOV, 3GP, TS, FLV	Support Field Coding Support MBAFF
MVC	H.264 MVC	48x48pixels~192 0x1088pixels	60fps	38.4Mbps	MKV, TS	Support Stereo High Profile only
H.265/ HEVC	H.265/ HEVC	64x64pixels~409 6x2304pixels	T1&T2&TB1& TB2: 1080P@60fps Other models: 4K@60fps,10 80P@60fps	T1&T2&TB1& TB2: 57.2Mbps Other models: 100Mbps	MKV, MP4, MOV, TS	Support Main Profile Support Tile & Slice
GOO GLE VP8	VP8	48x48pixels~192 0x1088pixels	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	48x48pixels~192 0x1088pixels	30fps	45Mbps	WMV, ASF, TS, MKV, AVI	N/A
MOTI ON JPEG	MJPE G	48x48pixels~192 0x1088pixels	30fps	38.4Mbps	AVI	N/A

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

### 8.3.2 Encoder

Туре	Codec	Supported Image Size	Maximum Frame Rate	Maximum Bit Rate (Ideal Case)	File Format	Remarks
H.264/AVC	H.264	144x96pixels~19 20x1088pixels	30fps	20Mbps	MOV, 3GP	Not support MBAFF
Google VP8	VP8	96x96pixels~192 0x1088pixels	30fps	10Mbps	WEBM	N/A

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