

# **Product Specification**

**Multi Images  
Splicing Processor  
HD-VP8000E**

V2.0

## Document description

Before using this product, please read this manual carefully and keep it properly for reference. Read the safety operation guide carefully. Note:

 Danger、 Attention

This manual is only used as an instruction for the user's operation, not for maintenance services. The deadline for the described functions is June 24, 2023. If the functions or related parameters are changed after this date, supplementary explanations will be made without prior notice. For details, please check with the dealers.

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This manual takes the rendering of the 20x16 hybrid plug-in multi-image splicing processor as an example. The product pictures are for reference only, please refer to the actual product.

This document applies to the following types of Hybrid plug-in image splicing processors:

No.	Name	Chassis	Max input channels	Max output channels
1	8x12 Hybrid plug-in processor	2U	8	12
2	20x16 Hybrid plug-in processor	3U	20	16
3	36x36 Hybrid plug-in processor	6U	36	36

## Safe Operation Guide

To ensure the reliable use of the equipment and the safety of personnel, please observe the following matters during installation, use and maintenance



### Danger

- There are live parts in the device. Non-professionals are not allowed to disassemble the device without permission to avoid the risk of electric shock.
- Please do not disassemble the device when it is powered on or running to avoid the risk of electric shock.
- Do not operate with wet hands to avoid electric shock.
- It is strictly forbidden to place the product in an environment containing flammable substances, explosive gases or heat sources.



### Attention

- It is strictly forbidden to spill any corrosive chemicals or liquids on or near the device.
- Do not block the heat dissipation holes, and keep the working environment well ventilated, so that the heat generated by the equipment can be discharged in time, so as to avoid damage to the equipment due to excessive temperature.
- Do not place the device on an unstable surface to avoid damage caused by falling of the device.
- In order to prevent the equipment from being damaged by strong vibration during transportation, it is recommended to use appropriate packaging or original packaging during transportation.
- Do not squeeze the power cord and device with heavy objects.
- The equipment must use a power supply with grounding.
- Please do not repair without permission, so as not to aggravate the damage to the device.
- When carrying the equipment, be careful not to drop the equipment to avoid personal injury or equipment damage.
- The main power of the device should be turned off when it is not in use for a long time in a humid environment.
- If the equipment is stored for a long time before use, it must be checked and tested before use.
- Before cleaning the device, the device must be powered off, and please use a dry cloth to clean the device.
- Discarded equipment should be treated as industrial waste, and incineration is

strictly prohibited.

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# 1 Preface

## 1.1 SUMMARY

The Multi-image splicing processor is a hybrid plug-in intelligent image splicing processor, which can display multiple dynamic images on multiple screens to realize the function of multi-window splicing. This product can automatically detect and identify the signal cards type, support DVI, HDMI and other splicing signal cards, plug and play, and support video splicing, control third-party equipment and other functions;

Device controlled methods include: RS232 control and LAN client software control, and support serial port control of remote third-party devices. Using client control software, you can set up various ways of output screen splicing display, input signal OSD setting, scene saving, scene polling, etc.

The Multi-image splicing processor can be widely used in urban security monitoring, intelligent traffic management, video conferencing, large conference centers, large commercial plazas, military command centers, governments, etc.

## 1.2 Features

- Modular design, plug-in structure; using FPGA architecture, no embedded operating system, internal self-built core computing mechanism, excellent image processing performance;
- Support HDMI, DVI, DP, SDI, VGA, CVBS, IP decoding and other input cards, the highest resolution supported is 4Kx2K@60Hz, and arbitrary window opening is supported in a single input source;
- The output supports HDMI and DVI output cards, and supports any resolution output. The 4K output card supports a maximum resolution of 4096x2160@30Hz, the widest support for 4096 pixels, and the maximum support for 3840 pixels; the 2K output card supports a maximum resolution of 1920x1200@60Hz, the width supports 2560 pixels, and the maximum supports 1920 pixels;
- Support 1-channel 4K30Hz / 2-channel 4K@24Hz / 4-channel 1080P@60Hz / 9-channel 1080P@25Hz / 16-channel 720P@25Hz / 32-channel D1 decoding network signal decoding on the wall, support PTZ control;
- Support audio built-in or embedded input, support audio output;
- Signal switching, signal preview, splicing setting, scene calling, scene saving, scene preview, resolution setting, restoring to factory settings, etc. can be realized through the client software;
- Support scene calling, scene polling switching, input and output query, version query, factory reset, brightness setting, fan control, etc through the touch screen;
- Supports arbitrary windowing, overlaying, roaming, zooming, stretching and other

operations on the screen;

- Support high-definition base map display, dynamic subtitle function settings (advanced control card);
- Support input source signal preview and large screen echo function (advanced control card);
- Support multi-user control, the WEB side supports 64 users to control at the same time, the client supports 3 users to control at the same time (advanced control card);
- Support input signal source OSD custom character display function, you can set character font, size, color, transparency, position, etc.;
- Built-in WEB human-computer interaction interface control, humanized design, support computer, mobile phone, Pad and other system control devices, and compatible with a variety of browsers, more convenient operation (advanced control card);
- It can realize signal board connection detection, signal switching, scene calling, scene saving, scene polling, factory reset, etc. (advanced control card) through the WEB user interface.;
- A single output display screen supports up to 8 window displays;
- Up to 4 groups of independent display output screens can be set through the client, and the resolution of each group of output screens can be customized;
- Support the duration of authorization equipment
- With power-off memory function;
- Supports quick replacement of custom front panels.
- Support 128 scenes to save and recall.

## 2 APPEARANCE

### 2.1 Front View

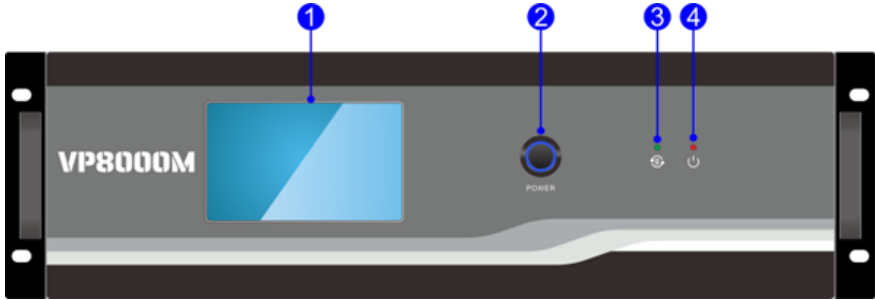


Figure 2-1 Front View

No.	Name	Description
①	Touch screen	<ul style="list-style-type: none"> <li>● Control of Query device through the touch screen</li> </ul>
②	Power switch button	<ul style="list-style-type: none"> <li>● Power On/Off</li> </ul>
③	ACT indicator light	<ul style="list-style-type: none"> <li>● Normal working status: the green indicator light flashes;</li> <li>● Abnormal working status: the indicator light is off or on.</li> </ul>
④	Power Indicator	<ul style="list-style-type: none"> <li>● The normal state of the host is powered on: always on;</li> <li>● Abnormal state when the host is powered on: the indicator light is off.</li> </ul>

## 2.2 Rear View

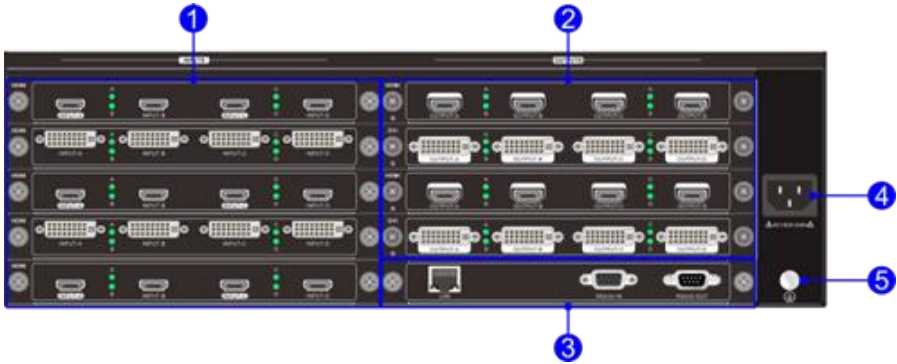


Figure 2-2 Rear View

No.	Name	Description
①	Input Channels	<ul style="list-style-type: none"> <li>● 08x12 Hybrid plug-in processor: Max 8-channel signal input, up to 2 units of quad input cards can be configured</li> <li>● 20x16 Hybrid plug-in processor: Max 20-channel signal input, up to 5 units of quad input cards can be configured</li> <li>● 36x36 Hybrid plug-in processor: Max 36-channel signal input, up to 9 units of quad input cards can be configured</li> </ul>
②	Output Channels	<ul style="list-style-type: none"> <li>● 08x12 Hybrid plug-in processor: Max 12-channel signal output, up to 3 units of quad output cards can be configured</li> <li>● 20x16 Hybrid plug-in processor: Max 16-channel signal output, up to 4 units of quad output cards can be configured</li> <li>● 36x36 Hybrid plug-in processor: Max 36-channel signal output, up to 9 units of quad output cards can be configured</li> </ul>

No.	Name	Description
③	Control Module	Control Board: <ul style="list-style-type: none"> <li>● LAN: 1-way or 2-way network port control processor, connected with control equipment (such as PC), the control of the processor can be realized through the client software</li> <li>● RS232 IN: 1-channel serial input control processor, which is connected with the control device, and can control the processor by sending instructions through the control device;</li> <li>● RS232 OUT: 1-channel serial output, can control third-party devices, connect with third-party devices to support remote third-party devices through control devices</li> </ul>
④	Power terminal	Connect 100-240V AC power supply.
⑤	Ground connection terminal	Connect the ground wire.

 **Explanation:**

- The signal boards inserted in the rear view is for reference only;
- Product pictures are for reference only, please refer to the actual product;
- Ordinary control card has only one network port.

### 3 Signal Input/Output Boards Introduction

The device is compatible with input and output signal boards in HDMI, DVI and other signal formats. The signal cards support hot plugging, plug and play, and can be matched with different input/output signal boards according to the system usage requirements. The following is a summary of the supported cards:

**Signal cards:**

Name	Type of board	Signal Port of board
Quad signal input boards	DVI IN	4-channel DVI input
	HDMI IN	4-channel HDMI input
	SDI IN	4-channel SDI input, 4-channel SDI

		loop out
	VGA IN	4-channel VGA input
	CVBS IN	4-channel CVBS input
Dual signal input cards	4K HDMI IN	Dual 4K HDMI input
	4K DP IN	Dual 4K DP input
Quad signal output boards	DVI OUT	4-channel DVI output
	HDMI OUT	4-channel HDMI output

**Other Type of board:**

Type of board	Control Port
Control board	TCP/IP、RS232

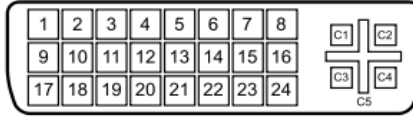
**3.1 Quad Signal Input Board**

**3.1.1 DVI Signal Input Board**

- Port:4 channels DVI input ports
- A,B,C,D Green working status indicator: Represents the working status of the four DVI ports, the indicator is always on after the signal source is connected normally and working normally;
- Support HDMI1.3, Compatible with HDCP;
- Maximum input resolution 1920 x 1200 @60Hz;
- Support HDMI、DVI-D signal formats;
- Automatically identify the input signal format, no need to set manually;
- Single input signal supports arbitrary windows;
- Support the input signal character superposition function, and change the character related attributes through the client software. See the client software operation instructions for related operations
- With embedded EDID management technology, support DDC control
- With power-off save function.



Figure 3-1 DVI IN

**DVI-I Female Port Pinout:**


Pins	Function	Pins	Function
1	T.M.D.S.Data2-	13	No Connect
2	T.M.D.S.Data2+	14	+5V Power
3	T.M.D.S. Data 2 Shield	15	Ground (for +5V)
4	No Connect	16	Hot Plug Detect
5	No Connect	17	T.M.D.S. Data 0 -
6	DDC Clock	18	T.M.D.S. Data 0+
7	DDC Data	19	T.M.D.S. Data 0 Shield
8	No Connect	20	No Connect
9	T.M.D.S.Data1-	21	No Connect
10	T.M.D.S.Data1+	22	T.M.D.S. Clock Shield
11	T.M.D.S.Data1Shield	23	T.M.D. S. Clock+
12	No Connect -	24	T.M.D.S .Clock-

**3.1.2 HDMI Signal Input Board**

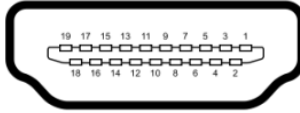
- Port: 4 channels HDMI input port;
- A,B,C,D Green working status indicator: Represents the working status of the four HDMI ports, the indicator is always on after the signal source is connected normally and working normally;
- Support HDMI、DVI-D signal formats;
- Support HDMI, Compatible with HDCP;
- Maximum input resolution 1920x1200 @60Hz;
- Single input signal supports arbitrary windows;
- Support the input signal character superposition function, and change the character related attributes through the client software. See the client software operation instructions for related operations
- With embedded EDID management technology, support DDC control
- With power-off save function.





Figure 3-2 HDMI IN

**Type A Female Connector Pin Description:**



Pins	Signal name	Pins	Signal name
1	TMDS Data 2+	11	TMDS Clock Shield
2	TMDS Data 2 Shield	12	TMDS Clock-
3	TMDS Data 2-	13	CEC
4	TMDS Data 1+	14	N.C.
5	TMDS Data 1 Shield	15	SCL
6	TMDS Data 1-	16	SDA
7	TMDS Data 0+	17	DDC/CEC Ground
8	TMDS Data 0 Shield	18	+5V Power
9	TMDS Data 0-	19	Hot Plug Detect
10	TMDS Clock+		

**3.1.3 DVI Audio/Video Signal Input Board**

- Port:4 channels DVI input ports, support HDMI format built-in audio input;
- A,B,C,D Green working status indicator: Represents the working status of the four DVI ports, the indicator is always on after the signal source is connected normally and working normally;
- Support HDMI1.3, Compatible with HDCP1.4;
- Maximum input resolution 1920 x 1200 @60Hz;
- Support HDMI、DVI-D signal formats;
- Automatically identify the input signal format, no need to set manually;
- Single input signal supports arbitrary windows;
- Support the input signal character superposition function, and change the character related attributes through the client software. See the client software operation instructions for related operations

- With embedded EDID management technology, support DDC control
- With power-off save function.



Figure 3-3 DVI IN

### 3.1.4 HDMI Audio/Video Signal Input Board

- Port: 4 channels HDMI input ports, 4 channels 3pin audio input;
- A,B,C,D Green working status indicator: Represents the working status of the four DVI ports, the indicator is always on after the signal source is connected normally and working normally;
- Support HDMI、DVI-D signal formats;
- Support built-in audio input, support audio embedded input;
- Support HDMI1.3, Compatible with HDCP1.4;
- Maximum input resolution 1920 x 1200 @60Hz;
- Single input signal supports arbitrary windows;
- Support the input signal character superposition function, and change the character related attributes through the client software. See the client software operation instructions for related operations
- With embedded EDID management technology, support DDC control
- With power-off save function.

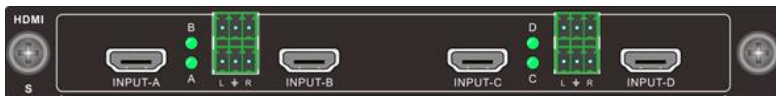


Figure 3-4 HDMI IN

### 3.1.5 SDI Signal Input Board

- Port: 4 channels SDI input ports, Each channel has one SDI loop out;
- SDI input supports loop-out and local signal monitoring
- Support SDI signal format;
- Maximum input resolution 1920x1080P @60Hz;
- The maximum distance of input and output signal transmission is 100m;
- Support the input signal character superposition function, and change the

character related attributes through the client software. See the client software operation instructions for related operations

- With embedded EDID management technology, support DDC control
- With power-off save function.



