

# Taurus Series

## Multimedia Players



## Application Solution

---

Version: V1.0.0

Document Number: NS120100150

---

## Change History

---

Version	Release Date	Description
V1.0.0	2017-07-20	The first version.

---

# Table of Contents

---

<b>Change History .....</b>	<b>i</b>
<b>Table of Contents .....</b>	<b>ii</b>
<b>1 Overview .....</b>	<b>1</b>
1.1 About This Solution .....	1
1.2 Characteristics of the Application Solution .....	1
1.2.1 Synchronous Playing .....	1
1.2.2 Smart Brightness Adjustment .....	2
1.2.3 4G Module .....	2
1.2.4 Cluster Management .....	3
1.3 Software Acquiring Method .....	3
<b>2 AD Player and Mirror Screen Solution.....</b>	<b>5</b>
2.1 Overview .....	5
2.2 Single Application .....	7
2.2.1 Networking Diagram .....	7
2.2.2 Required Software .....	7
2.2.3 Relevant Configurations .....	7
2.3 Cluster Application .....	8
2.3.1 Networking Diagram .....	8
2.3.2 Required Software .....	8
2.3.3 Required Hardware Devices.....	8
2.3.4 Relevant Configurations .....	9
2.4 Splicing .....	12
2.4.1 Networking Diagram .....	12
2.4.2 Required Software .....	13
2.4.3 Relevant Configuration .....	13
<b>3 Post Screen Solution .....</b>	<b>15</b>
3.1 Overview .....	15
3.2 Networking Diagram .....	17
3.3 Required Software .....	17
3.4 Required Hardware Devices.....	17
3.5 Relevant Configuration .....	18
<b>4 General Operations.....</b>	<b>22</b>
4.1 Taurus Login .....	22
4.1.1 Taurus Login upon ViPlex Handy (Android and iOS) .....	22

---

4.1.2 Taurus Login upon ViPlex Express (Windows) ..... 23

# 1 Overview

## 1.1 About This Solution

Taurus series products are the second-generation multimedia players developed by NovaStar specially designed for the medium-small size LED full color displays, and applicable to all kinds of display devices as well as many application scenes.

AD player, mirror screen and post screen are used here as examples to describe the application solution of Taurus series products. Pictures of Taurus series products used in networking diagram are taken from T6 model.

For more information of Taurus series products, please visit [www.novastar.tech](http://www.novastar.tech) to download relevant documents.

## 1.2 Characteristics of the Application Solution

### 1.2.1 Synchronous Playing

This function makes several displays play the same image at the same time with high accuracy based on advanced synchronous playing and scheduling technologies.

The synchronous playing function could be enabled for different displays as long as following three requirements are met:

- The synchronous playing function has been enabled on the ViPlex or VNNOX.
- The time of multiple Taurus products are synchronized.
- Playing plans of multiple Taurus products are the same without random transition or media.

Advantages of the synchronous playing function are shown in Table 1-1.

Table 1-1 Synchronous playing

Object	Advantage
User	Improve advertisement and information broadcast effects
Environment	Improve city image and make the city more colorful
Display	Improve visual experience

Time could be synchronized through NTP and Lora modes from which the user could select one as required:

- NTP time synchronization: Taurus time synchronization is based on NTP server. No hardware is required to be added, and time synchronization accuracy depends on network speed. Consequently, network traffic will be consumed by using 4G network.
- Lora time synchronization: Master and slave devices are required to be set for Taurus. Time of the slave device is synchronized with that of the master device through Lora network, and therefore Lora device is required. This time synchronization method is applicable to events with high time synchronization requirement and does not consume network traffic, but its signal receiving depends on the environment and is limited by distance.

## 1.2.2 Smart Brightness Adjustment

Smart brightness adjustment includes auto brightness adjustment and timing brightness adjustment.

- Auto brightness adjustment: Display brightness will automatically adjust according to environment brightness.
- Timing brightness adjustment: Display brightness will automatically adjust to a specific value at a given point of time.

Taurus products have brightness sensor connectors. Connect the light sensor and set smart brightness adjustment rules on ViPlex to enable the smart brightness adjustment function.

Advantages of smart brightness adjustment are as shown in Table 1-2.

Table 1-2 Smart brightness adjustment

Object	Advantage
User	Reduce manual operations
Environment	Avoid light pollution
Display	Smarter

Taurus products support manual brightness adjustment as well.

## 1.2.3 4G Module

Taurus series products provide models of onboard 4G modules, and therefore 4G network could be used for Internet connection.

When mobile data network is enabled on ViPlex and priority requirements for signal selection are met, Taurus products with 4G module could connect to Internet.

Advantages of 4G module are as shown in Table 1-3.

Table 1-3 4G module

Object	Advantage
User	Solution transmission speed is fast without wiring operation
Environment	-

Display	All Internet connection methods are available to enable more application scenes
---------	---

## 1.2.4 Cluster Management

Display quantity increases fast following with the development of smart city and commercial application, and cluster solution of NovaStar emerges to uniformly manage and monitor numerous displays in different places.

