Multi-Screen Splicing Processor Manual

2017-02

Important hint:

For your safety and safety, please be sure to read this safety instructions carefully before using this equipment.

If you have any questions during use, please read this manual first. The text has a detailed description of the operation of the equipment, if still in doubt, please contact us, we will give you a satisfactory answer as soon as possible.

If the version of this manual changes, without notice, please understand.

We reserve all rights reserved for this product!

Contents

Chapter 1 Safety Instructions

1. Power supply

Please use the shielded single-phase three-wire 220V AC power supply, and to ensure that the entire engineering system with the same ground, can not use ungrounded protection of the power supply, power cord grounding pin can not be destroyed.

2. Power off

In the case of equipment movement or other need to power off the situation, to turn off the power to ensure the safety of equipment.

3. Cable

Do not allow the power cord, signal lines, communication lines and other cable press items, should avoid the cable tread and squeeze, to prevent leakage and short circuit and other dangerous situations.

4. Signal

To ensure that the signal line, communication lines and other wire connection is good, and then boot operation.

5. Heat dissipation

Equipment surface of the cooling holes, do not block, so as not to heat accumulation, damage to equipment.

6. Environment

Equipment work environment should pay attention to dust, moisture, to prevent liquid immersion.

7. Repair

All maintenance work should be completed by professionals, without permission, are not allowed to be privately maintained, so as to avoid the risk of electric shock.

8. Equipment installation

The equipment should be installed on a stable, stable work surface or standard rack, cabinet, chassis.

9. Safety Precautions

1) equipment, high pressure, non-professional maintenance personnel are not allowed to open the chassis, so as to avoid danger.

2) It is forbidden to place liquid containers in and around the equipment.

3) Prohibit equipment near fire.

4) to ensure adequate ventilation, equipment front and rear panels should be kept at least 20CM gap.

5) Unplug the power plug if it is lightning or if it is not used for a long period of time.

6) Do not block the ventilation holes of the equipment to avoid damage to the equipment.

7) Do not place this equipment near the liquid.

8) Please place the power cord properly to prevent damage.

9) the following circumstances should be immediately unplug the power, and by the professionals to deal with:

   a) When the plug's power cord is damaged or worn;

   b) when liquid is spilled into the equipment;

   c) when the device is dropped or the chassis is damaged;

   d) When the device has a significant functional abnormality or performance change.

* Note: This equipment is not suitable for non-professional operation and commissioning, the use of professional training or guidance.

   Please read this manual carefully before using this equipment. The instructions should be kept for future use.

Chapter 2 Overview

1.1 Brief

Splicing controller, also known as image processor, multi-screen splicing device, the main function is to multiple display unit spliced into a large ultra-high resolution of the logic display. In this ultra-high resolution logical desktop to the window to achieve multi-screen, multi-scene arbitrary position, any size display, each screen can be allocated enough resolution, the picture quality is not lost.

This series of splicing device is a powerful and pure hardware architecture of high-end image stitching processing equipment, in a number of display units at the same time display multiple dynamic RGB / VIDEO / DVI screen, is suitable for large-screen splicing display system, the core image processing equipment

1.2 Features Description

1. The image window in the full range can be any zoom, overlay, roaming. More importantly, the series of stitchers support multiple windows to display images of the same channel.

2. High processing power and excellent stability

    Based on the traditional architecture of the computer system architecture, performance and stability depends on the computer system on which it depends, and its processing capacity is improved with the improvement of computer performance, but it is limited to serial processing mode, and processing speed is difficult to obtain quality Of the promotion.

    This system splicing device, unlike the traditional controller design ideas, do not use the computer system, break the serial data chain, the use of high-speed parallel processing mechanism, resulting in a new application space.

3. The whole modular design

    This series of splicing device, the use of modular design design ideas, input and output fully support hot-swappable, effectively reduce the failure rate of equipment, greatly improve equipment stability. At the same time in the event of failure, maintenance has become simple, only need to replace the failure of the module can be.

4. Start fast, all real-time processing

This series of stitching controller using large-scale FPGA display combination processing framework, full hardware design, no CPU and operating system. Controller set of ultra-wideband video signal acquisition, real-time high-resolution digital image processing, two-dimensional high-end digital filtering and other high-end image processing technology in one, with a strong processing power. The controller uses a multi-bus parallel processing mechanism, can fundamentally guarantee all real-time processing of all input video, the image is no delay, no drop frame phenomenon.

5. Support a variety of signal formats

Support a variety of video input mode, support a variety of output modes, including HDMI, DVI output.

6. A variety of control methods

This series of multi-screen controller a variety of control methods, including infrared remote control, RS232 serial port and Ethernet remote control.

7. Pure hardware architecture

Splicing controller for the pure hardware architecture, hardware core for large-scale FPGA display, no CPU, hard drive, memory and other conventional computer accessories. Modular design of the system, the number of modules with the number of input and output signals increase or decrease. Pure hardware architecture of the controller, which itself is not a computer, but a professional image processing equipment, and based on the industrial computer card stapler in the system is essentially different.

8. Good security

Stitching controller without operating system, the virus can not be infected; full parallel work, no system overall collapse of the risk; system data before the factory has been cured, can not be changed, accidental power failure will not cause data loss, the controller can withstand frequent switching machine. The security and stability of the industrial computer plug-in stapler depends on the installed software operating system.

9. Can continue to replace the cooling fan

As the fan is a consumable, usually 30,000 hours need to be replaced. Fan heat exchange reduces

MTTR by extending MTBF. Users do not need to return to the factory can replace the fan. Excellent cooling program to ensure the reliable operation of the equipment.

10. Redundant power supply N + 1 redundant power supply design

More than one power supply can work at the same time to share the load. Any damage will not affect the operation of the entire equipment.

Chapter 3 Installation Instructions

1.3 The Package

Check the host and attachments. Including the host, power cord, cable / serial line, manual, warranty card.

	Multi-screen Processor
	Cable
	Power cable
	CD
	Product brochures and warranty cards

1.4 Install the machine

Insert the power cord into the rear power connector of the chassis, and access the signal according to the rear of the machine. The connection output device is connected exactly according to the output identifier, numbered from left to right, from top to bottom.