Figure 3-5 SDI IN

### 3.1.6 CVBS Signal Input Board

- Port: 4 channels CVBS input ports;
- A,B,C,D Green working status indicator: Represents the working status of the four CVBS ports, the indicator is always on after the signal source is connected normally and working normally;
- Support CVBS signal format;
- Adaptive PAL and NTSC formats;
- Support Resolution PAL: 720x576I, NTSC: 720x480I;
- Single input signal supports arbitrary windows;
- Support the input signal character superposition function, and change the character related attributes through the client software. See the client software operation instructions for related operations
- With power-off save function.



Figure 3-6 CVBS IN

### 3.1.7 VGA Signal Input Board

- Port: 4 channel VGA input ports;
- A,B,C,D Green working status indicator: Represents the working status of the four VGA ports, the indicator is always on after the signal source is connected normally and working normally;
- Support VGA signal format;
- Maximum input resolution 1920x1080P @60Hz;
- Single input signal supports arbitrary windows;
- Support the input signal character superposition function, and change the

character related attributes through the client software. See the client software operation instructions for related operations

- With power-off save function.

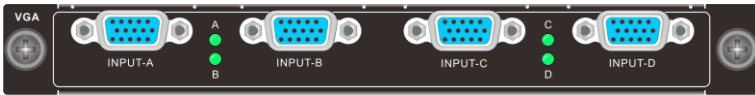


Figure 3-7 VGA IN

## 3.2 Dual Signal Input Board

### 3.2.1 4K@30Hz HDMI Signal input board

- Port: 2 channels HDMI input ports;
- A,B Green working status indicator: Represents the working status of the two HDMI ports, the indicator is always on after the signal source is connected normally and working normally;
- Support HDMI、DVI-D signal format;
- Support HDMI, Compatible with HDCP;
- Maximum input resolution 3840x2160 @30Hz;
- Single input signal supports arbitrary windows;
- Support the input signal character superposition function, and change the character related attributes through the client software. See the client software operation instructions for related operations
- With embedded EDID management technology, support DDC control
- With power-off save function.



Figure 3-3 4K@30Hz HDMI IN

### 3.2.2 4K@30Hz DP Signal Input Board

- Port: 2 channel DP input ports;
- A,B Green working status indicator: Represents the working status of the two DP ports, the indicator is always on after the signal source is connected normally and working normally;
- Support DP1.1, Compatible with HDCP;

- Maximum input resolution 3840x2160 @30Hz;
- Single input signal supports arbitrary windows;
- Support the input signal character superposition function, and change the character related attributes through the client software. See the client software operation instructions for related operations
- With embedded EDID management technology, support DDC control
- With power-off save function.



Figure 3-9 4K@30Hz DP IN

### 3.2.3 4K@60Hz HDMI/DP Signal Input Board

- Port: 1 channel HDMI input ports, 1 channel DP input port(Choose one of the two, simultaneously access priority HDMI);
- A,B Green working status indicator: Represents the working status of HDMI port and DP port respectively, the indicator is always on after the signal source is connected normally and working normally;
- Support HDMI2.0,SupportDP1.2, Compatible with HDCP;
- Maximum input resolution 3840x2160 @0Hz;
- Single input signal supports arbitrary windows;
- Support the input signal character superposition function, and change the character related attributes through the client software. See the client software operation instructions for related operations;
- With embedded EDID management technology, support DDC control;
- With power-off save function.



Figure 3-10 4K@60Hz HDMI/DP IN

### 3.2.4 IP Decoding Signal Input Board

- Port: 1 set of RJ45 stream input, 1 HDMI input port;
- Support 1 channel 4K30Hz / 2 channels 4K@24Hz / 4 channels 1080P@60Hz / 9 channels 1080P@25Hz / 16 channels 720P@25Hz / 32 channels D1 decoding network signal decoding to the wall;

- Support 1 HDMI input, the highest input resolution is 1920x1200 @60Hz;
- Support multiple screen split modes, 1 screen, 4 screens, 9 screens, 16 screens and custom splits;
- Support ONVIF, RTSP, H.264, H.265 and other network streaming media protocols;
- Support the control of the camera pan/tilt, and control the rotation direction of the network camera;
- Status of the IP port indicator light: red is the power indicator light, which is always on after power on; green is the running indicator light, which flashes when it is working normally;
- Support the access function of network cameras of mainstream manufacturers in the market (Hikvision, Dahua, etc.);
- With power-off save function.

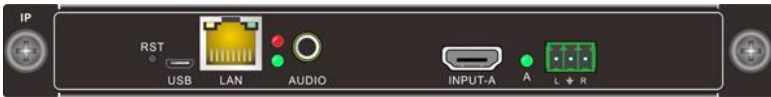


Figure 3-11 IP Decoding /HDMI IN

## 3.3 Quad Signal Output Board

### 3.3.1 DVI Signal output board

- Output: 4 channels DVI output ports;
- A,B,C,D Green working status indicator: Represents the working status of the four DVI ports, the indicator is always on after the signal source is connected normally and working normally;
- Maximum input resolution 1920x1200 @60Hz, and supports custom output resolution;
- Output ports support DVI and HDMI signal formats;
- The output screen supports Splicing, Splitting, Overlying, Scaling, Stretching, Cutting, PIP, Roaming and other formats; ;
- Output an external single display to support the display of up to 2 windows;
- Specially, when 4 output ports are used at the same time, A and B channels or C and D channels are bundled in the same grouped output splicing screen;
- With power-off memory function.



Figure 3-12 DVI OUT

### 3.3.2 HDMI Signal Output Board

- Output: 4 channels HDMI output port;
- A,B,C,D Green working status indicator: Represents the working status of the four HDMI ports, the indicator is always on after the signal source is connected normally and working normally;
- Maximum input resolution 1920x1200 @60Hz, and supports custom output resolution;
- Output ports support DVI and HDMI signal formats;
- The output screen supports Splicing, Splitting, Overlaying, Scaling, Stretching, Cutting, PIP, Roaming and other formats; ;
- Output an external single display to support the display of up to 2 windows;
- Specially, when 4 output ports are used at the same time, A and B channels or C and D channels are bundled in the same grouped output splicing screen;
- With power-off memory function.



Figure 3-13 HDMI OUT

### 3.3.3 AUDIO Signal Output Board

- Output: 4 channels PCM audio output port;
- Support setting independent audio switching or setting binding video wall and video synchronous switching;
- With power-off memory function.



Figure 3-14 AUDIO OUT

## 3.4 Two Signal Output Board

### 3.4.1 DVI Signal output board

- Output: 2-channels DVI output port, 2-channels DVI loop-out port;
- A,B,C,D Green working status indicator: Represents the working status of the two DVI ports, the indicator is always on after the signal source is connected normally and working normally;
- Maximum input resolution 1920x1200 @60Hz, and supports custom output resolution;
- Output ports support DVI and HDMI signal formats;
- The output screen supports Splicing, Splitting, Overlaying, Scaling, Stretching, Cutting, PIP, Roaming and other formats; ;
- Output an external single display to support the display of up to 4 windows;
- With power-off memory function.



Figure 3-15 DVI OUT

### 3.4.2 HDMI Signal output board

- Output: 2 channels HDMI output ports and 2 channels DVI loop-out ports;
- A,B Green working status indicator: Represents the working status of the two HDMI ports, the indicator is always on after the signal source is connected normally and working normally;
- Maximum input resolution 1920x1200 @60Hz, and supports custom output resolution;
- Output ports support DVI and HDMI signal formats;
- The output screen supports Splicing, Splitting, Overlaying, Scaling, Stretching, Cutting, PIP, Roaming and other formats; ;
- Output an external single display to support the display of up to 4 windows;
- With power-off memory function.



Figure 3-16 HDMI OUT



### 3.4.3 4K@30 Signal output board

- Output: 2 channels HDMI output ports;
- A,B Green working status indicator: Represents the working status of HDMI port, the indicator is always on after the signal source is connected normally and working normally;
- Support HDMI1.4, Compatible with DVI-D signal format;
- Maximum input resolution 4096x2160 @30Hz;
- Support custom output resolution;
- Output ports support DVI and HDMI signal formats;
- The output screen supports Splicing, Splitting, Overlaying, Scaling, Stretching, Cutting, PIP, Roaming and other formats;;
- Output an external single display to support the display of up to 2 windows;
- With power-off memory function.

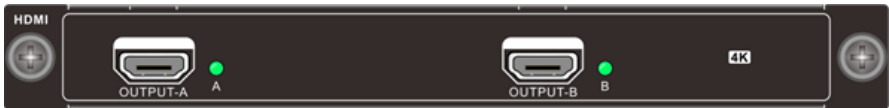


Figure 3-17 4K@30 HDMI OUT

## 3.5 One Signal output Board

### 3.5.1 DVI Signal output board

- Output: 1 channel DVI output port(The board A output port outputs images, and the B, C, and D ports have no function);
- Green working status indicator: Represents the working status of the ports, the indicator is always on after the signal source is connected normally and working normally;
- Maximum input resolution 1920x1200 @60Hz;
- Support custom output resolution;
- Output ports support DVI and HDMI signal formats;
- The output screen supports Splicing, Splitting, Overlaying, Scaling, Stretching, Cutting, PIP, Roaming and other formats;;
- Output an external single display to support the display of up to 8 windows;

- With power-off memory function.



Figure 3-18 DVI OUT

### 3.5.2 HDMI Signal output board

- Output: 4 channel DVI output port(The board A output port outputs images, and the B, C, and D ports have no function);
- Green working status indicator: Represents the working status of the ports, the indicator is always on after the signal source is connected normally and working normally;
- Maximum input resolution 1920x1200 @60Hz;
- Support custom output resolution;
- Output ports support DVI and HDMI signal formats;
- The output screen supports Splicing, Splitting, Overlaying, Scaling, Stretching, Cutting, PIP, Roaming and other formats; ;
- Output an external single display to support the display of up to 8 windows;
- With power-off memory function.



Figure 3-19 HDMI OUT

### 3.6 Multi-Function Output Board

- With 1 RS485, 1 RS232, 1 IR IN, 1 IR OUT, 2 IO interfaces, 1 RJ45 port, 1 RST reset button, 1 power indicator light;
- Support RS485 and RS232 transceiver, the default baud rate is 9600, support 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200;
- Support 2 channels 5V I/O port.
- Support infrared learning and infrared emission;
- Support to reset the device by button, the factory default IP is 192.168.0.168, port number 4001;
- Through the host computer configuration, it has the functions of network to serial

port, serial port to network, network to network, IO to network string, infrared control, infrared learning and so on.



Figure 3-20 Multi-Function Output Board

## 3.7 Control Card

### 3.7.1 Ordinary Control Card

- 1 channel LAN port, 2 channels RS232 ports;
- Support client software control and serial RS232 instruction control
- Supports control of third-party devices through RS232 OUT port
- Factory default device IP: 192.168.0.178; port number: 4001;
- Baud Rate: 115200;



Figure 3-21 Ordinary Control Card

### 3.7.2 Ordinary Control Card

- 2 channel LAN port, 2 channels RS232 ports;
- Support client software control, Web page control and serial RS232 instruction control;
- Supports control of third-party devices through RS232 OUT port;
- Support high-definition base map display, dynamic subtitle function setting;
- Support input source signal preview, large screen image echo function;
- WEB human-computer interaction interface control;
- Support Multi-user control;
- Factory default device IP: 192.168.0.178; port number: 4001;
- Baud Rate: 115200;



Figure 3-22 Advanced Control Card

## 4 System Connection

### 4.1 Precautions

1. The system installation and use environment should be kept clean, with proper temperature and humidity, and well ventilated;
2. All power switches, plugs, sockets and power cords of equipment in the system must be insulated and safe;
3. Connect peripherals and finally power up the system.

### 4.2 Connection Configuration Diagram

This article takes the 20x16 hybrid card processor device as an example. The system connection diagram is as follows:

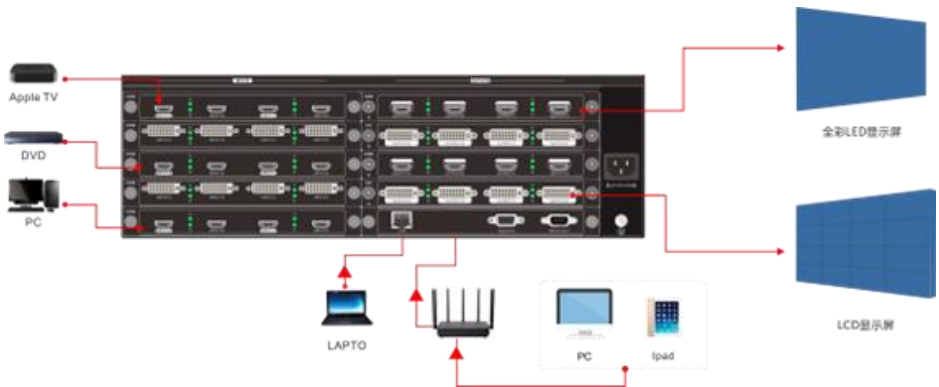


Figure 4-1 System connection diagram

The first connection configuration steps are as follows:

- Step1: Correctly install the required board in the back slot of the splicing processor device;
- Step2: Connect the required input signal source device to the input port of the input board;
- Step3: Connect the splicing screens to the video output port of the output board;
- Step4: The splicing processor supports two control methods: RS232 serial port and LAN network port. Connect the serial port or network port of the control

device (such as a PC) to the "RS232 IN" port or network port of the machine, and control the machine through Splicing client software or serial port commands. For details, please refer to [5 RS232 Control](#) and [6 Client terminal software control](#).

Step5: Connect the power input port to the 100V~240V AC power supply, and connect the ground wire connection end

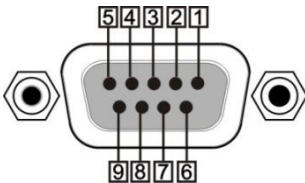
Step6: Open the control software, select the control method (network port or serial port control) in "Communication Settings" on the main interface, and return to the main interface to connect the device;

Step7: Enter the splicing settings and set the output parameters (number of groups, screen rows and columns, edge spacing, output resolution, etc.);

Step8: Enter the screen settings, map the output ports to the corresponding groups, and adjust the screen order.

**Explanation:**

- Serial port control method: the control device PC must be connected to the "**RS232 IN**" port to control the machine or third-party devices, but not the "**RS232 OUT**" port; the RS232 port of the machine is a 9PIN female connector, and the pin description is as follows



PIN	Name	Function
1	N/u	null
2	Tx	send
3	Rx	Receiver
4	N/u	null
5	Gnd	Gnd
6	N/u	null
7	N/u	null
8	N/u	null
9	N/u	null

- Network port control method: The factory default IP address of the splicing processor is: 192.168.0.178, and the port number is 4001. Make sure that the PC and the device are in the same network segment, and then the device can be controlled. Modify the method of controlling the PC network segment: "Network" → "Properties" → "Local Area Connection" → "Properties" → "Internet Protocol Version 4 (TCP/IP4)" → "Set IP Address to "0" Network Segment (as shown in the

figure) " → "Save";

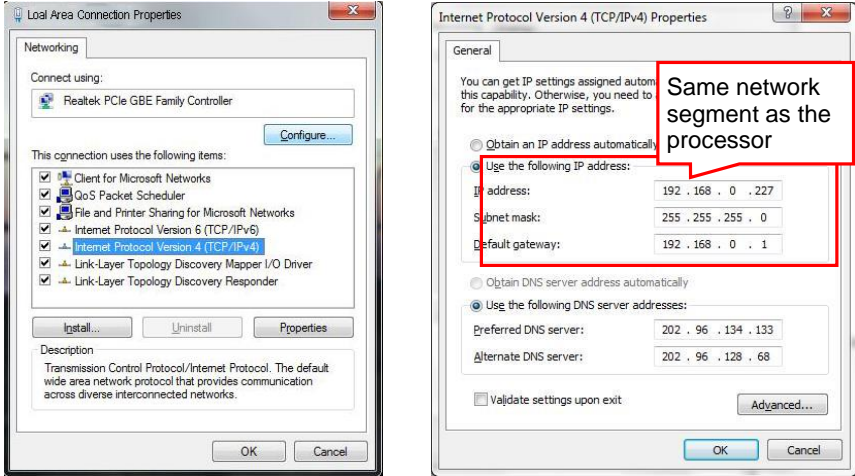


Figure4-2 Change IP

- The system uses twisted pair, it is recommended to use the shielded universal T568B straight-through twisted pair to reduce interference;
- After the device is powered on, the display is in the standby state before the splicing screen mapping relationship is not set;
- This picture is for reference only, customers can build the application system according to actual needs.