- VNNOX: A cloud publishing service used to realize display remote content management and remote terminal control.
- NovaiCare: A cloud monitoring service used to realize display remote monitoring.

VNNOX and NovaiCare could be accessed to remotely and uniformly manage displays with PC, Pad or mobile phone as long as Internet is available.


Advantages of cluster management are as shown in Table 1-4.

Table 1-4 Cluster management

Object	Advantage
User	Remotely and uniformly manage and monitor numerous displays
Environment	Helpful for the development of the smart city
Display	Without limits on deployment position and quantity

## 1.3 Software Acquiring Method

Table 1-5 Software acquiring methods

Type	Description	Method
ViPlex Handy	It is a LAN-based display management software, including the one applicable to Android and iOS operating systems, is mainly used for display management as well as solution editing and publishing.	Scan the following QR code to download and install the APP.  You can also download the ViPlex Handy for iOS from App Store.
ViPlex Express	It is a LAN-based display management software applicable to the Windows operating system, and is mainly used for display	Visit <a href="http://www.novastar.tech">www.novastar.tech</a> , download and install the required software.

	management as well as solution editing and publishing.	
VNNOX	It is a safe cloud publishing service, and is mainly used for solution remote editing and publishing.	Visit <a href="http://www.vnnox.com">www.vnnox.com</a> for register and login.
NovaiCare	It is a safe cloud monitoring service, and is mainly used for display remote monitoring.	Visit <a href="http://www.novaicare.com">www.novaicare.com</a> for register and login.



## 2 AD Player and Mirror Screen Solution

### 2.1 Overview

AD player and mirror screen, the typical commercial display applications, are mainly used for information publishing and advertisement display, and can be placed at the shopping mall, hotel, office building, exhibition, bank, station and community.

There are two application modes for the mirror screen which is a mirror when the display is turned off.

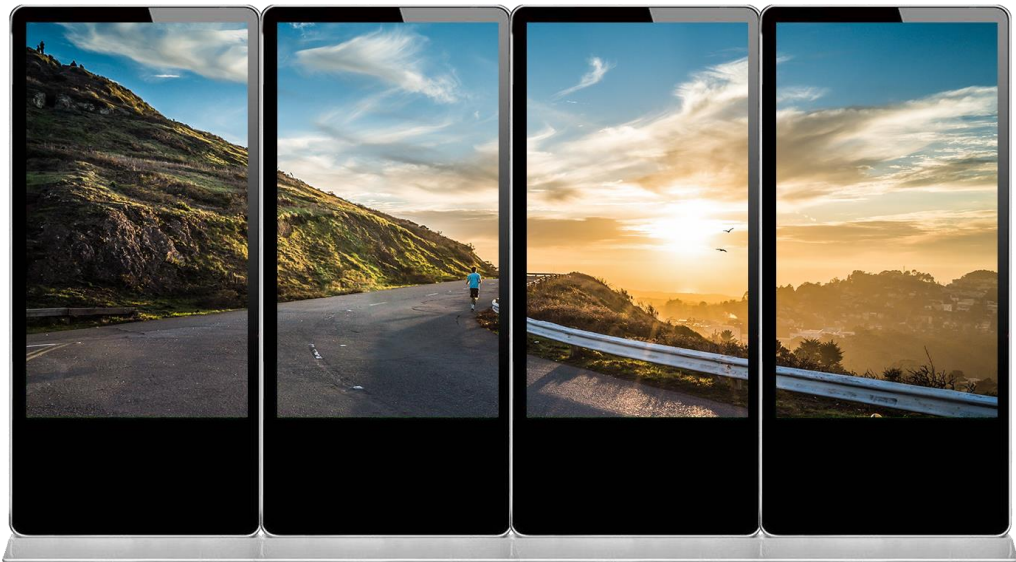
There are many application modes for the AD player and mirror screen, and only typical applications are introduced in this chapter, including the single application, cluster application and splicing application.

Characteristics of the AD player and mirror screen of NovaStar are as shown in Table 2-1.