1.5 Equipment commissioning

Turn on the power switch, start the device, use the network or serial control to debug it.

1.6 Software installation

PC computer minimum requirements are as follows:

 ➢ Standard PC, CPU min. Pentium IV

 ➢ Min. 50GB free hard disk space

 ➢ Min. 2GB RAM

- Microsoft® Windows XP SP3 or higher

- One Ethernet Interface

- Min. screen size 17" TFT LCD

- CD-ROM drive

1.7 Installation instructions

To install the management software on a PC, follow these steps:

Insert the CD into the CD-ROM drive, open the CD-ROM file and press DIMP_Setup.exe file, enter the Welcome installation wizard page, click "Next" to continue the installation.

Go to the Select Folder form. In the form, click the "Browse button" to change the installation path. If you do not want to change the path, keep the default installation path and click "Next" to continue the installation.

Until the installation is complete, click the "close" button to complete the installation.

Chapter 4 Control Software Operating Instructions

1.8 Software Introduction

1.8.1 Software Zone Description

The function of the software can be divided into four main areas, namely, functional area, extension area, operating area and status bar, the functional area division of labor to complete the multi-screen splicing processor functions.

1.	**Function area：**	This area can be provided to the customer to use the basic functions of the software module, such as: communication connection and disconnection, communication options, pre-operation, controller management, device management, window management, user management, Management, new system, scenario save and call, mode polling and basemap management and other functions.
2.	**Extension area：**	This area view includes an input signal management interface, a plan mode management interface, and a network signal management interface.
3.	**Operating area：**	The rectangles of the colors in the large-screen simulation operation area represent the windows currently displayed on the mosaic wall. In the daily software use, this area is the most frequently operated place for all users, such as: Signal switching, signal custom cropping, window creation, window locking, any adjustment window hierarchy and position and zoom functions are implemented in this area. Although the need to manage more features, but in the operation of the user only need to use the mouse to click and drag to complete all the complex functions, the use of very

|	user-friendly.
4. Status bar：	The role of the program status area is mainly to indicate the current user, current time, communication connection status, communication side connection mode, polling status, cursor coordinates, select the coordinates and size of the window.

1.9 Connect the device

Make sure that the serial port or network port of the device is connected to the host computer. Double-click "DIMP Studio" to open the control software.

1. Login

After running the software will display the login interface , the default user name is "Admin", the password does not need to enter.