### 4.3 Controlling Third-Party Devices

Connect the serial port of the control device (such as a PC) to the "RS232 IN" port of the splicing processor or connect the network port of the control device to the "LAN" port of the splicing processor, and then use the RS232 serial cable to connect the remote third-party. The device control serial port is connected to the "RS232 OUT" port of the splicing processor. Open and connect the client control software, and send third-party device control commands through the client peripheral control interface to control third-party devices. The system connection diagram is as follows:

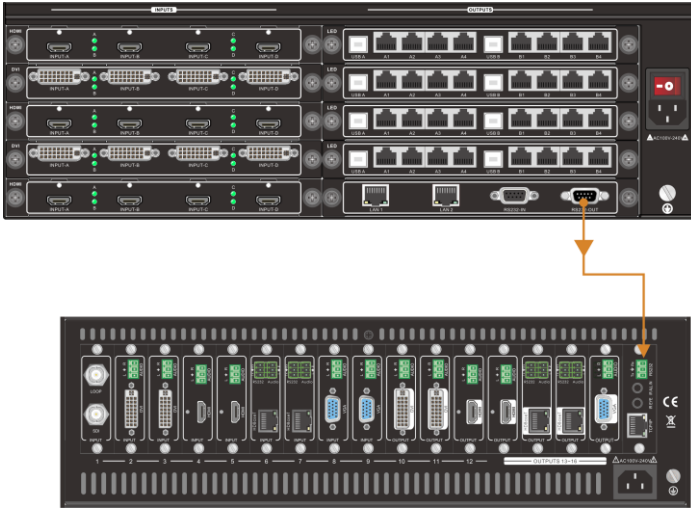


Figure4-3 Controlling Third-Party Device Connection Diagram

## 5 Touch Screen Control

This machine adopts 5-inch capacitive touch screen, which provides users with the most convenient, intuitive and natural human-computer interaction operation, including equipment information monitoring interface, scene call menu interface, scene information menu interface, and equipment information menu interface. Users can Control or query the machine through the touch screen menu.

### 5.1 Home Menu

After the device is powered on, the touch screen automatically enters the "Home Menu". Supports screen lock, device IP display, device name remarks, and various function interface jumps. As shown below:



Figure 5-1 Home Menu

**Screen lock:** Click to lock the screen to avoid accidental touch;

**Screen unlock:** click the unlock button three times within 3 seconds;

**IP address:** display the current device IP address;

**Device name:** Click to customize the input device information;

**Scene management:** click to jump to the scene management interface;

**Device management:** click to jump to the device management interface;

**Settings:** click to jump to the settings interface;

**Language:** Click to jump to the language switching interface;

**About:** Click to jump to the about interface.

## 5.2 Scenario Management Menu

Click the " Scenario Management " menu on the homepage to enter the scene management page, which supports 32 groups of scene calls and scene polling switches. As shown below:

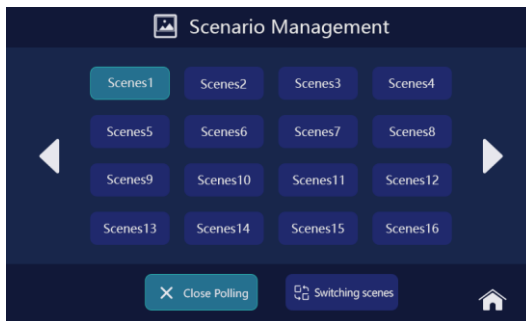


Figure 5-2 Scenario Management

**Scene calling:** select the scene to be switched, and click the "Switch Scene" button to realize scene call;

**Scene polling/closing polling:** After saving the scene polling parameters through the client software, click "Start polling" to start polling, and click "Close polling" to stop polling;

**Scene name:** The scene name can be modified when saving the scene through the client. The touch screen supports displaying up to 8 characters (4 Chinese characters).

## 5.3 Equipment Management Menu

Click the " Equipment Management" menu on the home page to enter the device management page, which supports monitoring of device input and output status. As



shown below:



Figure 5-3 Equipment Management

**Input status monitoring:** Real-time monitoring of the connection status of the input device, when the corresponding icon of the channel lights up, it indicates that the channel has a normal signal input;

**Output status monitoring:** monitor the output mapping status in real time, when the corresponding icon of the channel lights up, it indicates that the channel is enabled, and the mapping output is sent to the display;

## 5.4 Settings

Click the "Settings" menu on the home page to enter the system setting page, which supports setting touch screen brightness adjustment, fan speed adjustment, touch screen buzzer switch and factory reset. As shown below:

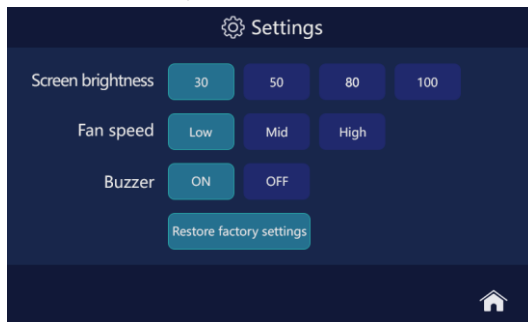


Figure5-4 Settingm

**Screen brightness:** set the touch screen brightness to 30/50/80/100 scale adjustment;

**Fan speed:** set the fan speed gear of the device;

**Buzzer:** Set the button sound of the touch screen. When it is set to "on", there will be a sound prompt when operating the touch screen; when it is set to "off", there will be no

sound prompt when operating the touch screen;

**Restore factory settings:** restore the device to the factory state; after restoring the factory settings, all operating data will be cleared, and the device IP address will be restored to the default 192.168.0.178.

## 5.5 Language

Click the "Language" menu on the home page to enter the language setting page, as shown in the figure below, which supports setting the Chinese/English language mode.

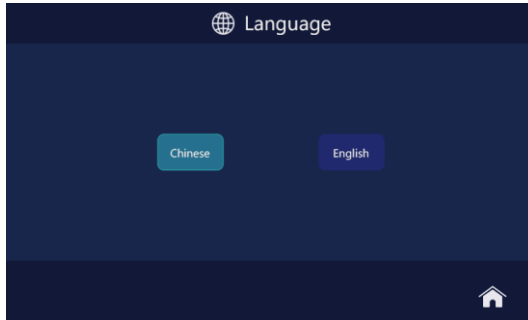


Figure 5-2 Language

## 5.6 About

Click the "About" menu on the home page to enter the About page, which supports querying device version information, as shown below:



Figure 5-3 About

# 6 RS232 Control

## 6.1 Serial port control software settings

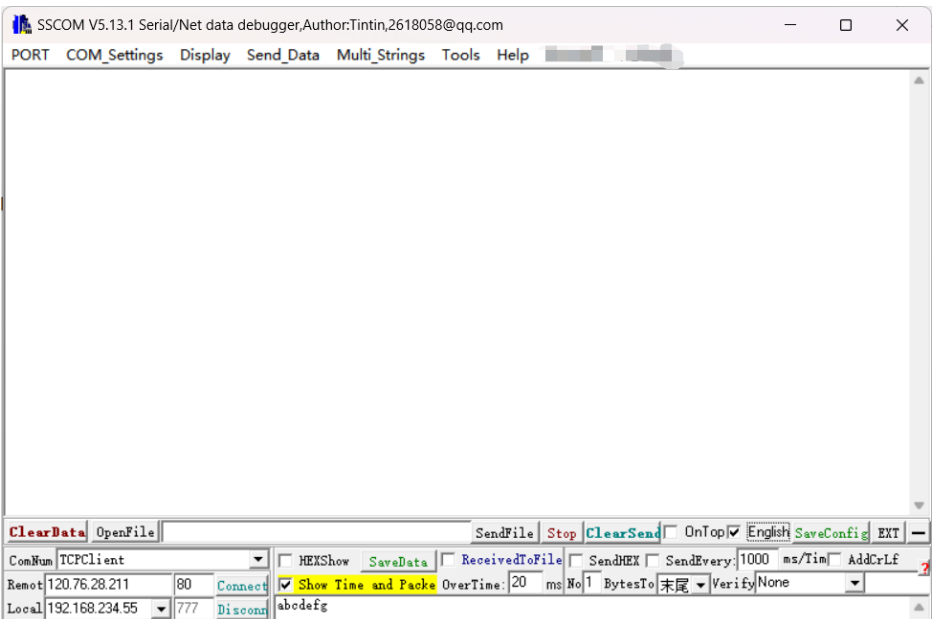
This machine supports serial port control. Use the RS232 cable to connect the serial communication port of the computer with the RS232 communication port of the machine. After opening the serial port software, the serial port control of the machine can be realized. This serial port control software takes SSCOM32 as an example to illustrate.

Double-click the software running icon (as shown below) to open the RS232 software.



Figure 6-1 running icon

Enter the main interface of the software, as shown in the following figure:



In the parameter configuration area, correctly fill in the serial port number connected to the PC, the baud rate, data bit, stop bit, and check bit of the communication protocol, then you can enter commands in the command input area to control the splicing processor.

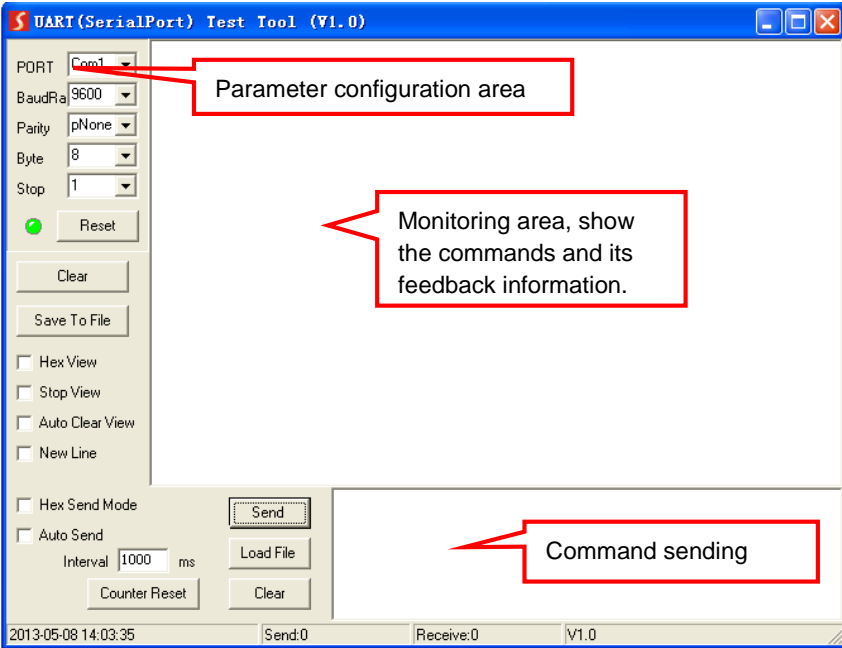


Figure 5-2 PC Serial Control Interface

## 6.2 RS232 INSTRUCTION

### 6.2.1 Equipment query and operation instructions

**Protocol:** Baud Rate: 115200 Data bit: 8 Stop bits: 1 Check Bit: none

RS232 instruction	Function description	Instruction demo:
		Return Code:
(info,dev)\r\n	Query device information	(info,dev)\r\n

RS232 instruction	Function description	Instruction demo:
		Return Code:
		"type": "LCD-36*36", (Model) "icard num": 2, (Input card quantity) "iport num": 4, (Number of ports per board) "ocard num": 3, (Output card quantity) "oport num": 4, (Number of ports on each board) "layer num": 2, (number of layers) "fan speed": 1 (Fan speed)
(ip)\r\n	Query device IP	(ip)\r\n "ip": "192.168.0.174", "mac": "00-00-00-00-01-03", "mask": "255.255.255.0", "gac": "192.168.0.1", "port": 4001
(mip,ip,)\r\n	Modify the network connection IP address ip: IP address	(mip,192.168.0.173)\r\n "msg": "ok", "data": "(mip,192.168.0.173)\r\n"
(scene , save ,group,ld,scene_name)\r\n	save scene group: The sequence number of the group to save(1~4) ld: scene number(1~128) scene_name: Scene name, up to 20 characters	(scene,save,1,8,Scene88)\r\n "msg": "ok", "data": "(scene,save,1,8,Scene88)\r\n"
(scene , call ,ld)\r\n	Calling the scene.	(scene,call,1)\r\n

RS232 instruction	Function description	Instruction demo:
		Return Code:
	Id: Scene number (1~128)	"msg": "ok", "data": "(scene,call,1)\r\n"
(args , rotate,group,period, s1,...sn)\r\n	Set the scene polling interval group: The group sequence number of the scene to be polled(1~4) period: Polling time (5 ~ 120 seconds) s1,...sn: Scene number (multiple such as: 1, 3, 4, etc.)	(args,rotate,1,7,9,10)\r\n  "msg": "ok", "data": "(args,rotate,1,7,9,10)\r\n"
(scene , rotate,group, en)\r\n	Switch scene polling group: The grouping sequence number of the scene to poll (1~4) en: Switch (1 is on, 0 is off)	(scene,rotate,1,1)\r\n  "msg": "ok", "data": "(scene,rotate,1,1)\r\n "
(wnd ,	Switch the input signal source	(wnd,ichg,3,1,0)\r\n

RS232 instruction	Function description	Instruction demo:
		Return Code:
ichg,a,b,c)\r\n	of the specified window a to input b a: Window ID b: Input channel c: Window cropping scheme, the data saved by the host computer settings 0: No crop window 1: Cropping Scheme One Windows 2: Cropping Scheme Dual Windows 3: Cropping Scheme Triple Windows 4: Cropping Scheme Quad Windows	"msg": "ok", "data": "(wnd,ichg,3,1,0)\r\n"
(out,capdisp,group,sta)\r\n	Subtitles used to switch different groups out, capdisp: subtitles group: group number sta: 0 off 1 on	"msg": "ok", "data": "(out,capdisp,1,1)\r\n"
(CLEAR)\r\n	Restore Factory	"msg": "ok", "data": "(CLEAR)\r\n"

### 6.2.2 Audio instructions

RS232 instruction	Function Description	Instruction example:
		Return code:
(in,audio,choose,ch,value)\r\n	Input audio embedded, external embedded mode selection in,audio,choose: input audio mode setting ch: input channel value: 1 means embedded, 0 means embedded	(in,audio,choose,1,0)\r\n
(out,audio,mode,value)\r\n	Output audio splicing mode, independent mode selection out, audio, mode: output mode setting value: 1 means stitching mode, 0 means independent mode	(out,audio,mode,1)\r\n
(out,audio,analog,ch,value)\r\n	Single output channel audio switch selection out, audio, analog: output channel switch ch: output channel value: 0 means on, 1 means off	(out,audio,analog,1,1)\r\n
(out,audio,volume,ch,value)\r\n	Output channel volume adjustment out, audio, volume: output volume selection ch: output channel value: volume value, 0<value<60	(out,audio,volume,1,50) \r\n
(out,audio,grpbing,ch,group)\r\n	Select splicing group for audio output channel in splicing mode out,audio,grpbing: Select the output channel group ch: output channel group:Splice grouping, 1≤group≤4	(out,audio,grpbing,1,2)\r\n



(audio,in,out)\r\n	Single input audio Switches single output audio audio: Audio switching in: incoming channel out: output channel	(audio,1,2) \r\n
(audio,in,a)\r\n	Single input switchable to all channel outputs audio: audio switching in: input channel a: all output channels	(audio,1,a)
(out,audio,mute,1)\r\n	Turn off all output sound	(out,audio,mute,1)
(out,audio,mute,0)\r\n	Turn on all output sounds	(out,audio,mute,0)
(audsce,save,num)\r\n	Audio scene save Num: scene number 1~5	
(audsce,call,num)	Audio Scene Call Num: scene number 1~5	
(audsce,del,num)	Scene deletion Num: scene number 1~5	

## 7 Introduction to Client Software Control

### 7.1 Log in

The default software initial account is: "admin", and the default password is "admin". For the first login, select the default user name to log in, as shown in the figure below. If you need to modify the user name and password, please refer to [7.6.4 System Management—User Management](#).