Table 2-1 AD player and mirror screen

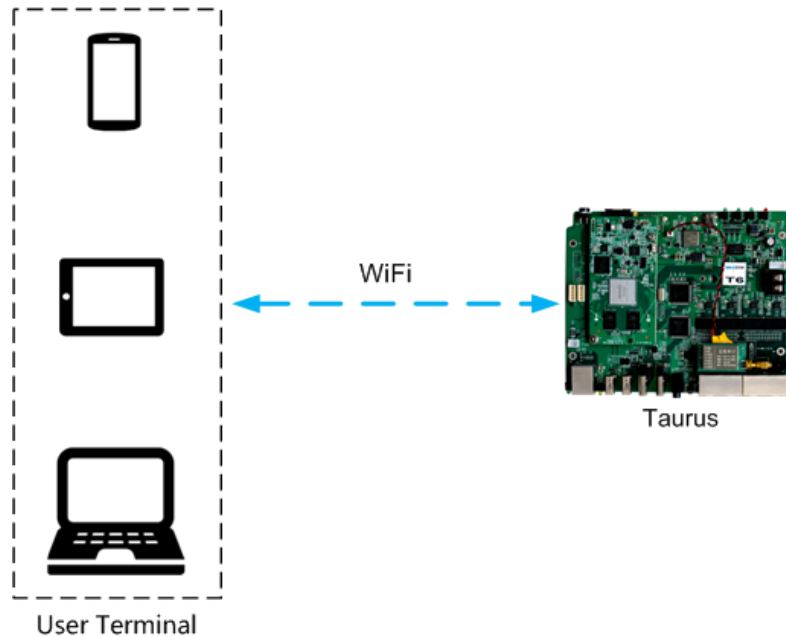
Characteristic	Description	Required Configuration
Support for synchronous display	Application of advanced synchronous playing and dispatching technologies realize high-accuracy synchronous playing for the same image on different displays.	<ul style="list-style-type: none"><li>• Enable the synchronous playing function on the ViPlex or VNNOX.</li><li>• Set time synchronizing rules on the ViPlex or VNNOX.</li></ul>
Support for smart brightness adjustment	Automatic and timing brightness adjustment could reduce manual operation, and brightness filtering technology could help to avoid brightness interference to realize stable display brightness.	Set smart brightness adjustment rules on ViPlex.
Support for splicing playing	Both individual playing and splicing playing are available for multiple displays.	Set splicing-related parameters on ViPlex.
Support for selling advertisements played	During the process of solution scheduling, the	Edit solutions on VNNOX.

in different time periods	user can divide time periods as required to play the specified list in every time period.	
Support for media switching without blackout	Blackout does not occur during media switching process.	No need to set.
Support for generating play log	The Taurus products can generate play log, and the user can check and export the log on VNNOX.	No need to set.



## 2.2 Single Application

### 2.2.1 Networking Diagram



Taurus products provide Wi-Fi AP itself. After connecting to Wi-Fi AP with PC, Pad and mobile phone, enter the username and password to log in to the Taurus.

### 2.2.2 Required Software

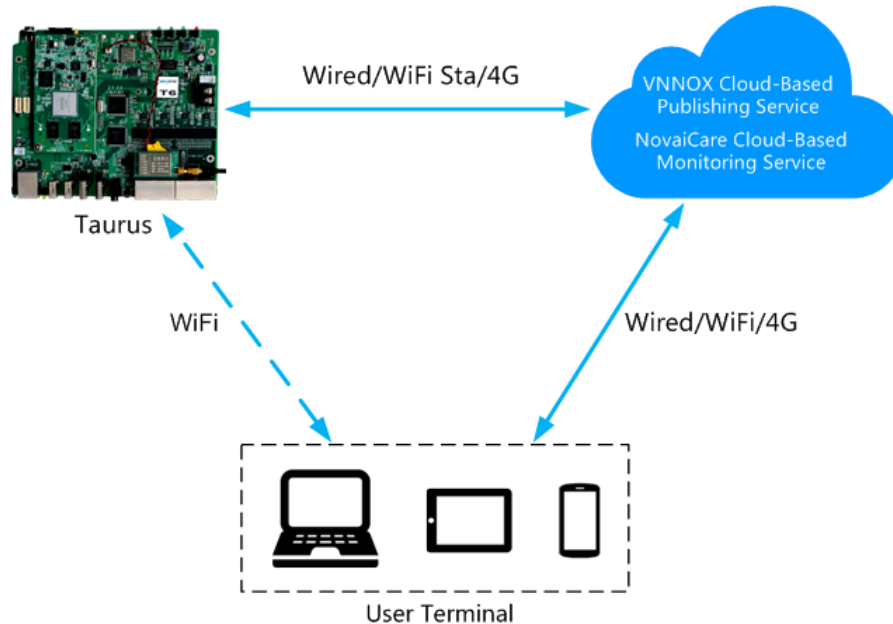
- ViPlex Handy
- ViPlex Express

### 2.2.3 Relevant Configurations

No need to set. Refer to 4.1 "Taurus Login" for specific operations to connect and log in to the Taurus products.

## 2.3 Cluster Application

### 2.3.1 Networking Diagram



VNNOX and NovaiCare could be accessed directly or by way of bridge connection. When bridge connection is selected, following three methods for Internet connection of Taurus products are available with priorities ranging from high to low:

- Wired network
- WiFi Sta
- 4G network

When the three methods are all enabled, Taurus products will select signals automatically according to the priorities.

### 2.3.2 Required Software

- ViPlex Handy
- ViPlex Express
- VNNOX
- NovaiCare

### 2.3.3 Required Hardware Devices

Function	Required Hardware Device	Model
Synchronous playing	When Lora time synchronization is used, it is required to purchase Lora devices	<ul style="list-style-type: none"><li>• E32-1W: Installed on the master device.</li><li>• E32-100: Installed on the slave device.</li></ul>
Smart brightness adjustment	Light sensor	NS048D

## 2.3.4 Relevant Configurations

### Before You Begin

- The login username and password for VNNOX, NovaiCare and NovaLCT-Taurus are acquired.
- Create solution(s) on VNNOX without random transition and random media of the solution(s).
- Create asynchronous players on VNNOX and associate the players with the License.
- Configurations required before monitoring have been done on NovaLCT-Taurus and NovaiCare.