2. Software running interface
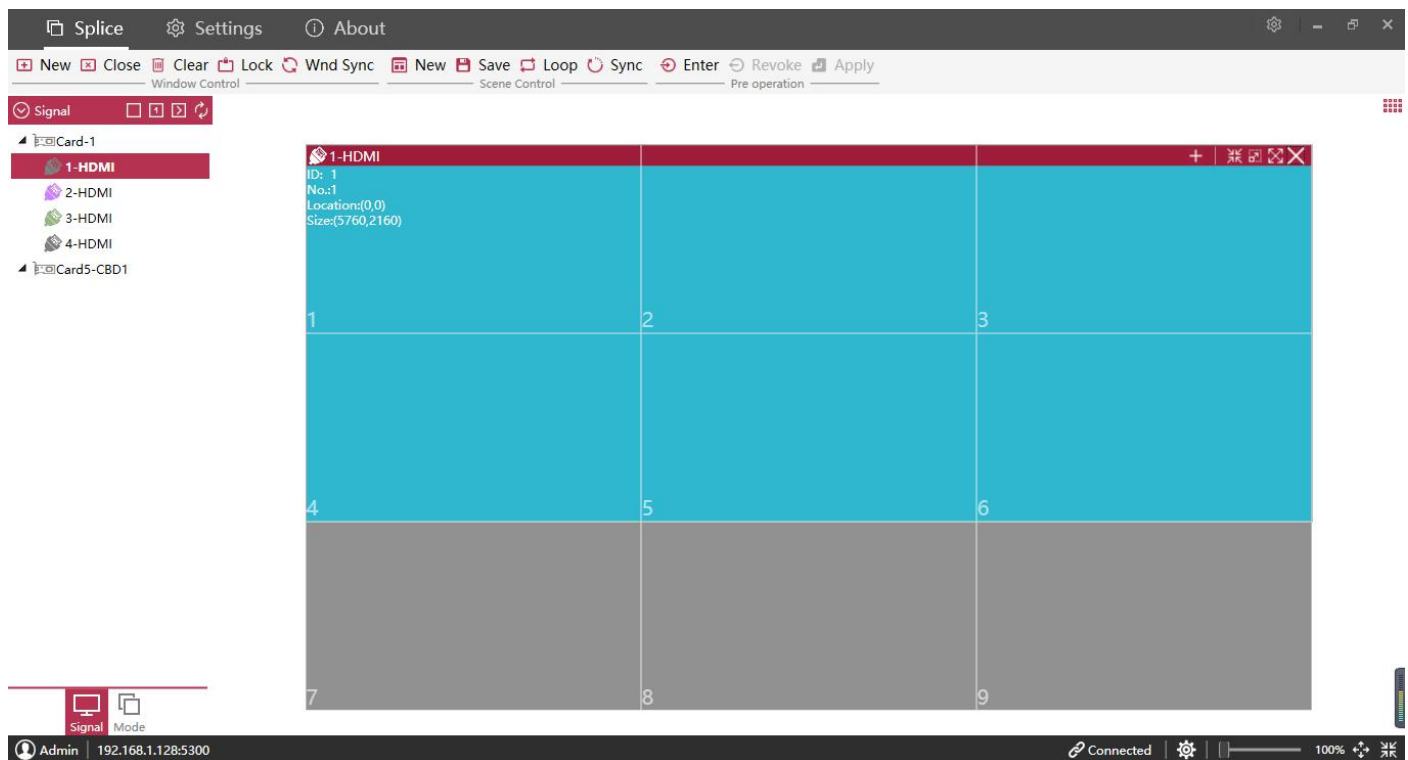
3. Communication settings

Click the communication connection button, the system will run the first time using the default communication settings to connect, the default communication settings If you can not connect the device correctly, please enter the communication settings page for related settings.
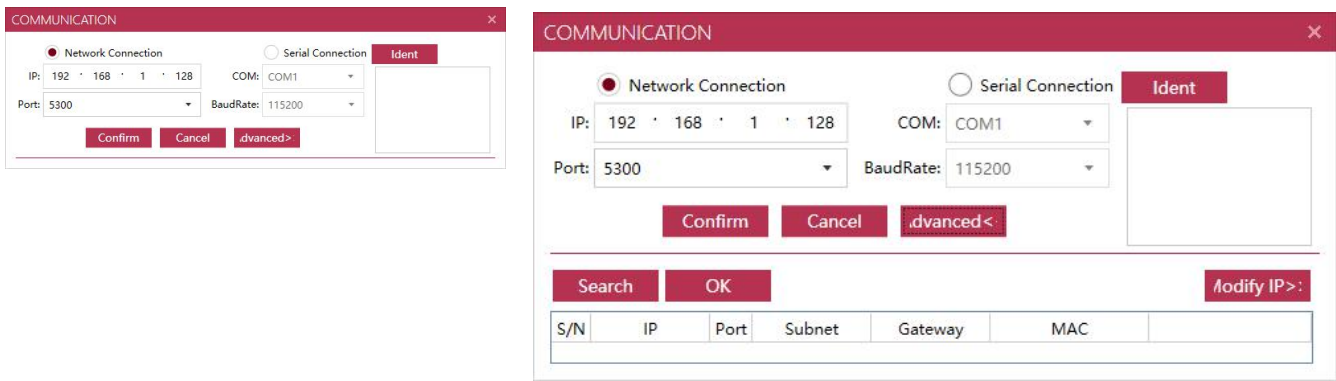
● Network connection (recommended)：
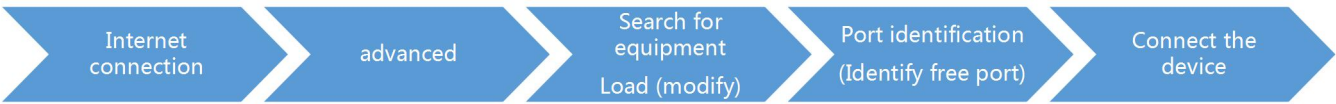
图 4.2.3

| Port identificatio：	Automatically identify the device's free port and connect
Advanced >>：	1. Search the LAN network information of the device; 2 modify the network information of the device; 3. load the network information
Default information：	IP：192.168.1.128　　Mask：255.255.255.0　Gateway：192.168.1.1
	Port：5000、5100、5200、5300

● Serial connection:
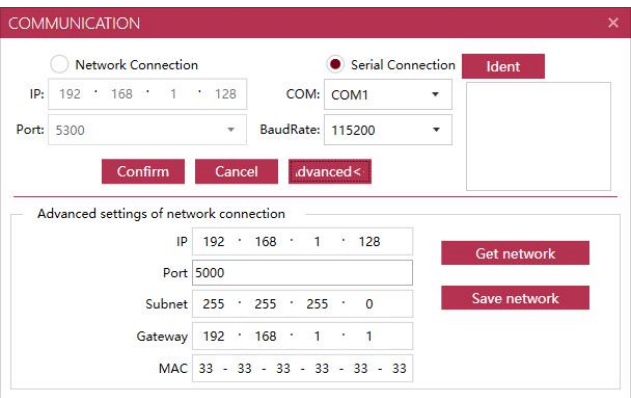
Baud rate:	115200
Port recognition:	Can automatically identify the connected serial port
Advanced >>:	Through the serial port to obtain equipment network information and modify the device network information

Note: the use of serial connection can not send the base map and subtitles, such as the existing base map and subtitles can control the switch and switch;

● quick connection / disconnect mode:

If you connect again, you can use a shortcut to connect or disconnect

13
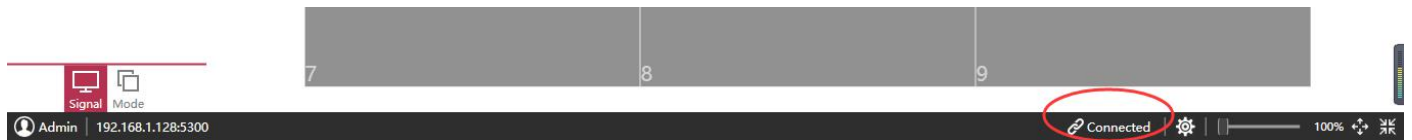
# 1.10 Settings

1.10.1 Stitching settings

Click the "Settings" tab under the "splicing settings" button, pop-up dialog box shown in Figure 4.3.1. According to the actual application, select the appropriate screen resolution, large screen combination and screen refresh rate, click "OK".

| Screen Resolution	Multi-screen splice processor output resolution	
advanced settings	Customize the output resolution with the output of other parameters	
Stitching specifications	Physical screen: large screen stitching specifications Logical screen: a single screen display virtual screen;	
Splicing screen parameters	Enter the size of the physical screen, used for edge fusion of pixel points	
Stitching	Horizontal screen splicing	
Display wall is enabled	One device can support four sets of display walls	
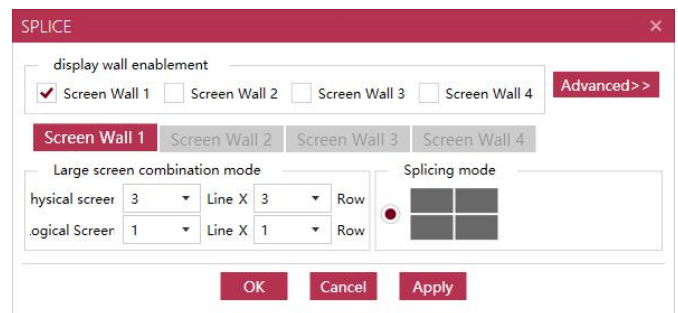
1.10.2 Output management