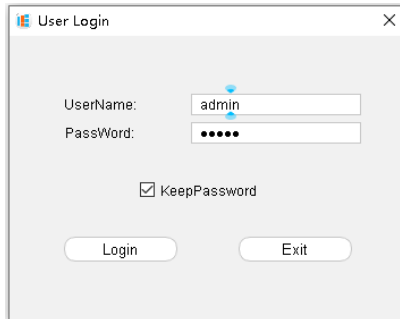


Figure7-1 Login Interface

## 7.2 Input signal setting

Input list area: When there is a signal input, the device icon will light up, otherwise it will be gray. When the mouse selects the input signal source and right-clicks, it can support OSD settings, EDID settings, cropping, renaming and properties.

## 7.3 Software main interface introduction

After the software is logged in and connected, it will enter the main interface, as shown below:

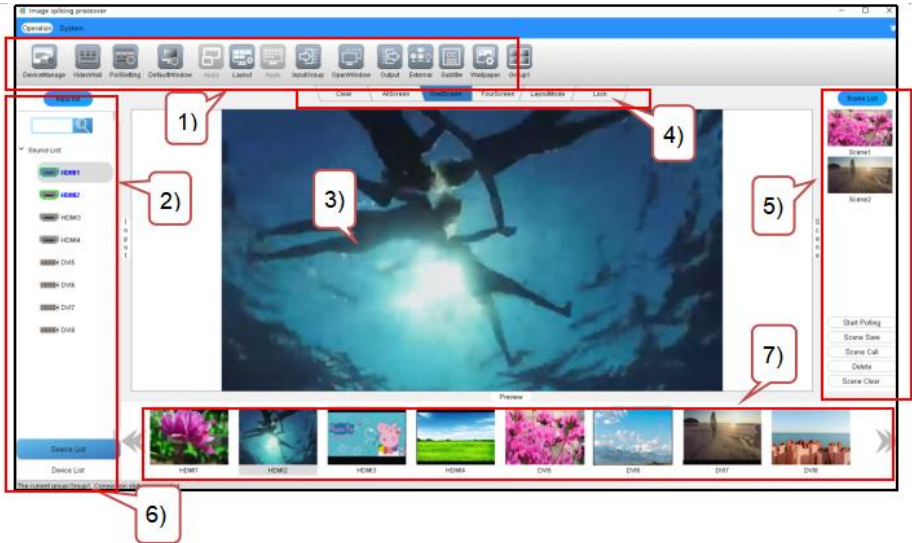


Figure 7-2 Control Software Interface

- 1) Menu bar: mainly includes 14 sub menus of the "Basic Operation" module and 8 sub menus of the "System Management" module;
- 2) Device/information list area: device connection list and input board signal list, support signal source search and real-time detection;
- 3) Screen splicing operation area: display a virtual large-screen splicing image, which can open windows, move, splicing and other operations;
  - Rename: Right-click on the physical screen to support custom output port names, see the lower left corner of the physical screen.
- 4) Window operation area: display the operation function of the window
  - A. Clear window: Refers to one key to clear all open windows on the screen;
  - B. Full screen mode: Refers to drag the source to the video wall to open a full screen window;
  - C. Single screen mode: Refers to drag the source to the video wall to open a single screen window;
  - D. Quad split screen mode: Refers to drag the source to the video wall single screen to open 1/4 window;
  - E. Lock mode: refers to the lock screen, in addition to clearing the window, can

not do any operation on the video wall。

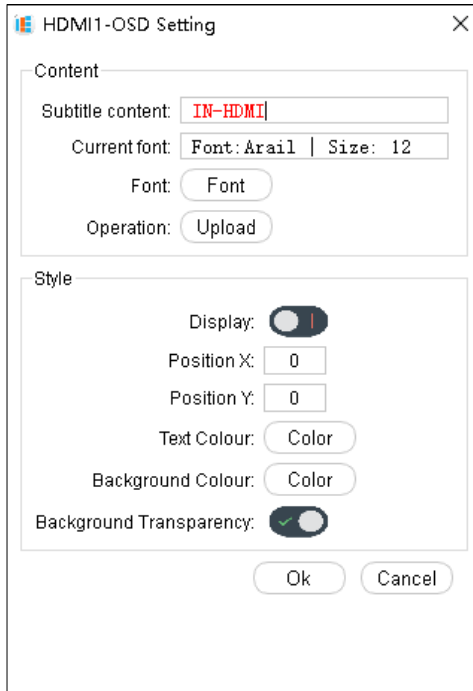
- 5) Scene management area: Display currently saved scenes and preview images. Support scene polling, save, recall, delete and clear scene operations;
- 6) Status bar: can display operation prompts, physical parameters and other information;
- 7) Video preview: can display input source preview screen。

### 7.3.1 OSD Setting

Click the "**OSD Settings**" button to enter the following interface:

- Set the subtitle content, font, display status, subtitle text and background color, background color transparency, position (with the actual input resolution as the extreme value) in the "Subtitle Settings" interface as needed;
- Subtitle text and background color can choose system color, custom color or choose any color on the screen;
- Optionally set the display state of subtitles,  Blue background is display status,  The transparent base is NOT displayed;

Figure 7-3 OSD Setting



### 7.3.2 EDID Setting

The input board supports the embedded EDID management technology, and supports to modify the EDID data in the input board through the client software. Click the "EDID Setting" button to enter the following interface:

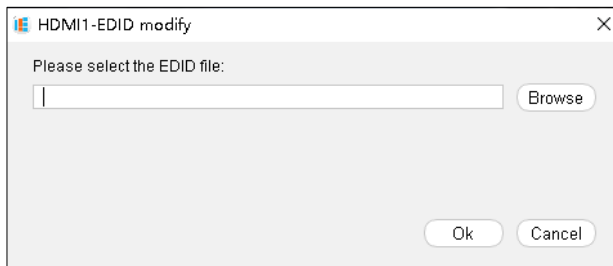


Figure7-4 EDID Management

### 7.3.3 Crop

When the output display is not suitable, the signal source can be cropped to make the screen display suitable for different scenarios. A single input signal source can save 4 cropping schemes at the same time, click the "crop" button to enter the following interface:

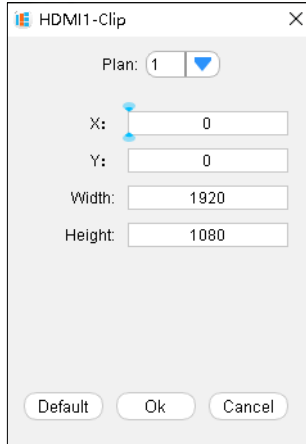


Figure 7-5 Input Signal Crop

Enter the description of the cropping method: "X, Y" is the starting point of the cropping coordinates, and the width and height are the size of the cropped window. For example, from the X coordinate 120 and the Y coordinate 100 as the starting point, crop a signal window with a size of 1280\*720.

### 7.3.4 Rename

Rename refers to custom input channel name.

### 7.3.5 Properties

Input board property query, support query input board name, type, signal source resolution properties.

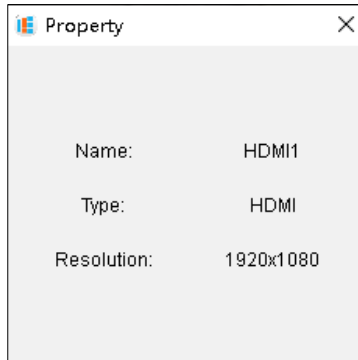


Figure 7-6 Input Signal Properties

## 7.4 Scene Management

### 7.4.1 Start/stop Polling

Start/Stop Polling is a one-key start or stop of a saved scene in the "Polling Settings" interface. For details of the polling scene data saving operation, see [7.5.6 Polling settings](#)

### 7.4.2 Scene save

Scene save is the data storage of all the input signal window position, size, stacking order, signal source and other parameters on the current screen splicing setting window. It is represented by scene name and scene number. The scene name is automatically named or customized from scene 1. Naming, the scene number starts from 1 and the number is automatically or manually selected, and up to 128 groups of scenes can be saved.

Click "Scene Save" in the scene management column to enter the following interface. You can enter a custom name in the blank space or select the scene number according to your needs, and finally click "OK" to complete the scene saving. When saving, if the scene number selected is the same as the previously saved scene, the previous scene will be automatically replaced.



Figure 7-7 Scene Save

**Explanation:**

- Scene saving is to store relevant data in the device.
- After the scene is saved, a preview image will be generated in the scene list bar on the right. After selecting the scene, click "Scene Calling" to call the scene.

### 7.4.3 Scene Calling

Scene calling is to call the selected scene with one key, which is convenient for on-site application operation.

### 7.4.4 Scene deletion

Scene deletion is to delete the selected scene

### 7.4.5 Clear Scene

Clear Scene is a one-key deletion of all saved scenes.

## 7.5 Basic operations

### 7.5.1 Device Management

After logging in to the software, you need to set the connection parameters in order to realize the connection between the splicing processor and the client software.

In the basic operation module, select and click "Device Management" to enter the following interface to add devices. Devices can be added through two modes: LAN port or RS232 serial port.



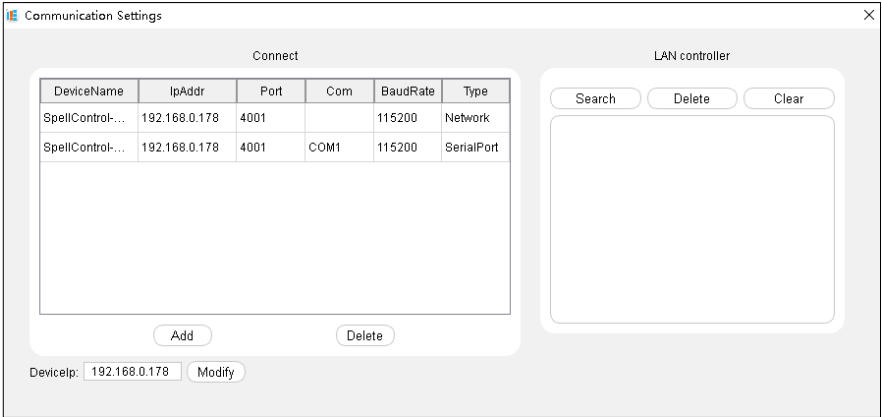


Figure 7-8 Communication Settings

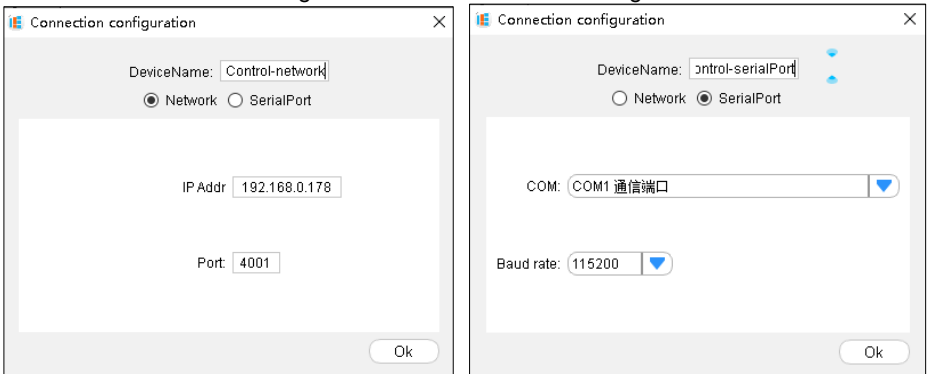


Figure 7-9 Serial Port/Network Parameter Setting

### 1) RS232 Serial port control

Connect the control computer and the "RS232 IN" port of the splicing processor through the serial line to realize the serial connection communication. The client software serial port adds the device connection method, as shown in the figure below, the operation steps are as follows:

- ① Select and double-click the device in the connection area "Splicing Control-Serial Port" to enter the serial port connection setting interface, see Figure 6-8 Communication setting interface above;
- ② Select the serial port number and baud rate of the splicing processor in the pop-up box, and click the "OK" button to save the parameters. See Figure 6-9 Serial port/network port parameter setting interface above.;
- ③ Return to the main interface, click "Device List", select "Splicing Control-Serial

Port" and double-click to connect the device;

## 2) **Network port control**

Connect the network port of the splicing processor to the control computer through twisted pairs to realize the network port connection and communication. The steps are as follows:

- ① Set the control computer to the same network segment. For details, see [4.2 Connection configuration diagram](#)
- ② When the IP address of the device is unknown, select and click the "Search" button of the controller in the LAN to search for the device IP, double-click the searched device IP address to enter the network port connection setting interface, and click "OK" in the network connection bar to save in the pop-up box. Revise;
- ③ When the IP address of the device is known, select and double-click the connection area "Splicing Control-Network" to enter the network port connection setting interface, select the connection type "Network" in the pop-up box, enter the device IP, and click the "OK" button to save the parameters, see Figure 6-9 Serial port/network port parameter setting interface;
- ④ Return to the main interface, click "Device List", select "Splicing Control-Network" and double-click to connect the device;

### **Explanation:**

- When the LAN port is connected, it supports cross network segment search for devices, but does not support cross network segment connection, that is, it is not the same network segment as the control device and cannot be connected.

## 3) **Modify IP**

After connecting the device through the network port/serial port, you can modify the IP address of the device. The operation steps are as follows:

- ① Connect the device through the network port/serial port;
- ② Fill in the modified IP address in the "Device management" box->"Search" box;
- ③ Fill in the modified IP address in the "Device management" box->"Advanced" box;
- ④ Click the "Modify" button to modify successfully.//需要根据软件实际界面修改

## 7.5.2 Splicing settings

In the basic operation module, select and click "splicing settings" to enter the splicing setting interface, and you can choose to set screen grouping, large screen type, physical screen arrangement, edge width, output resolution, output resolution customization, and mapping relationship settings. Also supports authorization settings for software functions.