Refer to software online help for specific operations of VNNOX, NovaiCare and NovaLCT-Taurus.


### Acquiring Player authentication information

Authentication information is required when ViPlex binds the asynchronous player of VNNOX.

Step 1 Visit <http://www.vnnox.com>, and click the **Login** button at the upper-right corner.

Step 2 Select the server node and click **Ok**.

Step 3 Enter the account name and password, and click **Login**.

Step 4 Select **Organization Management, System Management** from the pop-up menu of  in the upper right corner.

Step 5 Select the **Player Authentication** tab to view **Server address, Certified user name** and **Certified password**.



For following settings, do not exit VNNOX after above operations.

### Configuring ViPlex Handy (Android and iOS)

Step 1 Log in to the Taurus. Refer to 4.1.1 “Taurus Login upon ViPlex Handy (Android and iOS)”.

Step 2 Click screen name to enter **Screen management** page.

Step 3 Set rules for smart brightness adjustment.

1. Select **Screen Setting, Brightness control**.
2. Click **Brightness mode**, select **Smart**, and click **OK**.
3. Click **Smart adjustment parameters**.
4. Click  and select **Auto brightness adjust** to set time and duration for automatic adjustment, and then click **OK**.
5. Click **Auto adjustment parameters** to set the corresponding relationship between the environment brightness and display brightness, and then click **OK**.
6. Click  and select **schedule brightness adjust** to set the timing adjustment time and duration as well as display brightness value, and then click **OK**.
7. Click **Send** to send the smart brightness adjustment rules to the Taurus.

Step 4 Set the connection method between the Internet and Taurus.

Priorities of wired network, Wi-Fi Sta and 4G network range from high to low. When the three methods are all enabled, the Taurus will select signals automatically according to the priorities.

- Wired network: When static IP address is required, select **Network Setting, Wired Network Setting**, turn **DHCP** off, enter the static IP address of the Taurus, and click **OK**.
- WiFi Sta: Select **Network Setting, WiFi Setting**, and turn **WiFi** on. Click the Wi-Fi name of the external router and enter the Wi-Fi password, and click **OK**.
- 4G network: Select **Network Setting, Mobile Data Setting**, and turn **Mobile data** on.

Step 5 Bind the asynchronous player.

1. Select **Remote Management, Player Binding**.
2. Set the VNNOX server and player authentication information.
3. Click **Obtain** and select a player from the drop-down box of **Player**.
4. Click **OK** after setting.

Step 6 If display remote monitoring is required, perform the following procedures. Otherwise, ignore this step.

1. Select **Remote Management, Remote Monitor**.
2. Turn **Remote Monitor** on.
3. Select the service node of the NovaiCare from the drop-down box of **Server**.
4. Click the right side of **Possessor** line.
5. Enter the username for login NovaiCare in the pop-up dialog box, and click **OK**.
6. Click **OK** after setting.

Step 7 Repeat above steps to configure other Taurus products in cluster till all Taurus products have been configured.

## Configuring ViPlex Express (Windows)

Step 1 Log in Taurus and see detailed operations in 4.1.2 "Taurus Login upon ViPlex Express (Windows)".

Step 2 Select **Screen Control**.

Step 3 Set rules for smart brightness adjustment.

Currently not supported.


Step 4 Set the way to connect Taurus to the Internet.

The priority of wired network, Wi-Fi Sta and 4G network is from high to low. If all of the three ways are enabled, the Taurus will choose signal automatically according to the priority order.

1. Select **Network configuration**.
2. Select the target terminal in the terminal list and perform the following operations according to actual needs.

- Wired network: If it is required to set static IP address, turn off **Dynamic DHCP**, enter the IP address information of the Taurus and then click **Apply** in the **Wired network configuration** section.
- WiFi Sta: Turn on **Wi-Fi** in the **Wi-Fi configuration** section. Click the Wi-Fi name of external router and then enter Wi-Fi password and click **Apply**.
- 4G network. Turn on **Mobile network** in the **Mobile network configuration** section.

Step 5 Bind asynchronous players.

1. Select **Server configuration**.
2. Select the target terminal in the terminal list.
3. Configure player authentication information in **Configure parameters for connecting screens to VNNOX**.
4. Click  next to **Player** and select a player.
5. Click **Apply**.

Step 6 If you want to monitor displays remotely, please perform this step; otherwise, skip this step.


1. Select **Enable** next to **NovaiCare configuration** in **Configure parameters for connecting screens to NovaiCare**.
2. Configure NovaiCare server address and login user name.
3. Click **Apply**.

Step 7 Repeat above steps until all the Taurus products in the cluster are configured.



## Configuring VNNOX

When setting timing rules and synchronous playing upon ViPlex, every Taurus product is required to be set individually, and batch setting is available for setting timing rules and synchronous playing upon VNNOX. When the public network is available, VNNOX is recommended for batch configuration to reduce manual operations.