Click the "Output Management" button, The configuration of the output board and the output mapping adjustment can be made.
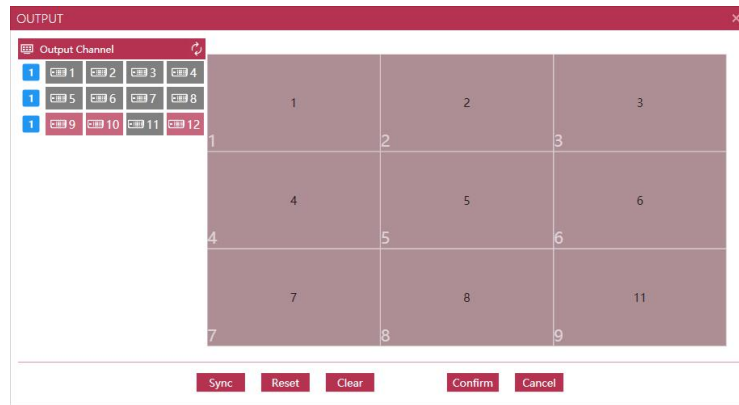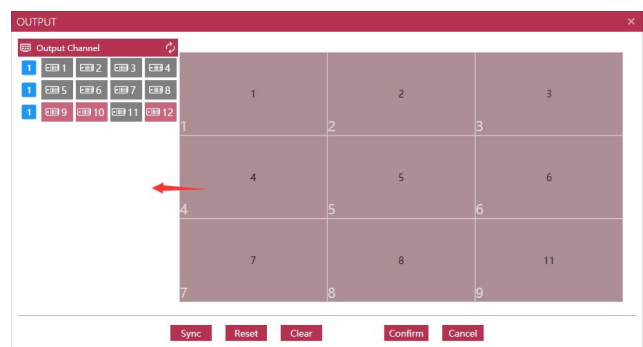
- Get the output board model: Refresh the output board data;
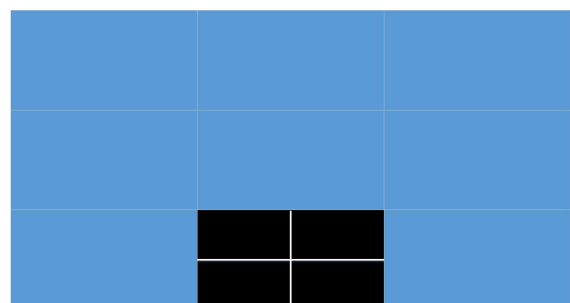
- Output white balance adjustment
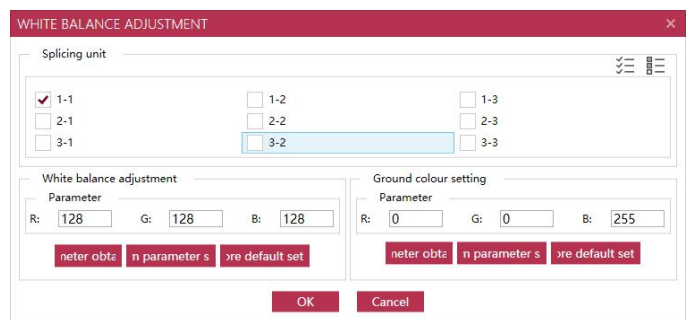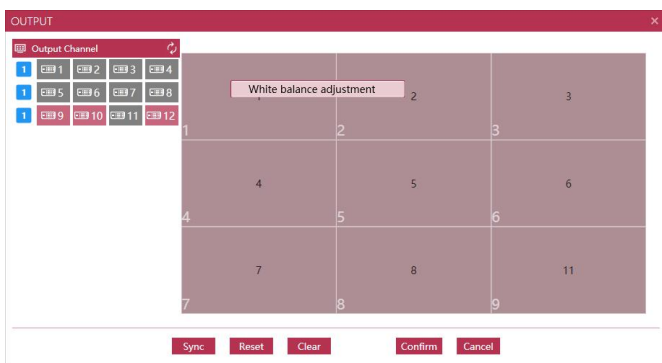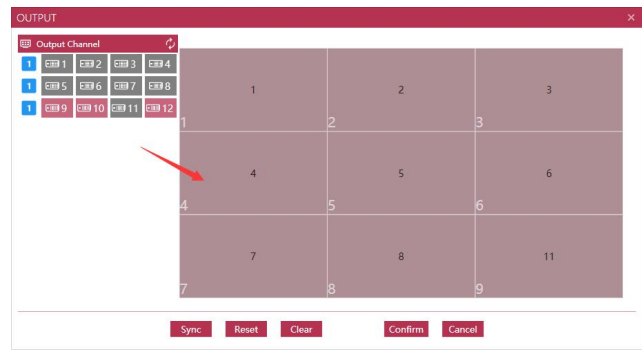

- Modify the output map

1. Drag all of the output screen out of the screen wall

2. Double-click the output board channel to find the screen "cross", large screen display black "cross" instructions

3. Drag the "Cross" channel to the corresponding display

Note: If you use the 8400-Std device, using the 3x3 stitching specification, it is recommended that the ninth channel be connected to the first channel of the third board and the ninth channel only supports 2 window outputs.

1.10.2 Advanced settings

Click the "Advanced Settings" button in the settings to bring up the dialog box shown in Figure 4.3.6.
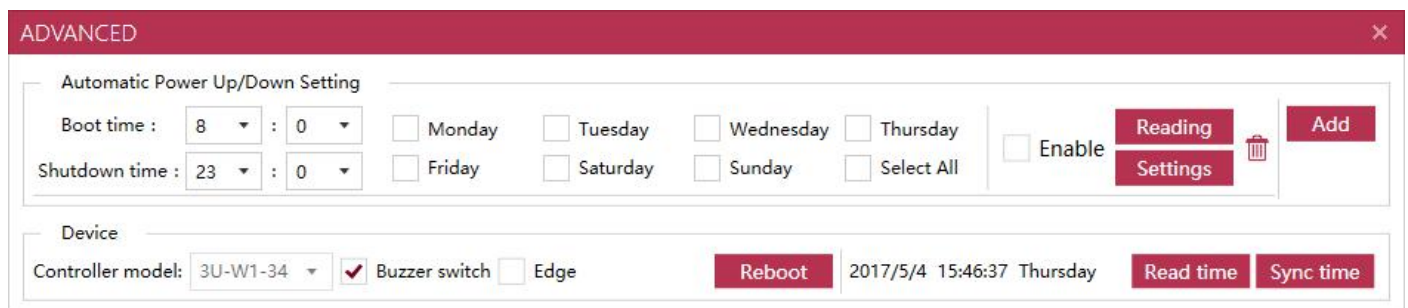
● Timer switch machine: according to the needs of the device set the timer switch, shutdown time no output, the fan stops working

Note: In the shutdown time of the timer switch, the network can not connect to the device, the serial port can be connected to the device to wake up.Other settings

Buzzer switch: open the processor received control protocol will sound, it is recommended to open;

Read device time: Read device current time;

Synchronize the system time: Synchronize the computer time to the device;

● Edge fusion settings: switch edge fusion, edge fusion parameters can be configured in the splicing settings.