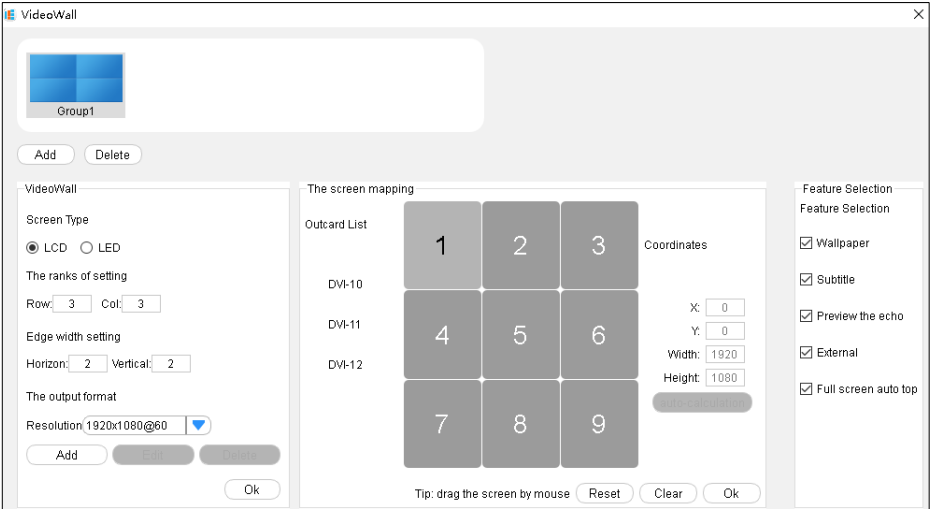


Figure 7-10 Splicing Settings

- 1) "Screen grouping": supports 4 groups of screen groups, you can customize the parameters and naming of each group, double-click to modify the group name;
- 2) "Large screen type": Support LCD and LED settings, LED type supports custom pixel points;
- 3) "Row and column setting": the actual combination format of the large-screen display, this software can support 72 x 72 combination format splicing at most. Combined with the output channel and application needs of the application device, the splicing combination format can be customized;
- 4) "Edge width setting": the value is 0-99, when the display device is an LCD screen, the black border between the screen will make the image have a split vision, and the display effect is poor, so the border compensation function is required. The software's "edge width setting" can achieve this function;
- 5) "Output format resolution": the system comes with a conventional output resolution, you can also click the "Add" button to create a new resolution for the screen, and the new resolution will be automatically added to the "Resolution" list;
- 6) "Screen mapping": Set the output display so that the physical screen corresponds to the actual output display, For details, see [7.5.3 Screen Mapping](#);
- 7) "**Function selection**": the software function authorization, including the functions of "**Basemap setting**", "**Subtitle settings**", "**Peripheral control**", "**Peripheral**

control", and "full-screen auto top":

- A. **Basemap settings:** After enabling this function, a sub menu of "Basemap Settings" will be added to the basic operation module, select the corresponding group to enter this function, and upload basemaps for different groups. *Figure 6 27 Basemap settings*
- B. **Subtitle settings:** After this function is enabled, the "subtitle setting" sub menu will be added to the basic operation module. Through this interface to upload subtitles, set font size, color, display position, subtitle static, scrolling, subtitle switch, etc. *Figure 7 26 Subtitle settings*
- C. **Preview echo:** After enabling this function, at the bottom of the main interface, the video preview bar is displayed, and the 8-channel preview echo screen is displayed.;
- D. **Peripheral Control:** After enabling this function, the "peripheral control" sub menu will be added to the basic operation module, and through this interface, commands can be sent to third-party devices through the "RS232 OUT" port;
- E. **Auto set front:** After enabling this function, when the window is set to full screen, it will be automatically displayed on top to ensure that the full screen window screen is displayed first.。

Combined with the output channel of the splicing processor, this article will set the physical screen arrangement as 3 x 3 for a brief introduction. The setting effect is as follows:

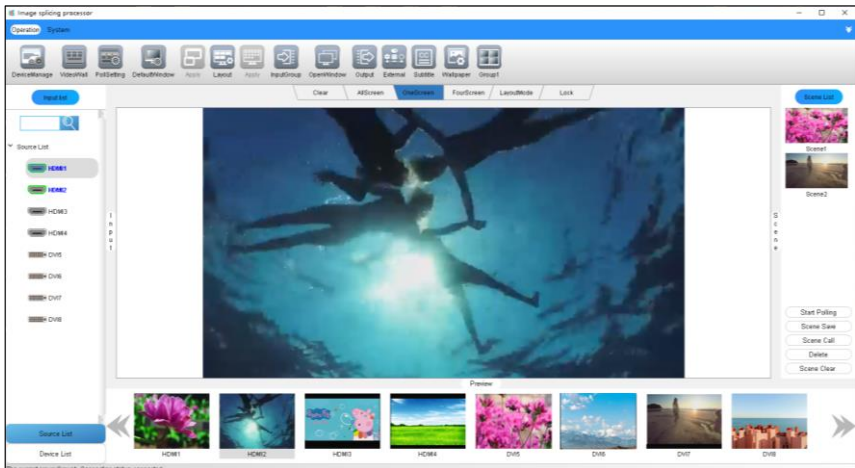


Figure7-11 Screen Arrangement (3 x 3)

**Explanation:**

- The output resolution parameters of this software system cannot be modified or deleted, and the custom output resolution can be modified or deleted as needed. The custom resolution setting interface is as follows, you can set parameters according to your needs:

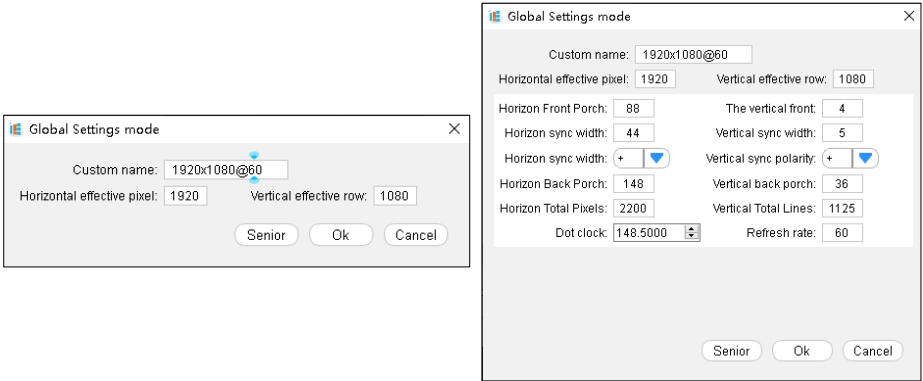


Figure 7-12 Resolution Setting Interface

### 7.5.3 Screen Mapping

In the splicing setting submenu interface, the output display screen can be set so that the physical screen corresponds to the actual output display screen.

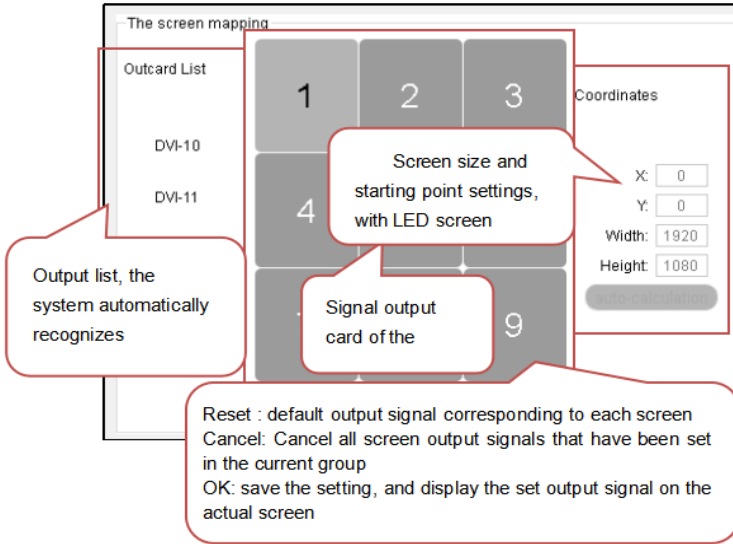


Figure 7-13 Screen Order

**Explanation:**

- After the “Reset” or “Cancel” settings are completed, need to click the “Confirm” button to save the settings and take effect.;
- When some screen positions do not correspond to the output card port, select the corresponding screen in the interface shown in Figure 7-14 below. At this time, click the output card, and the corresponding display will light up. Drag the output card to the lighted window with the mouse to adjust the display screen to achieve correct display, as shown in Figure 7-15 below.



Figure 7-14



Figure 7-15

- When the output board list is more than the number of windows displayed on the screen, click the output board in the "**Output card list**" on the left and put it into the output window on the right, and try in turn until the screen is displayed on the actual output display.;

### 7.5.4 Splicing window description

In the picture splicing setting area, you can set windows of any size and any position, and the windows opened in the picture splicing setting window will be displayed one by one on the actual output display screen. This software can open a new window in the following two ways:

- 1) Click in the left input card list to select the input signal to be displayed, then press and hold the left mouse button at any position in the screen splicing setting window, drag to the right and lower, release the mouse when it reaches the appropriate position, and then a new window can be opened with the current input source as the content at the corresponding position of the large screen;
- 2) Drag the signal source from the input card list on the left directly to the screen splicing setting window. When release the mouse, a new corresponding window will be opened on the physical screen where the mouse is located.

Drag the window directly to adjust the screen output size. The window introduction and drawing effect are as follows:

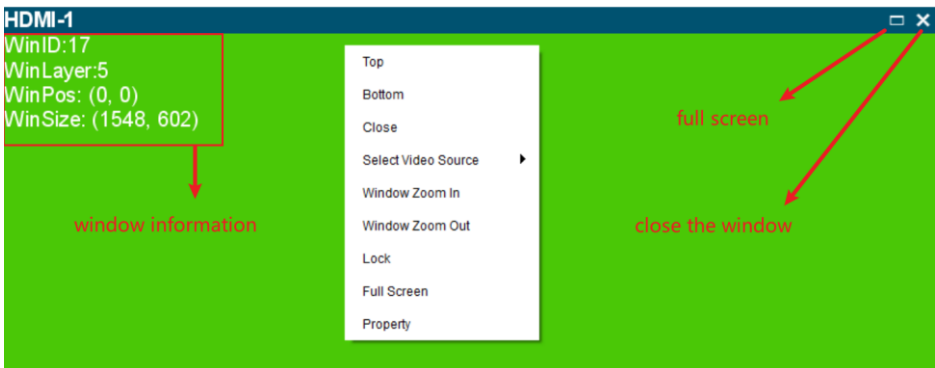


Figure7-16 Window Introduction

Right-click on the window and a dialog box will pop up. This window can be adjusted in the dialog box, including: top, bottom, move up, move down, close, select video source, zoom in, zoom out, lock, full screen and properties;

- a) **Set at the front:** Move the current layer to the top display;
- b) **Set at the back:** Move the current layer to the bottom display;
- c) **Close:** Close the window, equivalent to the second button in the upper right corner of the window;
- d) **Select video source:** Signal source selection is equivalent to dragging the signal source from the input card list on the left directly to the corresponding window;



- e) **Zoom in:** Zoom in to the full screen of the occupied logical sub-screen;
- f) **Zoom out:** The enlarged window returns to its original size;
- g) **Lock:** Lock window size, position and priority display of locked window screen;
- h) **Full-screen:** Enlarge the window to full screen display. Equivalent to the first button in the upper right corner of the window, or double-click the blue title area:
- i) **Properties:** Set window title display status, window title content, window position, window size information.

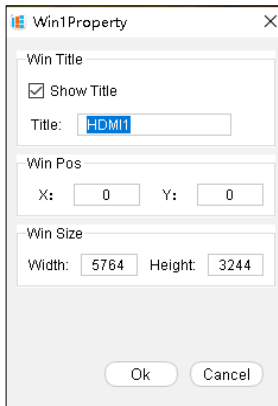


Figure7-17 Window Properties

**Explanation:**

- Double-click the blue title area to display full screen or restore the window size;
- Double-click the window text area to zoom in or zoom out the window, the function is the same as window **zoom in** and window **zoom out**;
- In the **screen splicing setting**, the gray state of the window is not displayed.。

### 7.5.5 Splicing operation

This device supports picture-in-picture display, image overlay display, multi-screen display 1 picture, single-screen multi-screen display splicing pictures.

- 1) **Multiple screens can be spliced to display 1 picture, for example: 9 screens display 1 picture**



Figure 7-18 Multi-screen 1 Picture Setting

- 2) Different screens can display different pictures separately, for example: 3 screens display 3 pictures

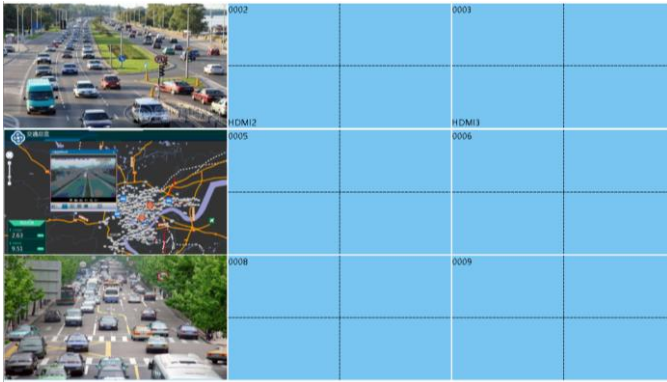


Figure 7-19 3 Screens 3 Pictures Setting

- 3) A single screen can display up to 4 pictures, for example: 1 screen and 2 pictures

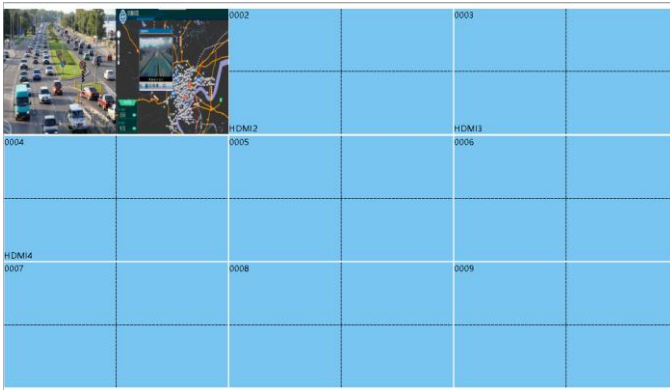


Figure 7-20 1 Screen 2 Pictures Setting

- 4) **PIP: The same screen can display multiple pictures at the same time, as shown below:**

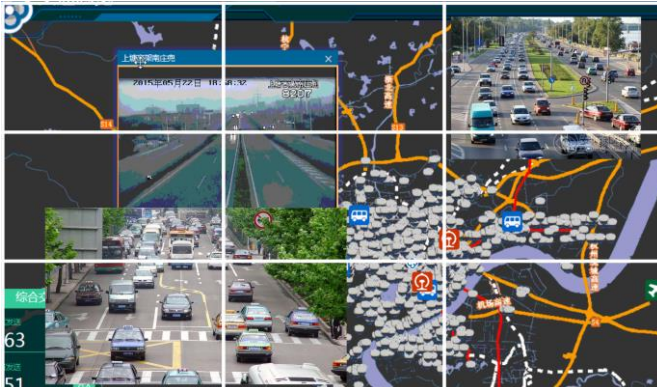


Figure 7-21 Picture-in-picture Settings

### 7.5.6 Polling settings

"**Polling settings**" means that the saved scene will be specified and automatically recalled in a loop. When in use, add the scenes in the scene list on the left to the polling list on the right, set the polling time interval, and click Start. Select and click "**Polling Settings**" in the basic operation module to enter the polling setting interface, as follows:

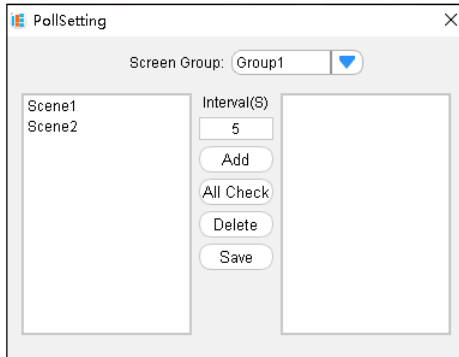


Figure 7-22 Polling Settings

- 1) Time interval: that is, the scene calling time interval, default time is 60 seconds;
- 2) Add: Add a scene from the scene list to the polling list;
- 3) Select all: add all scenarios from the scenario list to the polling list;
- 4) Delete: delete the scene from the polling list;
- 5) Save: save polling parameters, including time interval, polling list;

 **Explanation:**

- Delete is only to return the scene from the polling list to the scene list, not delete the scene.
- When polling, any operation related to the window is prohibited in the polled group, but it does not affect other groups;
- Start or stop the polling scene, operate in the scene list on the main interface.

### 7.5.7 Preset windows and applications

"**Preset windowing**" refers to simulating a window operation interface on the client side, on which the window layout can be opened. When you want to display on the large screen, click "**Apply**" to perform one-key application operation; if you want to cancel, click "**Cancel**" to exit the preset window.