Step 1 Set time synchronization rule.

1. Select **Players Management, Time Synchronization** from the pop-up menu of  in the upper right corner.
2. Click **NTP server configuration**.
3. Click **Add** to configure NTP service information, and then click **Save&Close**.
4. Click **New** on the page of time synchronization task list.
5. Enter time synchronization task name and select time synchronization method, and then click **Next**.
  - NTP: Select a NTP server and then click **Ok**.
  - LORA: Select a time synchronization standard device and then click **Ok**.
6. Click **Add** in the **Players** tab of the time synchronization task attribute page.
  - NTP time synchronization: Select all the players in cluster and then click **Ok**.
  - LORA time synchronization: Select all the slave players in Lora network and then click **Ok**.



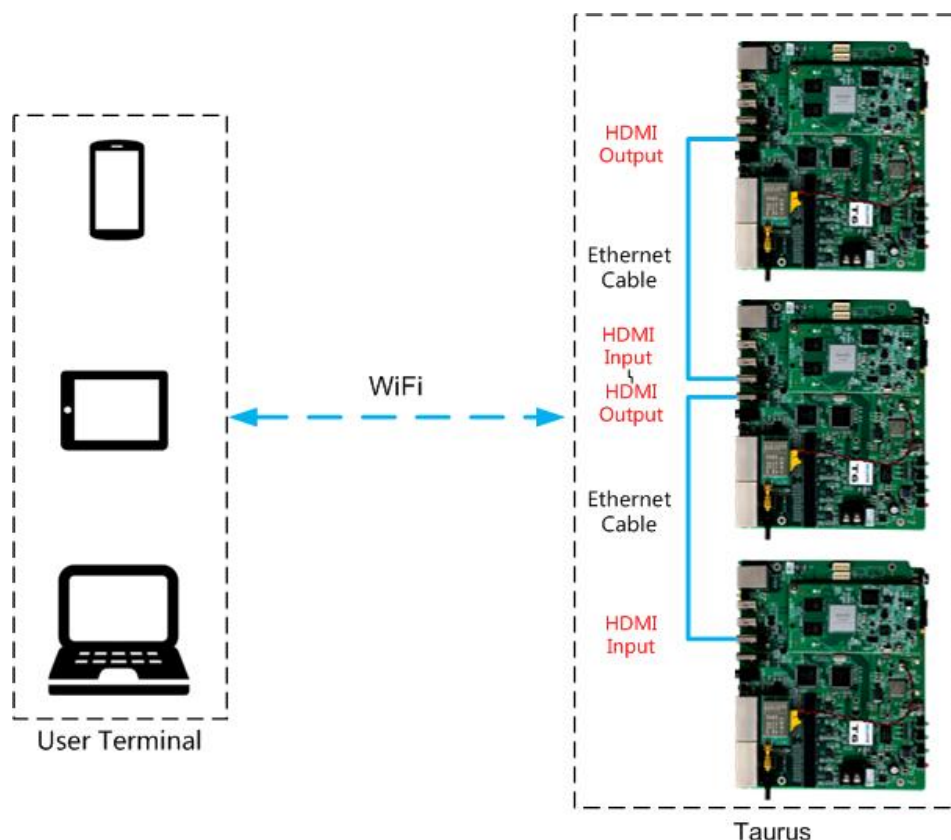
7. When the time synchronization method upon Lora network is selected, and NTP server is used for the time synchronization standard device, click **Configure** tab to set **NTP** to **Yes**, and select NTP server. Otherwise, ignore this step.
  8. Click **Save** or **Save&Close**. Players added in the time synchronization task will perform time synchronization according to rules defined in the task.
- Step 2 If the same image is required to be played by different screens, perform the following procedures. Otherwise, ignore this step.
1. Select **Player Management, Players** in the pop-up menu of  in the upper right corner.
  2. Select asynchronous players corresponding to all Taurus series products requiring enabling the synchronous playing function.
  3. Click **Real-time control** and select **open the synchronous broadcasting** from the drop-down box.
- Step 3 Associate with solution(s).
1. Select **Players Management, Players** from the pop-up menu of  in the upper right corner.
  2. Select a player and click **Attribute**, or click a player name.
  3. Select a solution from the drop-down box of parameter **associate solution**.
  4. Whether solution distribution type is **Manual**.
    - Yes. Click **Save&Close** to return to the player list page. Perform term 5.
    - No. Click **Save** or **Save&Close**. VNNOX will automatically distribute solutions to corresponding Taurus products.
  5. Select the target player, and click **Update solution** to manually distribute solutions to corresponding Taurus products.
  6. Repeat above steps to associate with solutions for other players in cluster till all players have been configured.

## 2.4 Splicing

### 2.4.1 Networking Diagram

The following figure uses three displays splicing as an example to illustrate Taurus connection.





The Taurus product provides Wi-Fi AP itself. Connect to Wi-Fi AP of each Taurus product through PC, Pad and mobile phone, and then enter the username and password to log in to the Taurus.