● Device management: software restart equipment.

1.10.3 Software Settings

Click the "Software Settings" button, the dialog box shown in Figure 4.3.7 appears. Configure the basic operation and prompt information of the software, click "OK".
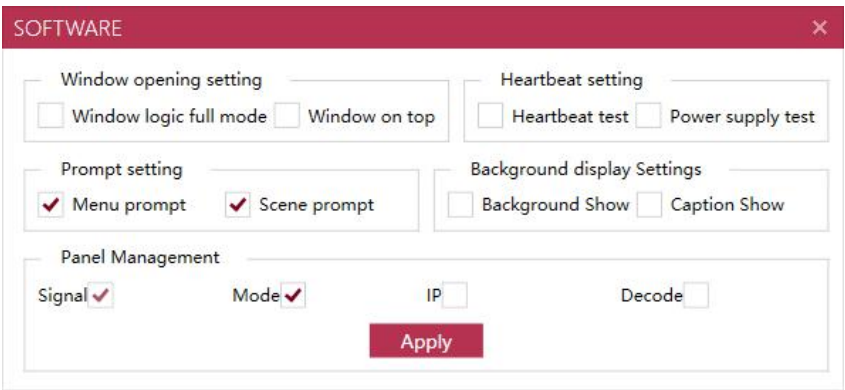
Window setting	Out of the window directly covered with a logical window, open the window can not customize the size
Heartbeat settings	The software sends the heartbeat regularly, and if the detection is broken, the device will be automatically connected
Power detection	Detect power, if the function is turned on, the main power supply and standby power supply will be detected
Level settings	When the function is turned on, the selected window will be top
Prompt setup	When turned on, the mouse moves to the area function that will prompt for instructions
Background display settings	The software interface displays preview of the subtitles and basemap
Panel management	Open / hide input signal, plan mode, network signal, decoding plan interface

1.11 Display management

Click the "Main Functions" tab, the interface shown in Figure 4.4.1 appears.
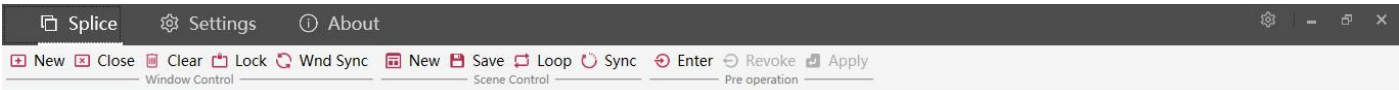
1.11.1 Window operation

- Create a new window

Create a new window on the virtual screen, you can use four ways:

1, from the left side of the software "source list" to select the window of the input source, in the control software virtual screen area, hold down the left mouse button, drag to the bottom right, to the appropriate location after the release of the left mouse button.

2, from the left side of the software "source list", the window directly to the input source with the left mouse button drag to the virtual large screen appropriate area down.

4. Click the "New" icon in the window group to open a single window in the order of the screen. In the "Properties" you can change the position of the window (based on the top-left vertex) and the size of the window. "

5. 1, click on the plan group in the "new" icon in the order of the screen out of the entire screen wall of the single-screen 1-on-1 window or single-screen 1 to 4 window.
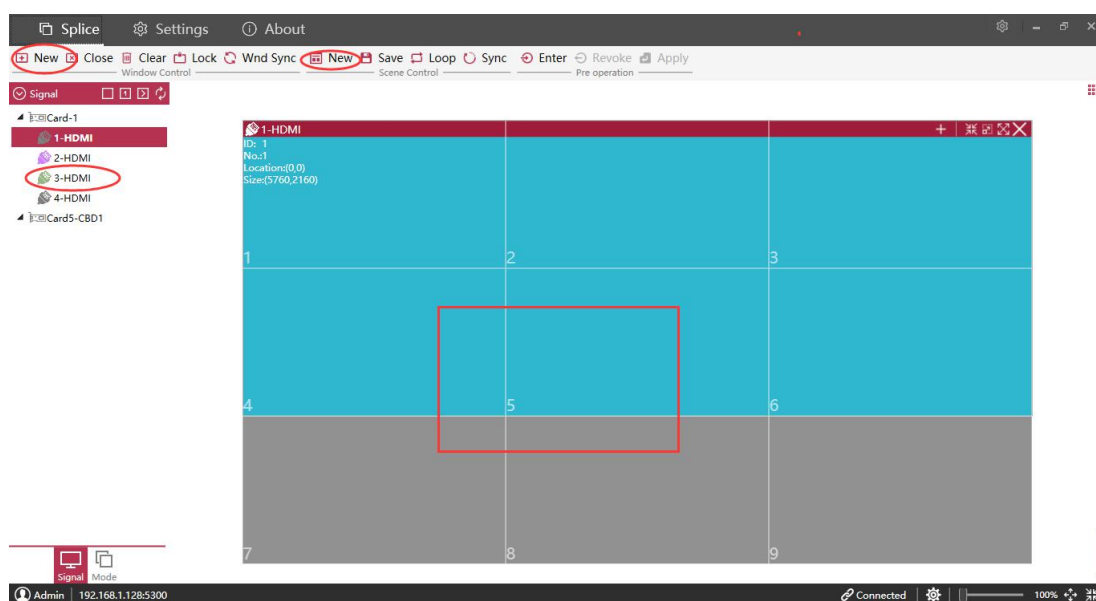
- Window Adjustment

If you want to change the size of the window has been opened and location, you can have the following ways:

1, through the mouse to drag the window. Method: Move the mouse to the bottom right corner of the window, when the mouse becomes "", press the left mouse button, drag the window, to the appropriate size, release the left mouse button. The mouse on the open window, then press the left mouse button, move the mouse, the window will be moved to the appropriate location to release the mouse. But this method can only be a rough adjustment of its size and location, in order to accurately adjust, must pass

the first two ways.