### 7.5.8 Pre-layout and application

"**Pre-layout**" means to preset a window opening mode in the video wall. When using, switch the "pre-layout mode" in the window operation area, drag the signal source to the preset window, that is, automatically fill the preset window, the operation method as follows:

- 1) Click Pre-layout, open windows freely in the video wall, and then click "**Apply**" to save this windowing mode.
- 2) Switch the "**Pre-layout mode**" in the window operation area, and drag the signal source to the preset window. .

**Explanation:**

The pre-layout mode cannot be selected in the window mode when the operation is set to pre-layout.

### 7.5.9 Input grouping

"**Input grouping**" refers to adding free groups to input sources and classifying input sources. The operation method is as follows:

- 1) Click "Add" to create a new group, the group name can be customized.
- 2) Select a group, drag the source from the source list to the right grouped source list, click OK to save the operation of the source grouping.
- 3) In the signal source list in the main interface to view the added groups .

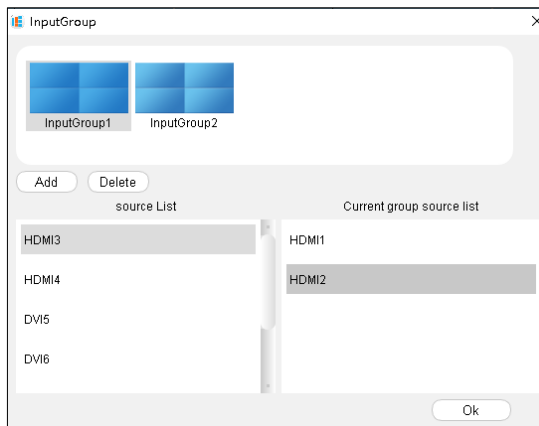


Figure 7-23 Input Grouping

### 7.5.10 One-key windowing

Click one key to open the window, it can realize the single screen 4 windows opened by one key in the current grouped splicing wall.

### 7.5.11 Terminal output

“Terminal output” is to give all the current input ports to the corresponding output ports one by one, and the windowing order is given from left to right and top to bottom.

### 7.5.12 Peripheral Control

“Peripheral Control” mainly controls third-party devices, this interface can be made according to customer needs.

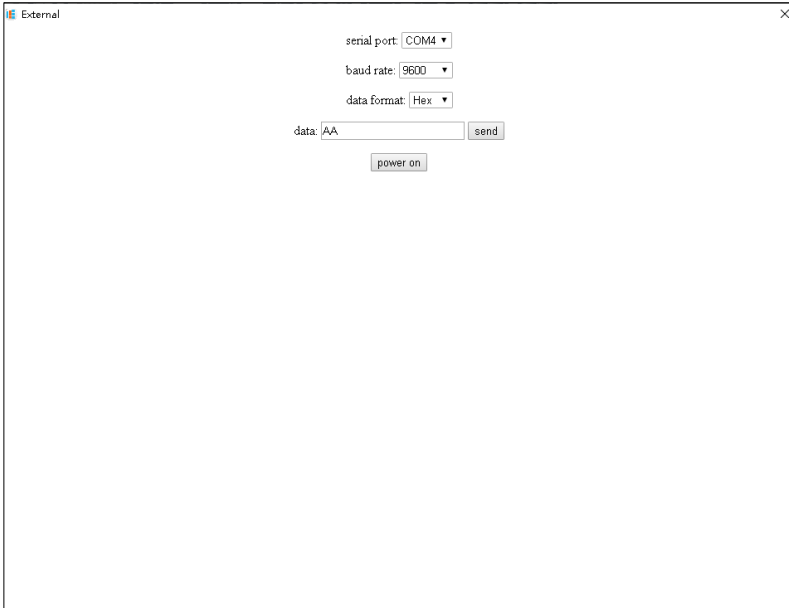


Figure 7-24 Peripheral Control

### 7.5.13 Preview echo

The preview echo function can preview the connected source and echo the large screen image.

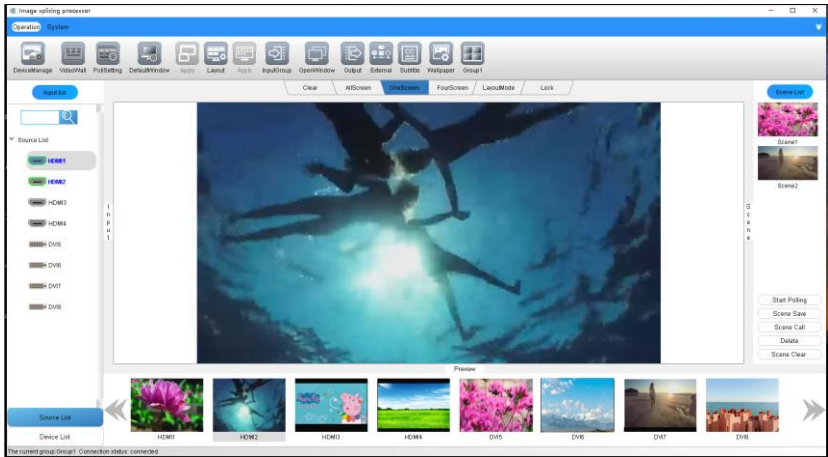


Figure 7-25 Video Preview Echo

1. When the preview echo function is enabled, the preview echo interface is as shown above.
2. Supports previewing and echoing 8-channel images at the same time. When the preview and echo function is enabled for the first time, the device needs to be reconnected to preview the echoed images..

**Explanation:**

- The preview echo screen can only be enabled in the network connection state.

### 7.5.14 Subtitle settings

“Subtitle setting” refers to displaying subtitle content in the video wall, and supports setting font size, color, display position, subtitle scrolling speed, subtitle switch and other functions.

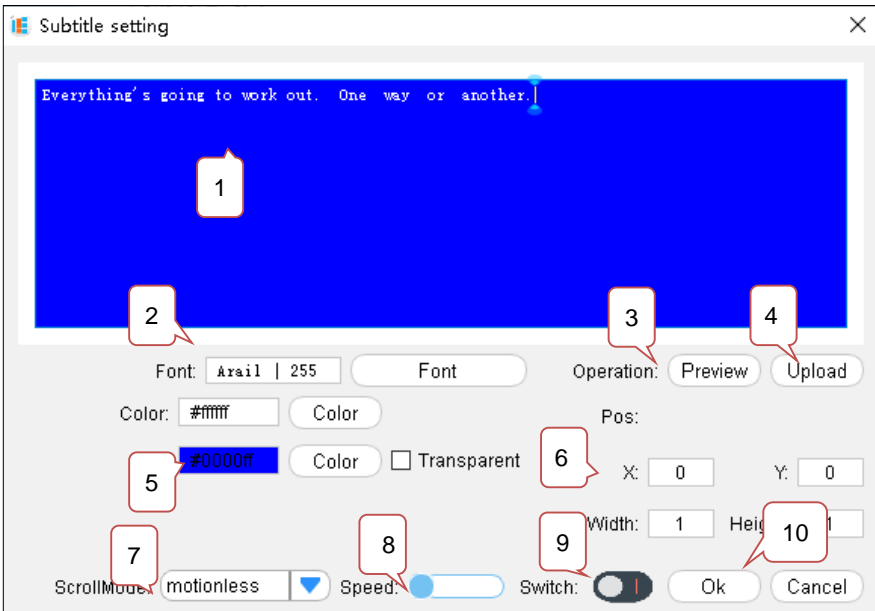




Figure 7-26 Subtitle Settings

When the subtitle function is enabled, the subtitle setting interface is as above:

1. **Subtitle input area:** Enter character content, subtitles support a display width of up to 1792x16 and a display height of up to 1080.
  - 1)When setting the LED mode, the display height of the subtitle cannot exceed



the actual pixel height of the current LED screen.

2. **Font settings:** Set the font, style, size, effect and writing system language of the subtitle content. The maximum font size can be set to 512; Note: If the font size exceeds 255, it needs to be entered manually.
3. **Preview:** After the subtitle content setting is complete, click Preview to view the subtitle display effect in the main interface.
4. **Upload subtitles:** Upload subtitle content and set parameters, and after setting, click "Upload Subtitles" to display:
5. **Text and background color:** Contains subtitle content and background color settings, you can choose system color, custom color, or pick a color anywhere on the screen;
6. **Display position/display size:** Set the display position of the subtitle starting point/set the size of the subtitle display area. Note: The maximum width and height of the display position and display size are limited to not exceed the width and height of the subtitle content itself;
7. **Scroll mode:** Set the subtitle scrolling mode, currently supports 3 scrolling modes, static, left scroll, right scroll;
8. **Scroll speed:** Set the subtitle moving speed, the leftmost is the minimum scrolling speed, and the rightmost is the system default maximum scrolling speed;
9. **Subtitle switch:** Set subtitle display status,  turn on,  turn off;
10. **Confirm/Cancel:** save the settings/exit the setting interface

#### **Explanation:**

- After modifying the subtitle color, position or size, need to click "Confirm" to display the modified effect on the corresponding display screen.
- Subtitles support setting in the first group; only support setting in any position in the first line of splicing.

### 7.5.15 Basemap Settings

"The "basemap setting" function can display high-definition basemap images in the video wall, support uploading multiple basemaps to quickly switch, and support multiple groups to display basemap images simultaneously.

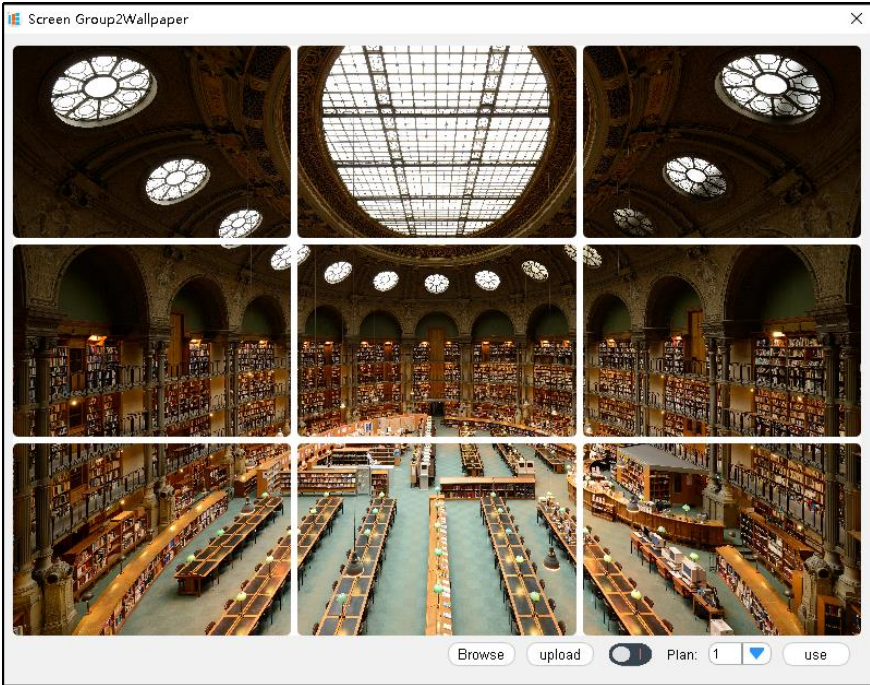




Figure 7-27 Base map Settings

When the basemap function is enabled, the basemap setting interface is as above:

1. **Browse:** Select to preview the pictures in a folder, and preview them in the setting interface.
2. **Upload:** Upload the selected preview image and display it as a full-screen base image.
3. **Basemap switch:** Set the basemap display state,  Turn On,  Turn Off.

#### 7.5.16 Audio setting

Click the "Audio Settings" icon to open the entrance to the multi -function card setting window, click "Audio Settings", and the pop -up setting interface is as follows:

- 1) Input audio selection: Select the input channel as embedded audio mode or external audio mode, click Set to confirm the operation, the default is embedded audio mode.

2) Output audio mode: Select the audio output channel as bonded mode or independent mode, and the bound group, click Set to confirm the operation.

a) Binding mode: One or more output audio channels can be selected to be bound under a video mosaic wall group. When the video mosaic wall is opened, the bound output audio under a group;

b) Independent mode: the input audio channel switches the output audio channel independently, and operates on the audio matrix switching page.

3) Output channel-volume adjustment: adjust the volume of the audio output channel, the default volume is the maximum.

4) Audio matrix - switch page

a) The vertical IN on the left indicates the input channel, 10 channels are displayed on one page, and other channels can be switched by turning the page;

b) OUT on the top layer on the right indicates the output channel, 1 page displays 10 channels, and the other channels can be switched by turning the page;

c) IN + OUT: xx channel audio input switches to xx channel audio output channel, click again to turn off the audio;

d) IN + ALL: xx channel audio input switches to all audio output channels, click again to turn off the audio;

e) MUTE + OUT: Mute xx audio output channels;

f) MUTE + ALL: Mute all audio output channel audio.

5) Audio scene setting

a) The audio matrix supports saving 5 audio scene states;

b) Save scene: After selecting a scene, click Save Scene to save the state of the audio channel in this scene;

c) Call scene: After selecting a scene, click call scene to call the pre-stored scene;

d) Delete scene: After selecting a scene, click delete scene to delete the data of this scene, and then use it to save other scenes

### 7.5.17 Multi-function card

Click the "Multi-function Card" icon to open the entrance of the multi-function card setting window, click "Multi-function Card", the pop-up setting interface is as follows:

#### 7.5.17.1 Scan List

The "**Scan List**" page can scan the devices in the LAN and display them in the list. The devices in the list can be filtered or added to the node list interface.

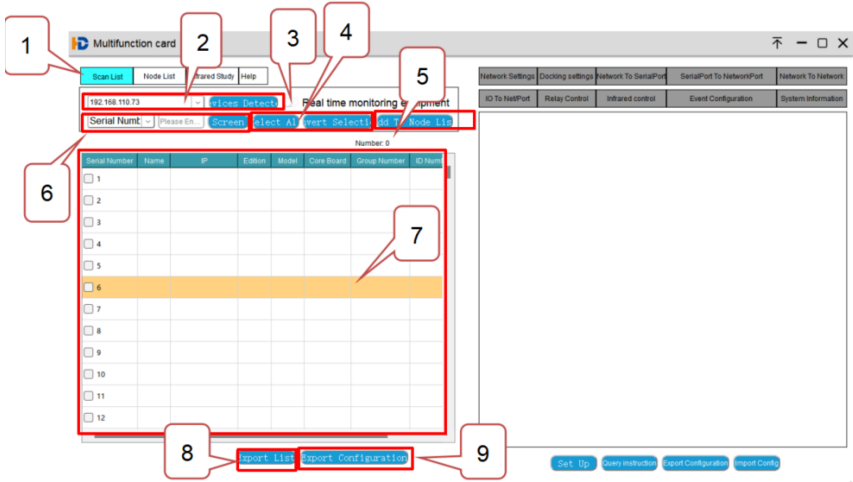


Figure 7-25 Scan List

1. **Scan list:** Enter the scan list interface.
2. **Discover devices:** Select the IP in the same network segment as the local machine and the multi-function card in the drop-down button, click "Discover devices", and the multi-function cards connected in the LAN will be displayed in the list.
3. **Real-time monitoring device:** Turn on the real-time monitoring device, you can monitor the multi-function card devices in the LAN in real time, and add or delete devices in the device list in real time.
4. **Select all and deselect:** You can select all and deselect the devices in the device list.
5. **Add to the node list:** select any multi-function card in the list, and then click "Add to node list", the node list interface will synchronously add the device to the list.
6. **Filter:** Different filter conditions can be set to filter out the qualified devices in the list.
7. **List:** Display the device.
8. **Export list:** The device list can be exported.
9. **Export configuration:** the configuration of the device can be exported.

### 7.5.17.2 Node List

The "node list" interface can set the selected devices in the list, the devices in the list can be filtered, the settings can be exported to backup configuration files, and the saved configuration files can also be imported to the selected devices.