## 2.4.2 Required Software

- ViPlex Handy
- ViPlex Express

## 2.4.3 Relevant Configuration

ViPlex Express doesn't support following operations for the moment.

### Configuring the first display

- Step 1 Log in to the Taurus of the first display. Refer to 4.1.1 "Taurus Login upon ViPlex Handy (Android and iOS)" for specific operations.
- Step 2 Click screen name to enter the **Screen management** page.
- Step 3 Select **Video Control**.
- Step 4 Configure the required parameters.
  - Mode: Manual
  - Source: inside
  - Offset X: 0
  - Offset Y: 0
- Step 5 Click **OK**.

## Configuring other displays

- Step 1 Log in to the Taurus of the second display. Refer to 4.1.1 “Taurus Login upon ViPlex Handy (Android and iOS)” for specific operations.
- Step 2 Click screen name to enter **Screen management** page.
- Step 3 Select **Video Control**.
- Step 4 Configure the required parameters.

Horizontal splicing image is taken as an example here for illustration. In the event of vertical splicing, the way for setting **Offset Y** is the same as that for setting **Offset X**.

  - Mode: Manual
  - Source: HDMI
  - Offset X: (*The display serial number* – 1) x *The Image width*. For example, when the image width is 500px, it is required to be set as 500px for the second display and 1000px for the third display.
  - Offset Y: 0
- Step 5 Click **OK**.
- Step 6 Repeat above steps to configure other Taurus products till all Taurus products have been configured.

# 3 Post Screen Solution

## 3.1 Overview

Post screens prevail on both sides of highways and roads following with the development of the smart city. Smart post screen has distinct advantages compared with the conventional post which features illumination and static advertisement only and requires new manufacture and installation in case of advertisement replacement, while the smart post provides functions including illumination, security monitoring, environment monitoring, emergency call, charging pile and LED display which used high-definition smart LED post screen for road leading, data release and advertising promotion.

Post screens can be used without quantity limits, and the display contents can be controlled individually or in batch based on cluster management method.

Characteristics of the post screen of NovaStar are as shown in Table 3-1.

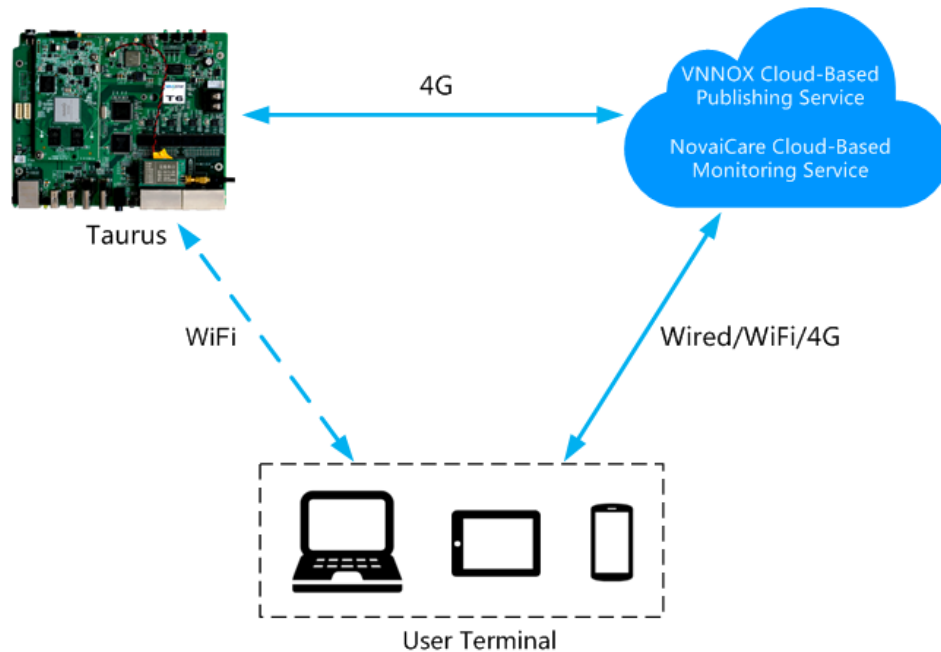
Table 3-1 Post screen

Characteristics	Description	Require Configuration
Support synchronous playing	Use advanced synchronous playing and scheduling technologies to make several displays play the same image at the same.	<ul style="list-style-type: none"><li>• Enable the synchronous playing function on the ViPlex or VNNOX.</li><li>• Set time synchronizing rules on the ViPlex or VNNOX.</li></ul>
Support for smart brightness adjustment	Automatic and timing brightness adjustment could reduce manual operation, and brightness filtering technology could help to avoid brightness interference to realize stable display brightness.	Set smart brightness adjustment rules on ViPlex.
Support for selling advertisements played in different time periods	During the process of solution scheduling, the user can divide time periods as required to play the specified list in every time period.	Edit solutions on VNNOX.
Support for media switching without	Blackout does not occur during media switching	No need to set.

blackout	process.	
Support for generating play log	Taurus products can generate play log, and the user can check and export the log on VNNOX.	No need to set.
Support for remote solution publishing	VNNOX is a safe cloud publishing service which enables remote content management and remote terminal control for the LED display.	Visit <a href="http://www.vnnox.com">www.vnnox.com</a> for register and login.
Support for remote display monitoring on NovaiCare	NovaiCare is a safe cloud monitoring service which enables remote monitoring for the LED display.	Visit <a href="http://www.novaicare.com">www.novaicare.com</a> for register and login.
Support for environment monitoring	Onboard camera connector can monitor the environment surround the post screen.	No need to set.
Support for 4G module	Onboard 4G module can connect Internet through 4G network.	Turn on mobile data network on ViPlex.