2, the mouse on the window to be adjusted, right-click the mouse. Select "Properties", through the "position" and "length and width" to adjust precisely.

3, double-click the window or click the window at the top right corner of the first button, you can put the window in the closest sub-logic screen full of full screen. Double-click inside the window again to restore the original size.

4, double-click the window title bar or click the window at the top right corner of the second button, you can fill the window full of large logic screen (full screen). Double-click the title bar again to restore the original size.

5, through the right side of the window right-click menu, you can also complete the window zoom, maximize the operation
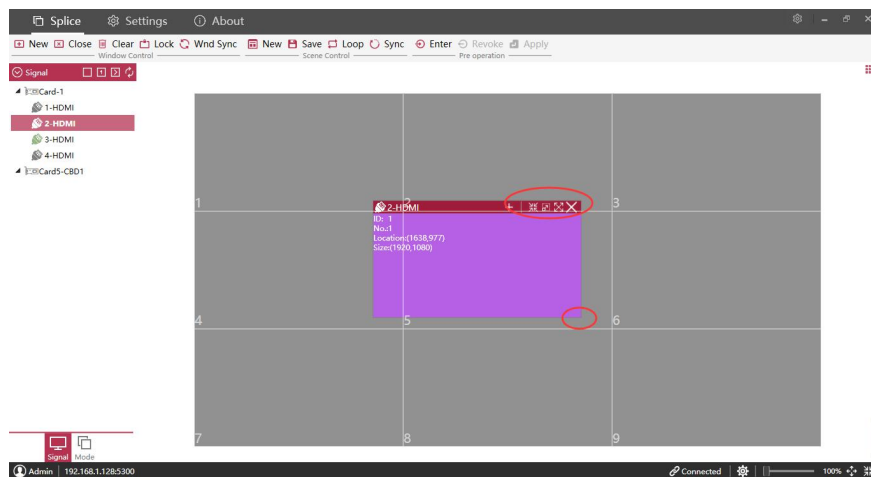
● Window Level

After the window has been created, its hierarchical relationship can be changed by selecting a window, by clicking on the "Top, Bottom, Move Up, Move Down" button on the "Main" or to change the window by right-clicking the menu The hierarchical relationship.
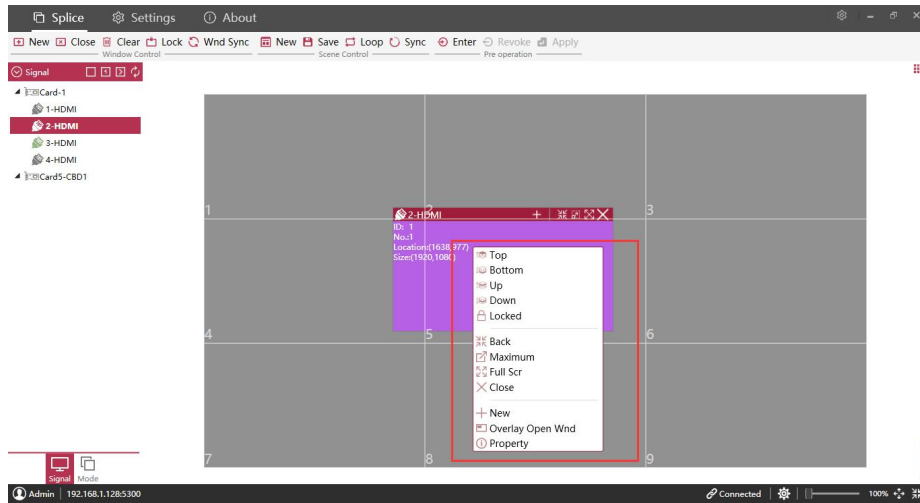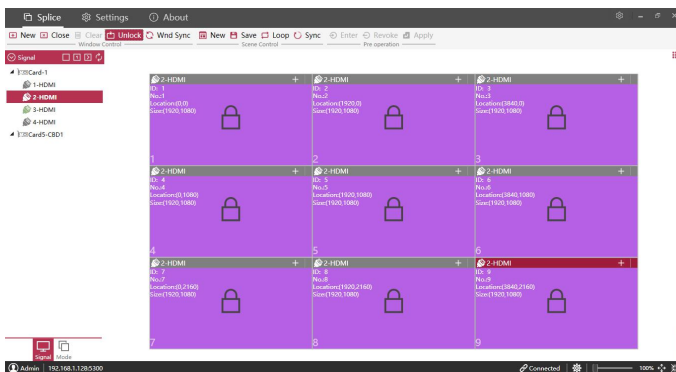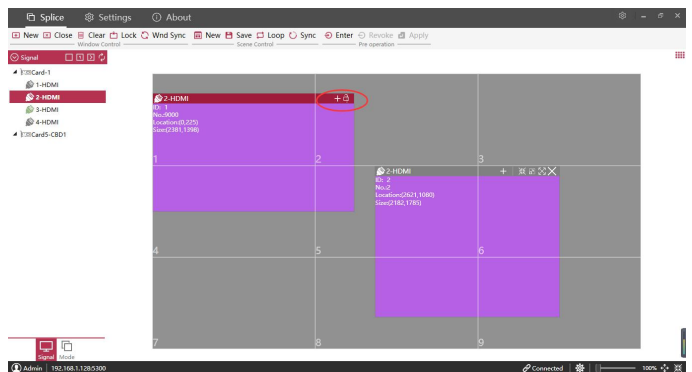
- **Window Close**

  To close a window, you can click the window in the upper right corner of the "X" to achieve;

  To close all the windows, click the Empty icon.