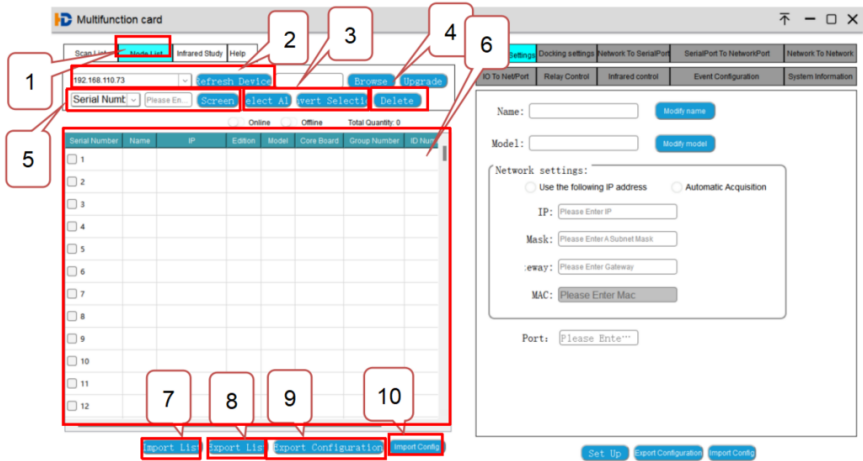


Figure 7-26 Node List

1. **Node list:** Enter the node list interface.
2. **Refresh device:** Select the same IP as the network segment of the local machine and the multi-function card in the drop-down button, click "Refresh device", and the status refresh of the multi-function card connected in the LAN that has been added to the node list will be displayed in the list.
3. **Select all and deselect:** You can select all and deselect the devices in the device list.
4. **Refresh:** Refresh the device status in the node list.
5. **Filter:** Different filter conditions can be set to filter out the qualified devices in the list.
6. **List:** Displays the devices.
7. **Import list:** Import the saved device list file.
8. **Export list:** The device list can be exported.
9. **Export configuration:** the configuration of the device can be exported.
10. **Import configuration:** import the configuration file saved by the instrument.

### 7.5.17.3 Infrared Learning

Click on the right side of **"Infrared Learning"** to pop up the infrared learning setting interface. Infrared learning settings can be performed on the devices selected in the list.

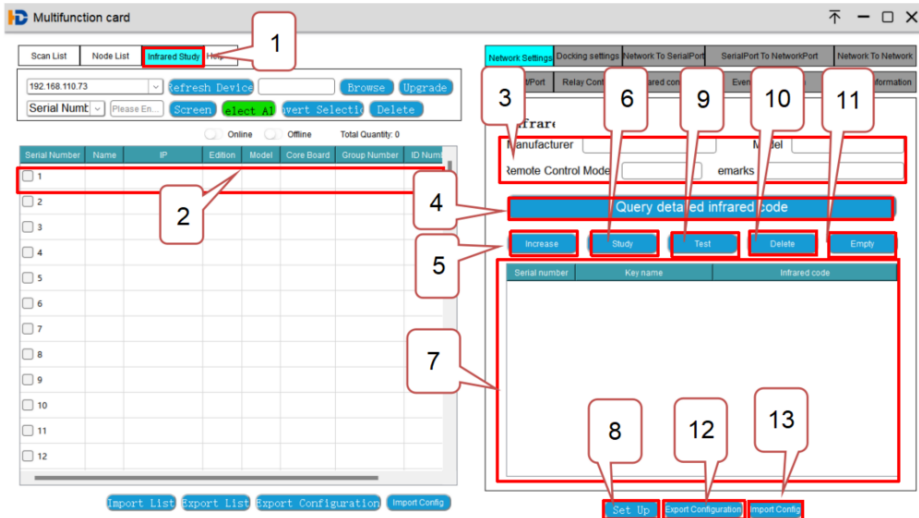


Figure 7-27 Infrared Learning

1. **Infrared learning:** Enter the infrared learning setting interface.
2. **Device selection:** Click the device with the mouse to select the device for setting.
3. **Infrared information setting:** Write the content in the input box to set the infrared manufacturer, model, remote control model, remarks and other information.
4. **Query detailed infrared code:** Click "Query detailed infrared code" to query the infrared code saved by the device.
5. **Add:** Click "Add" to pop up to enter the button name. After entering the name, a line of content will be added in the infrared code list below, including the serial number, button name and infrared code.
6. **Learning:** Select a row in the infrared list, click "Learning", and operate the infrared remote control to remotely control the infrared receiver of the multi-function card. At this time, the infrared code column will be filled with the learned infrared code content, and a reminder of successful learning will be

given.

7. **Infrared code list:** Display the added infrared code list and the learned infrared code value.
8. **Setting:** After clicking setting, the infrared code will be set to the selected device and take effect.
9. **Test:** Select any infrared code in the infrared code list with the mouse, click test, and the IR OUT interface of the multi-function card will send the changed infrared code.
10. **Delete:** Select any infrared code in the infrared code list with the mouse, you can change the infrared code to delete
11. **Clear:** Click "Clear" to clear all the infrared codes in the infrared code list.
12. **Export Configuration:** Export the configuration file of the current page.
13. **Import configuration:** Import the configuration file into the current page.

#### 7.5.17.4 Help

Click "**Help**" to pop up options such as operating instructions, about us, export logs, self-starting options, and languages.

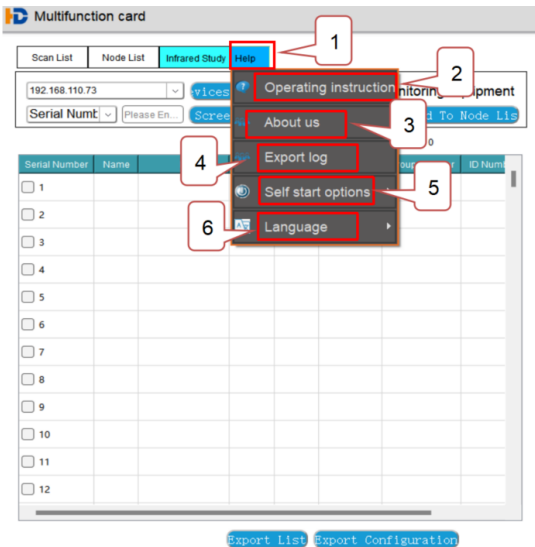


Figure 7-28 Help

1. **Help:** Click "Help" to pop up menus such as operating instructions, about us, export logs, auto-start options, and languages.

2. **Operating Instructions:** Click "Operating Instructions" to pop up an introduction to the operating instructions of the device.
3. **About Us:** Click "About Us", and the version and copyright information will pop up.
4. **Export log:** Click "Export log" to export, save and open the log.
5. **Auto-start option:** Click "Auto-start option", you can choose to start automatically or not to start automatically.
6. **Language:** Click "Language" to choose the display language as Chinese or English.

### 7.5.17.5 Network Setting

The "Network Settings" interface can set the network settings for the devices selected in the list, export and backup configuration files for the settings, and also import saved configuration files for the selected devices.

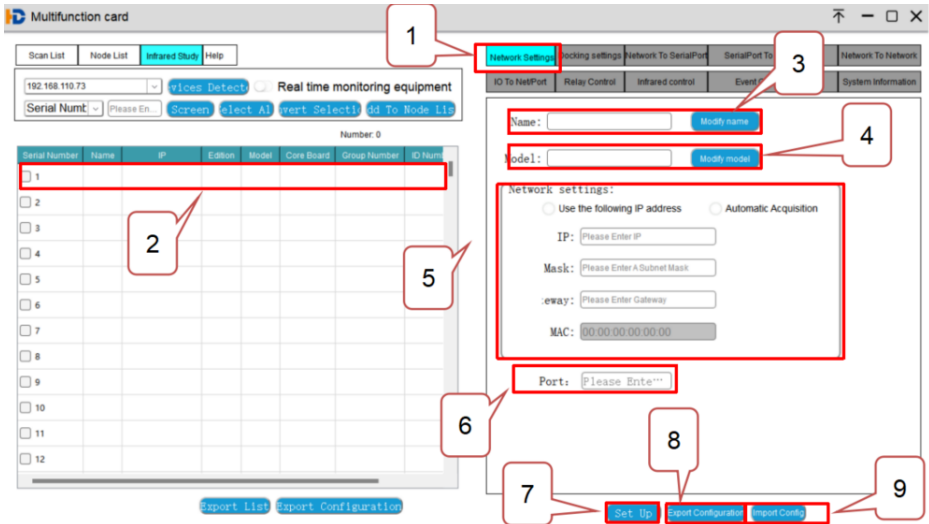


Figure 7-29 Network setting

1. **Network setting:** Enter the device setting interface.
2. **Device selection:** Click the device with the mouse to select the device for setting.
3. **Modify the name:** Enter the name content, click to modify the device name.
4. **Modify model:** enter the model content, click modify model.
5. **Network settings:** You can set the network acquisition mode to fixed IP or



automatically obtain IP, and input IP, mask, gateway and other content when fixed IP.

6. **Port:** Enter the port number.
7. **Settings:** Click Settings, and the page settings will take effect.
8. **Export Configuration:** Export the configuration file of the current page.
9. **Import configuration:** Import the configuration file into the current page.

### 7.5.17.6 Docking Settings"

The "Docking Settings" interface can perform docking settings for the selected devices in the list, including device group numbers, IDs, network protocols, and serial port attribute configurations and queries. You can export and backup configuration files for the settings, and you can also import and save the selected devices. configuration file.

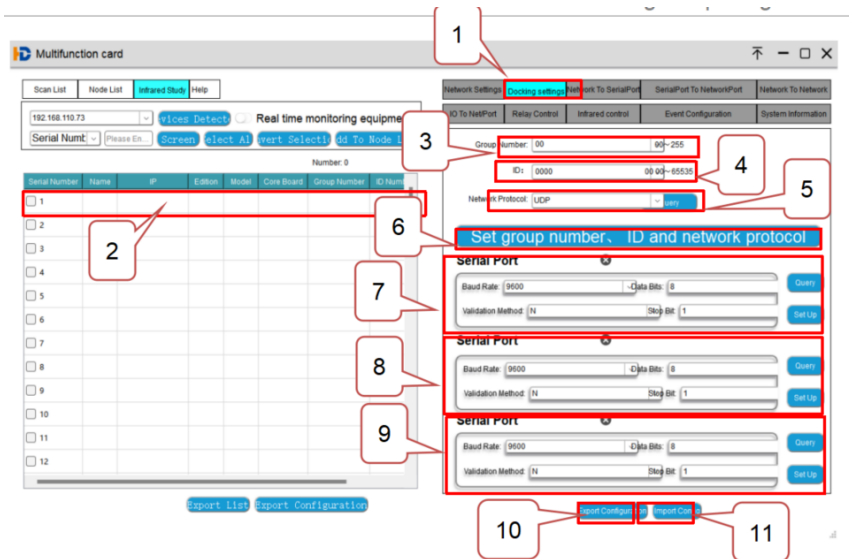


Figure7-30 Docking Settings"

1. **Docking settings:** Enter the docking settings interface.
2. **Device selection:** Click the device with the mouse to select the device for setting.
3. **Field number:** Enter the field number in the input box, 0~255.
4. **ID:** Enter the ID number in the input box, 0000~65535.

5. **Network protocol:** Click "Query" to query the network protocol of the currently selected device, or select the network protocol that needs to be set in the drop-down button of the input box.

6. **Set group number, ID, network protocol:** Click "Set group number, ID, network protocol" to set the above field number, ID, network protocol settings to take effect.

7. **Serial port 1 (this serial port is not open yet):** the serial port supports query and setting, click "Query" to query the serial port setting status of the current device, and press the button to select parameters under baud rate, data bit, verification method, and stop bit , and finally click "Settings" to make the settings take effect.

8. **Serial port 2:** The serial port supports query and setting. Click "Query" to query the serial port setting status of the current device. Press the button to select parameters in baud rate, data bit, verification method, and stop bit, and finally click "Setting" to The settings take effect.

9. **Serial port 3:** The serial port supports query and setting, click "Query" to query the serial port setting status of the current device, press the button to select parameters in baud rate, data bit, verification method, and stop bit, and finally click "Setting" to The settings take effect.

#### 7.5.17.7 Network trans Serial port

The "**Network to serial port**" interface can set the network to serial port for the selected device in the list, export the backup configuration file for the setting content, and import the saved configuration file to the selected device.

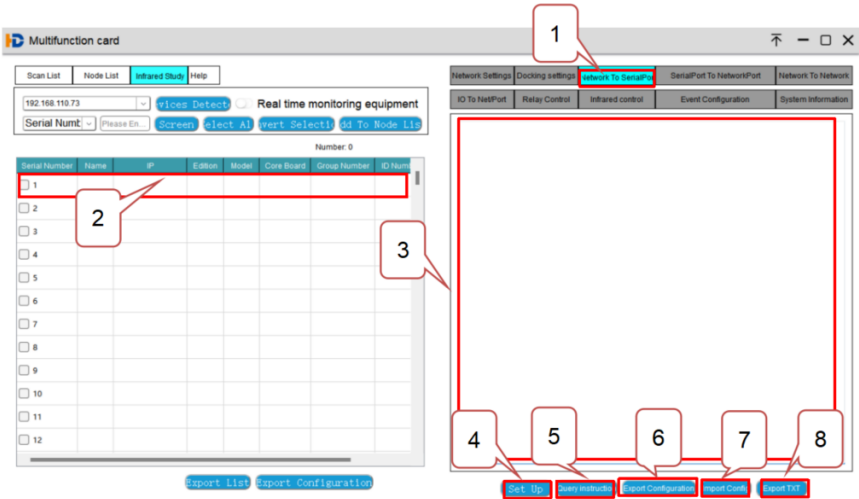


Figure 7-31 Network to serial port

1. **Network to serial port:** Enter the network to serial port setting interface.

2. **Device selection:** select the device with the mouse, and check the device for editing.

3. **Input box:** input the network to serial port protocol content.

Input RXC or RXH=xxxx, IO=a a a a in the first line; (RXC is the command sent by the network port in characters, RXH is to send Hex; xxxx is the command content, the customer can enter the character format or Hex format by himself; a is 4 channels IO port state setting, 1 is high level, 0 is low level, 2 is no judgment).

The second to fifth lines are the content sent by the corresponding serial port number (up to 4 commands can be configured, or less than 4 commands can be configured), input TXH or TXC01~04=xxxx, T=b, Cy; (TXC is the command sent by the serial port is the character, TXH is to send Hex; xxxx is the command content, the customer can enter the character format or Hex format; T=b is the delayed sending time is b seconds, in milliseconds; Cy, y is the specified port number, C0 is the network port, C1 is the serial port 1, C2 is the serial port 2, and C3 is the serial port 3)

The last line ends with bag and sets up to 30 bags.

4. **Setting:** After clicking "Setting", set the content of the input box to the device.

5. **Query command:** Click "Query command", the input box will display the setting status of the checked device storage.

6. **Export configuration:** Export the configuration file of the current page.

7. **Import configuration:** Import the configuration file into the current page.

8. **Export TXT:** Export and save the content of the current input box as a TXT file.

### 7.5.17.8 Serial port to network port

"Serial port to network port" interface can set the serial port to network port of the device selected in the list, export the backup configuration file for the setting content, and import the saved configuration file to the selected device.