## 3.2 Networking Diagram



VNNOX and NovaiCare could be accessed directly or by way of bridge connection to centrally manage post screens.

Taurus products can connect to Internet through the wired network, Wi-Fi and 4G network which is recommended for this solution.

## 3.3 Required Software

- ViPlex Handy
- ViPlex Express
- VNNOX
- NovaiCare

## 3.4 Required Hardware Devices

Function	Required Hardware Device	Model
Synchronous playing	When Lora time synchronization is used, it is required to purchase Lora devices	<ul style="list-style-type: none"><li>• E32-1W: Installed on the master device.</li><li>• E32-100: Installed on the slave device.</li></ul>
Smart brightness adjustment	Light sensor	NS048D


## 3.5 Relevant Configuration

### Before You Begin

- Acquire the login username and password of VNNOX, NovaiCare and NovaLCT-Taurus.
- Create a solution on the VNNOX without random transition and random media.
- Create an asynchronous player which associates with License on the VNNOX.
- Complete configurations required to be done before monitor on NovaLCT-Taurus and NovaiCare.

Refer to software online help for specific operations of VNNOX, NovaiCare and NovaLCT-Taurus.



### Acquiring player authentication information

- Step 1 Visit <http://www.vnnox.com> and then click **Login** in the upper right corner.
- Step 2 Select a server node and click **Ok**.
- Step 3 Enter the account name and password and then click **Login**.
- Step 4 Select **Organization Management, System Management** from the pop-up menu of  in the upper right corner.
- Step 5 Select the **Player Authentication** tab to view **Server address, Certified user name** and **Certified password**.

For following settings, do not exit VNNOX after above operations.

### Configuring ViPlex Handy (Android and iOS)


Following operations are required for every display in cluster.

- Step 1 Log in to the Taurus. Refer to 4.1.1 “Taurus Login upon ViPlex Handy (Android and iOS)” for specific operations.
- Step 2 Click the screen name to enter the **Screen management** page.
- Step 3 Set rules for smart brightness adjustment.
1. Select **Screen Setting, Brightness control**.
  2. Click **Brightness mode** to select **Smart**, and then click **OK**.
  3. Click **Smart adjustment parameters**.
  4. Click  and select **Auto brightness adjust** to set automatic adjustment time and duration, and then click **OK**.
  5. Click **Auto adjustment parameters** to set the corresponding relationship between the environment brightness and display brightness, and then click **OK**.
  6. Click  and select **schedule brightness adjust** to set timing adjustment time and duration, and then click **OK**.
  7. Click **Send** to send rules for smart brightness adjustment to the Taurus.
- Step 4 Set Internet connection mode for the Taurus.
1. Select **Network Setting, Mobile Data Setting**.

2. Turn **Mobile data** on.
- Step 5 Bind the asynchronous player.
  1. Select **Remote Management, Player Binding**.
  2. Set the VNNOX server and player authentication information.
  3. Click **Obtain** and select a player from the dropdown box of **Player**.
  4. Click **OK** after setting.
- Step 6 If display remote monitoring is required, perform the following procedures. Otherwise, ignore this step.
  1. Select **Remote Management, Remote Monitor**.
  2. Turn **Remote Monitor** on.
  3. Select the service node of NovaiCare from the dropdown box of **Server**.
  4. Click the right side of **Possessor** line.
  5. Enter the login username of NovaiCare in the pop-up dialog box, and click **OK**.
  6. Click **OK** after setting.
- Step 7 Repeat above steps to configure other Taurus products in cluster till all Taurus products have been configured.

## Configuring ViPlex Express (Windows)

- Step 1 Log in Taurus and see detailed operations in 4.1.2 “Taurus Login upon ViPlex Express (Windows)”.
- Step 2 Select **Screen Control**.
- Step 3 Set rules for smart brightness adjustment.


Currently not supported.
- Step 4 Set the way to connect Taurus to the Internet.
  1. Select **Network configuration**.
  2. Select the target terminal in the terminal list.
  3. Turn on **Mobile network** in the **Mobile network configuration** section.
- Step 5 Bind asynchronous players.
  1. Select **Server configuration**.
  2. Select the target terminal in the terminal list.
  3. Configure player authentication information in **Configure parameters for connecting screens to VNNOX**.
  4. Click  next to **Player** and select a player.
  5. Click **Apply**.
- Step 6 If you want to monitor displays remotely, please perform this step; otherwise, skip this step.
  1. Select **Enable** next to **NovaiCare configuration** in **Configure parameters for connecting screens to NovaiCare**.
  2. Configure NovaiCare server address and login user name.
  3. Click **Apply**.