- **Window Lock**

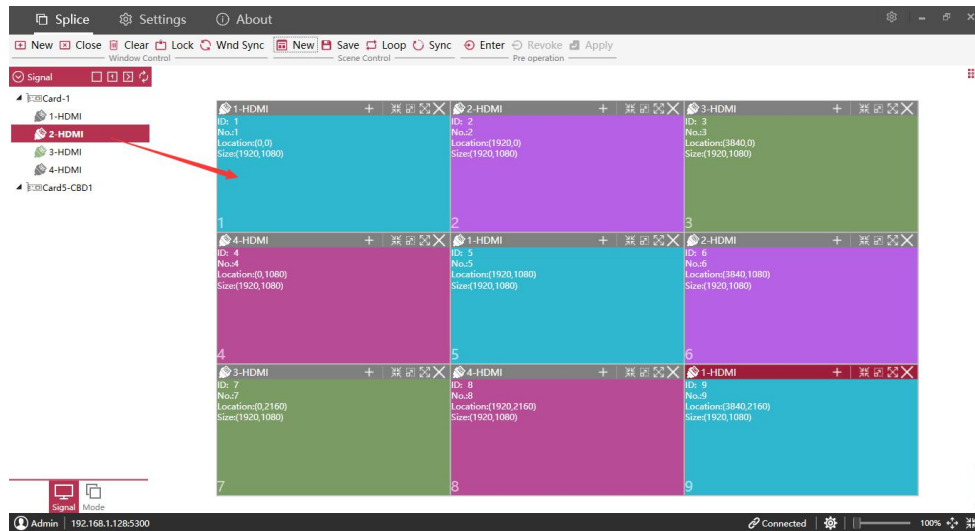 Lock all windows | Lock a single window

- **Window Sync**

Click "Window Sync" in the Ribbon to synchronize the size of the current display window and software simulation window.
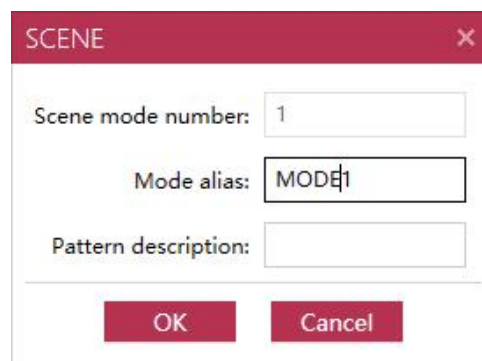
1.11.2 Switch the source

- through the mouse to drag the "input signal" in the signal source, drag to any window in the large screen area for signal switching;

1.11.3 Plan mode

● Preserve the plan, save the location, size, input source and layout of the current window through the preplan group of the function area, or save it in the list mode or thumbnail mode in the plan mode;

● Plan loading, in the plan mode in the list mode or thumbnail mode, directly double-click the corresponding plan to load the saved plan mode; or click the plan shortcut to plan loading.
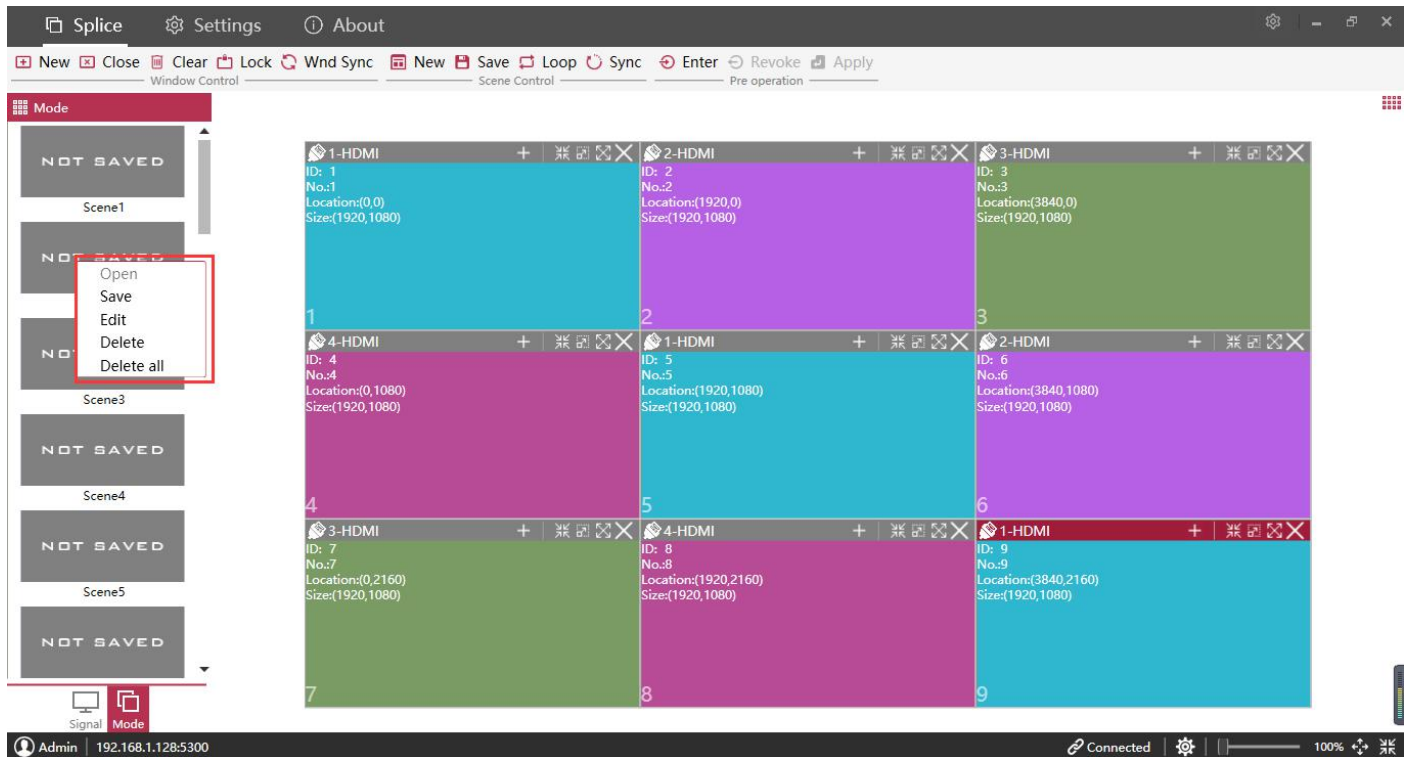
Plan shortcuts
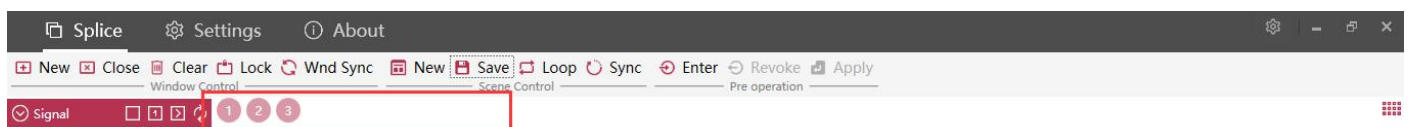
● Plan polling, click on the plan group in the "polling", you can choose to save the plan to open / stop timer switch;
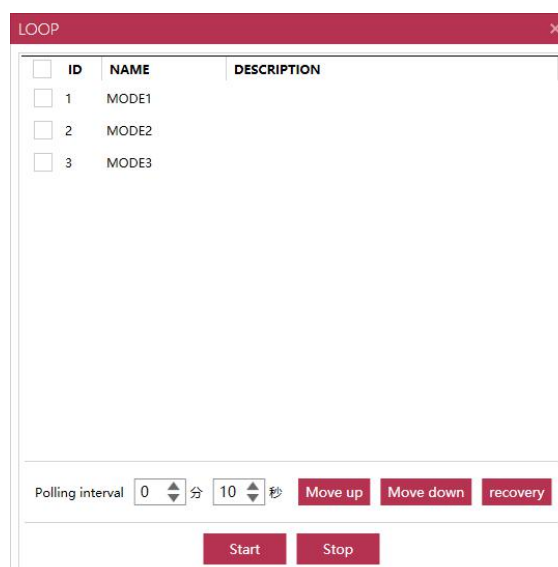
Note: Scheduled polling is done by computer timing switching, the shortest interval of 10s, such as closing the software will stop the program switch.