Step 7 Repeat above steps until all the Taurus products in the cluster are configured.


## Configuring VNNOX

When setting timing rules and synchronous playing upon ViPlex, every Taurus product is required to be set individually, and batch setting is available for setting timing rules and synchronous playing upon VNNOX. When the public network is available, VNNOX is recommended for batch configuration to reduce manual operations.


Step 1 Set time synchronization mode.

1. Select **Players Management, Time Synchronization** from the pop-up menu of  in the upper right corner.
2. Click **NTP server configuration**.
3. Click **Add** to configure NTP service information, and then click **Save&Close**.
4. Click **New** on the page of time synchronization task list.
5. Enter time synchronization task name and select time synchronization method, and then click **Next**.
  - NTP: Select the NTP server and then click **Ok**.
  - LORA: Select a time synchronization standard device and then click **Ok**.
6. Click **Add** in the **Players** tab of the time synchronization task attribute page.
  - NTP time synchronization: Click all the players in cluster and then click **Ok**.
  - LORA time synchronization: Click all the slave players in Lora network and then click **Ok**.
7. When the time synchronization method upon Lora network is selected, and NTP server is used for the time synchronization standard device, click **Configure** tab to set **NTP** to **Yes**, and select NTP server. Otherwise, ignore this step.
8. Click **Save** or **Save&Close**. Players added in the time synchronization task will perform time synchronization according to rules defined in the task.

Step 2 If the same image is required to be played by different screens, perform the following procedures. Otherwise, ignore this step.

1. Select **Player Management, Players** in the pop-up menu of  in the upper right corner.
2. Select asynchronous players corresponding to all Taurus series products requiring enabling the synchronous playing function.
3. Click **Real-time control** and select **open the synchronous broadcasting** from the drop-down box.

Step 3 Associate with solution(s).

1. Select **Players Management, Players** from the pop-up menu of  in the upper right corner.
2. Select a player and click **Attribute**, or click a player name.
3. Select a solution from the drop-down box of parameter **associate solution**.
4. Whether solution distribution type is **Manual**.
  - Yes. Click **Save&Close** to return to the player list page, and perform term5.
  - No. Click **Save** or **Save&Close**. VNNOX will automatically distribute solutions to corresponding Taurus products.



5. Select the target player, and click **Update solution** to manually distribute solutions to corresponding Taurus products.
6. Repeat above steps to associate with solutions for other players in cluster till all players have been configured.

# 4 General Operations

## 4.1 Taurus Login

Taurus series products feature Wi-Fi AP function. This chapter takes Wi-Fi AP connection as an example to introduce the Taurus login method.

Other connection methods require hardware or software configuration. Refer to ***Taurus Series Multimedia Players Quick Start Guide*** for specific operations.

### 4.1.1 Taurus Login upon ViPlex Handy (Android and iOS)

#### Before You Begin

- Acquire the SSID and password of Wi-Fi AP of the Taurus. SSID is default to be composed of AP and the last 8 numbers of SN, and the password is default as “**12345678**”.
- Acquire the login password of user “admin” of which the default password is “**123456**”.




#### Operating procedures

ViPlex Handy can connect numerous Taurus products.

Step 1 Connect Wi-Fi AP of the Taurus series products.

Step 2 Start ViPlex Handy.

System can automatically detect the Taurus series products and refresh **Screen list**. Users can also slide down **Screen list** to manually refresh the list.

- : denotes that Taurus is online and you can log into it.
- : denotes that Taurus is offline and you cannot log into it.
- : denotes that Taurus login is successful.

Step 3 Click **Connect** behind the screen name.

Step 4 Enter username and password, and click **Login**.

## 4.1.2 Taurus Login upon ViPlex Express (Windows)

### Before You Begin

- Acquire the SSID and password of Wi-Fi AP of the Taurus. SSID is default to be composed of AP and the last 8 numbers of SN, and the password is default as “**12345678**”.
- Acquire the login password of user “admin” of which the default password is “**123456**”.




### Operating procedures

The ViPlex Express can connect numerous Taurus products.

Step 1 Connect the Wi-Fi AP of Taurus series products.



Step 2 Start the ViPlex Express.

Step 3 Click **Refresh** and the screen list will be displayed on the page.

- : denotes that Taurus is online and you can log into it.
- : denotes that Taurus is offline and you cannot log into it.
- : denotes that Taurus login is successful.

After the Taurus is found by ViPlex Express, the ViPlex express will try to log into to the Taurus with the default account or the account used for last login.

Step 4 Taurus login is successful or not.

- Yes.  appears and no further operation is required.
- No.  appears and then perform Step 5.

Step 5 Click **Connect** on the right of the screen information.

Step 6 Enter the username and password, and click **OK**.