1.11.4 pre-operation

Click on the pre-operation group in the "entry" can be pre-operation, pre-operation process buzzer will sound but no change in the screen, when the operation is completed, click "load" can be loaded once completed operation window and signal, click " Revocation "will cancel this pre-operation.

1.11.5 view operation

Press the middle mouse button in the large screen operation area to zoom in or out of the large screen operation area. The "Restore" in the function area can restore the display ratio of the large screen operation area to 100%.

1.12 Other Settings

1.12.1 Software settings

● Language settings

Select the language of the software to select the settings, select the corresponding language and click the "language switch" button, pop up the box as shown above, click "OK" button, the software will close the restart, click "Cancel" button, will cancel the language switch
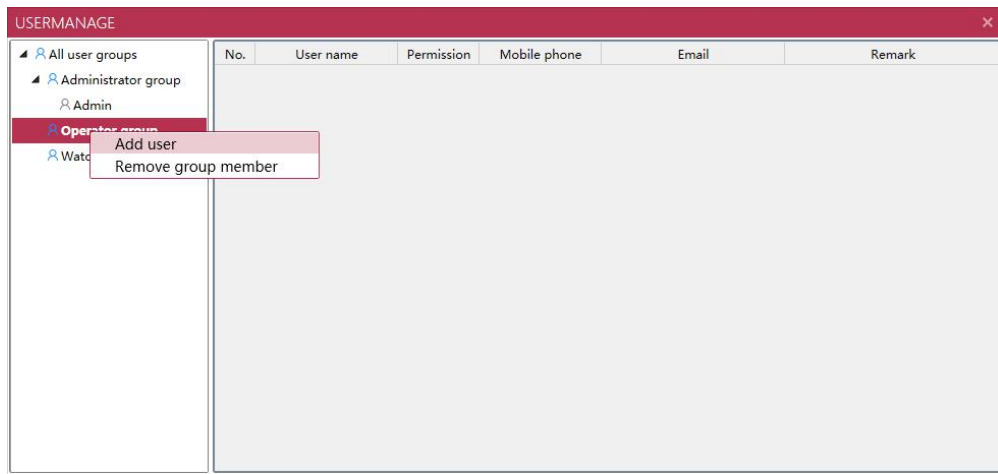

● Style settings

Style settings: The main function is to set the style of the software. In the top right area of the software, click the "triangle" button, and then pop-up style selection box, you can select the style as needed

1.12.1 User Management

● add users

Right-click user in group tree to add user;

● Permission configuration

Select the user, right to add the configuration user permissions;

Chapter 5 Common Fault Analysis and Resolution

1. Install the software can not run Cause:

Possible cause: The client computer lacks the relevant software running support component (Microsoft.NET.exe)

Solution: enter the software installation directory, in the run-time folder, select the corresponding software components to install.

2. If the power supply does not light, the operation does not respond, may be power supply is not normal.

3. The output screen has no reason to display:

1) no signal input;

2) The output line is damaged or is out of transmission distance.

Solution:

1) Check the input signal, confirm the input signal channel is normal, check the port LED light is on;

2) confirm that OUT is connected to the output device, IN is connected to the input device;

3) the use of better quality cable to ensure the stability of the screen and high quality.

4. The screen appears color cast phenomenon reasons:

1) interface is not connected, loose lead to poor contact;

2) signal cable is damaged;

3) display device color adjustment is not correct;

4) The use of software is not correct.

Solution:

1) After connecting the interface, tighten the bolts to prevent loosening due to pulling;

2) Please replace the excellent quality VGA cable;

3) Adjust the color balance of the display device with reference to the instruction manual of the display device;

4) Re-adjust the color by controlling the software.

5. The screen appears to jitter or spend

Reason: 1. The cable is too long lead to serious signal loss;

2. The input signal is unstable or the wire is damaged.

Solution:

It is recommended to use the signal extender to ensure the minimum line loss;

2. Debug the function of the input signal to define and use high-quality wire.

6. The screen appears incomplete in the display device, black edge phenomenon

Reason: 1. Your display device has a back-end cut on the signal;

2. You have adjusted the position of the image too much by controlling the software.

Solution:

According to the display device instructions, in the software to adjust to the default settings;

By controlling the software, re-adjust the location of the image, you need to achieve the desired effect.

This manual explains:

"Multi-screen splicing processor manual" only as a guide to the operation of the user, because the software version is constantly updated, the actual situation will be different from the contents of this manual, the company will be written in accordance with the actual situation in writing.

Thank you for using our multi-screen splicing processor