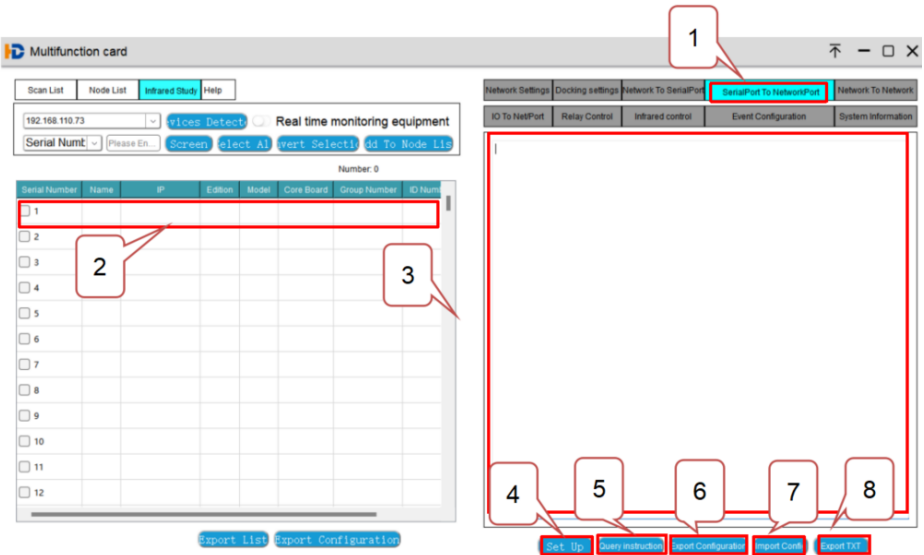


Figure 7-32 Serial port to network port

1. **Serial port to network port:** enter the serial port to network port setting interface.

2. **Device selection:** select the device with the mouse, and check the device for editing.

3. **Input box:** input the serial port to network port protocol content.

Input RXC or RXH=xxxx in the first line, IP=local computer IP, PORT=local computer network port; (RXC is the command sent by the serial port as a character, RXH is to send Hex; xxxx is the content of the command, and the customer can input it by himself Character format or Hex format).

The second to fifth lines are the content sent by the corresponding serial port

number (up to 4 commands can be configured, or less than 4 commands can be configured), input TXH or TXC01~04=xxxx, T=b; (TXC is the command sent by the network port is character, TXH is to send Hex; xxxx is the command content, the customer can enter the character format or Hex format; T=b is the delayed sending time is b seconds, in milliseconds)

The last line ends with bag and sets up to 30 bags.

4. **Setting:** After clicking "Setting", set the content of the input box to the device.
5. **Query command:** Click "Query command", the input box will display the setting status of the checked device storage.
6. **Export configuration:** Export the configuration file of the current page.
7. **Import configuration:** Import the configuration file into the current page.
8. **Export TXT:** Export and save the content of the current input box as a TXT file.

### 7.5.17.9 Network to Network

The "Network to Network" interface can perform network-to-network settings for the selected device in the list, export the backup configuration file for the setting content, and import the saved configuration file for the selected device.

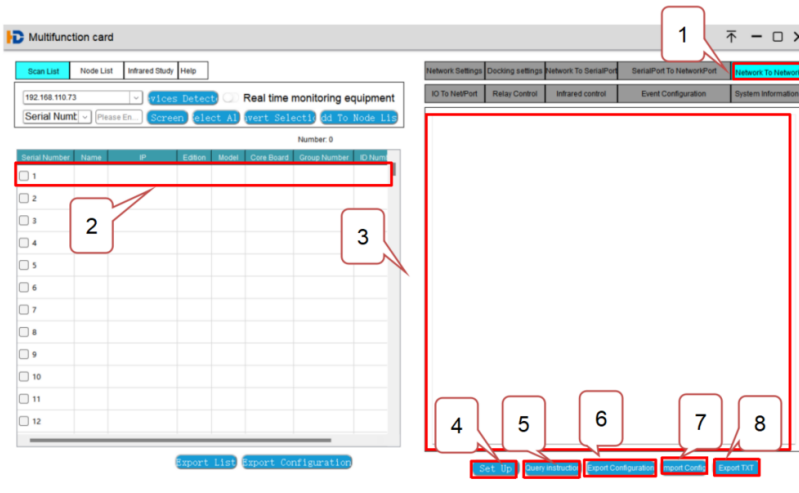


Figure7-33 Network to Network

1. **Network to network:** Enter the network to network setting interface.
2. **Device selection:** select the device with the mouse, and check the device for

editing.

3. **Input box:** input network to network protocol content.

Input RXC or RXH=xxxx in the first line, IP=local computer IP, PORT=local computer network port; (RXC is the command sent by the network port as a character, RXH is to send Hex; xxxx is the command content, customers can Enter character format or Hex format).

The second to fifth lines are the content sent by the corresponding serial port number (up to 4 commands can be configured, or less than 4 commands can be configured), input TXH or TXC01~04=xxxx, T=b; (TXC is the command sent by the network port is character, TXH is to send Hex; xxxx is the command content, the customer can enter the character format or Hex format; T=b is the delayed sending time is b seconds, in milliseconds)

The last line ends with bag and sets up to 30 bags.

4. **Setting:** After clicking "Setting", set the content of the input box to the device.

5. **Query command:** Click "Query command", the input box will display the setting status of the checked device storage.

6. **Export configuration:** Export the configuration file of the current page.

7. **Import configuration:** Import the configuration file into the current page.

8. **Export TXT:** Export and save the content of the current input box as a TXT file.

### 7.5.17.10 IO switch string

The "IO switch string" interface can set the IO switch string for the device selected in the list, export the backup configuration file for the setting content, and import the saved configuration file for the selected device.

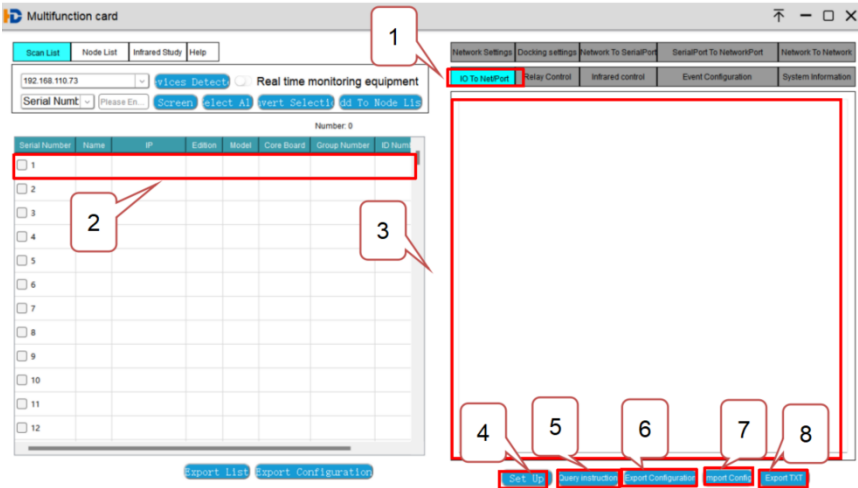


Figure7-34 IO switch string

1. **IO switch string:** Enter the IO switch string setting interface.

2. **Device selection:** select the device with the mouse, and check the device for editing.

3. **Input box:** Enter the content of the IO transfer protocol.

Input RXC =IO in the first line, IO=a a a a, IP=local computer IP, PORT=local computer network port; ( a is the state setting of the 4-way IO port, 1 is high level, 0 is low level, 2 is no judgment).

The second to fifth lines are the content sent by the corresponding serial port number (up to 4 instructions can be configured, and less than 4 instructions can be configured), input TXH or TXC01~04=xxxx, T=b; (TXC is the one sent by the serial port or the network port The command is a character, TXH is to send Hex; xxxx is the content of the command, the customer can enter the character format or Hex format; T=b is the delayed sending time of b seconds, in milliseconds; Cy, y is the specified port number, C0 is the network port, C1 is the serial port 1, C2 is the serial port 2, C3 is the serial port 3)

The last line ends with bag and sets up to 30 bags.

4. **Setting:** After clicking "Setting", set the content of the input box to the device.

5. **Query command:** Click "Query command", the input box will display the setting status of the checked device storage.

6. **Export configuration:** Export the configuration file of the current page.

7. **Import configuration:** Import the configuration file into the current page.
8. **Export TXT:** Export and save the content of the current input box as a TXT file.

**Explanation:**

**IO 3 and IO 4 ports are temporarily unavailable.**

### 7.5.17.11 Infrared Control

In the "Infrared Control" interface, you can set the infrared control for the device selected in the list, export the backup configuration file for the setting content, and import the saved configuration file for the selected device.

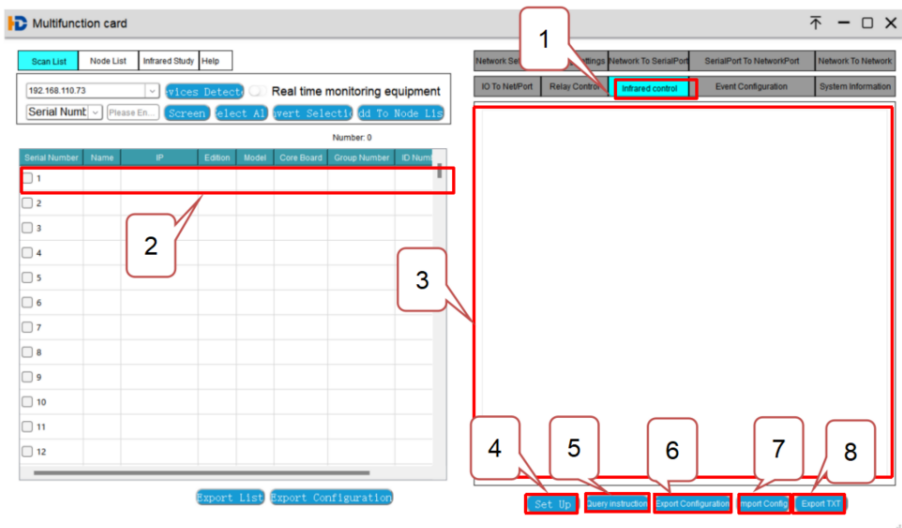


Figure 7-35 Infrared Control

1. **Infrared Control:** Enter the infrared control setting interface.
2. **Device selection:** select the device with the mouse, and check the device for editing.

3. **Input box:** input the content of the relay control protocol.

Input RXC or RXH=xxxx in the first line; (RXC is the command sent by the network port or serial port in characters, RXH is to send Hex, and xxxx is the content of the command, and the customer can enter the character format or Hex format by himself.

The second to fifth lines correspond to the content sent by IR (up to 4 instructions



can be configured, or less than 4 instructions can be configured), input IRa, T=b; (IRa, a is the serial number of the infrared learning list; T=b is Delay sending time is b seconds, in milliseconds)

The last line ends with bag and sets up to 30 bags.

4. **Setting:** After clicking "Setting", set the content of the input box to the device.
5. **Query command:** Click "Query command", the input box will display the setting status of the checked device storage.
6. **Export configuration:** Export the configuration file of the current page.
7. **Import configuration:** Import the configuration file into the current page.
8. **Export TXT:** Export and save the content of the current input box as a TXT file.

### 7.5.17.12 Event configuration

The "Event configuration" interface can set the device to restart, restore the default IP, restore the default configuration, query or configure the heartbeat command, display the heartbeat packet data and clear it, and export the backup configuration file for the setting content, or select the selected The saved configuration file is imported to the device.

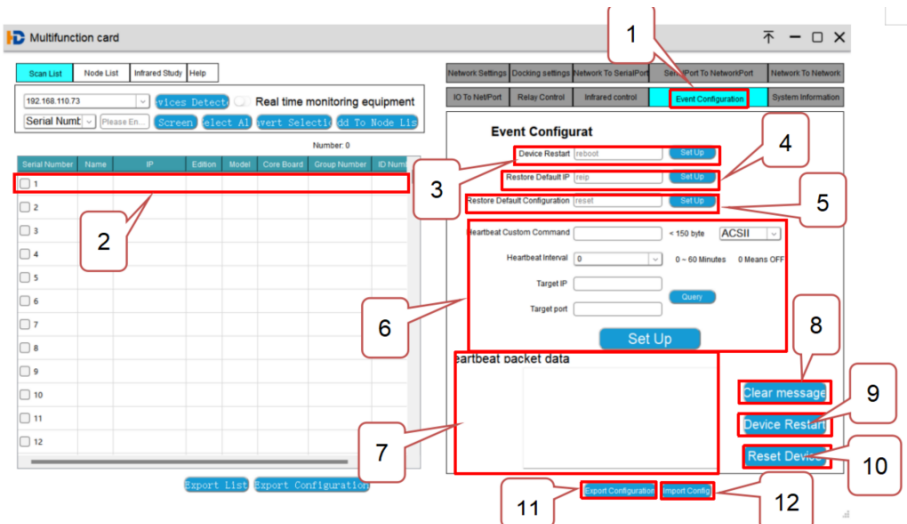


Figure 7-36 Event configuration

1. **Event configuration:** Enter the event configuration interface.
2. **Device selection:** select the device with the mouse, and check the device for

editing.

3. **Device restart:** Click Settings to restart the device; or send the reboot command to the device to restart the device.

4. **Restore the default IP:** click on the setting, and the device will restore the default IP; or send the reip command to the device to restore the default IP.

5. **Restore the default configuration:** click the setting, the device will restore the default configuration; or send the reset command to the device to restore the device to the default configuration.

6. **The configuration of the heartbeat is query:** enter the print command of the custom heartbeat, the heartbeat interval, the target IP, and the target port in the input box, and click the setting to take effect. Click Query to query the heartbeat configuration content.

7. **Heartbeat packet data:** display the heartbeat packet print data.

8. **Clear message:** Click "Clear message" to clear the heartbeat packet data.

9. **Device restart:** Click "Device restart" to restart the device.

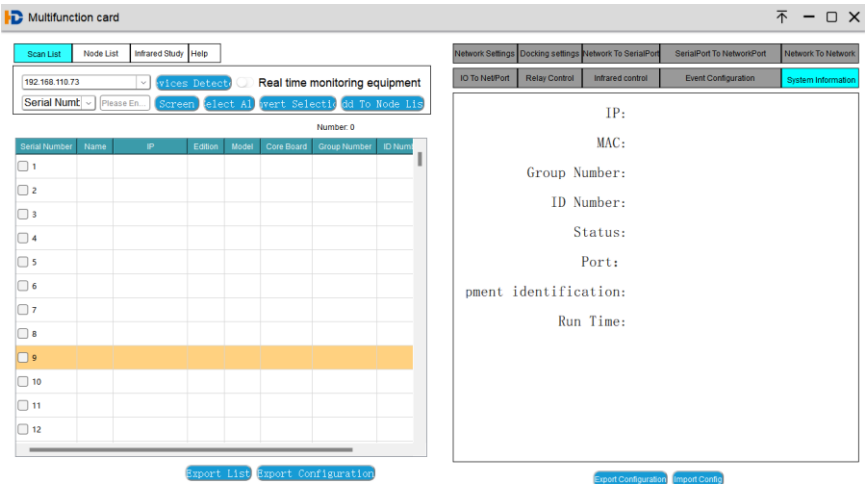
10. **Device reset:** Click "Device Reset" to reset the device.

11. **Export Configuration:** Export the configuration file of the current page.

12. **Import configuration:** Import the configuration file into the current page.

### 7.5.17.13 System Information

Enter the system information interface to display the IP, MAC, group number, ID number, status, port number, device ID, and running time of the selected device.



The screenshot shows a web interface for a 'Multifunction card'. At the top, there are navigation tabs: 'Scan List', 'Node List', 'Infrared Study', and 'Help'. Below these, there is a search bar with the IP '192.168.110.73' and a dropdown menu set to 'Devices Detect'. A 'Real time monitoring equipment' section contains buttons for 'Serial Num', 'Please En', 'Screen', 'Select All', 'Start Select', and 'Go To Node List'. A table with 12 rows and columns for 'Serial Number', 'Name', 'IP', 'Edition', 'Model', 'Core Board', 'Group Number', and 'ID Number' is shown. Row 9 is highlighted in yellow. Below the table are buttons for 'Export List' and 'Export Configuration'. On the right side, there are tabs for 'Network Settings', 'Docking settings', 'Network To SerialPort', 'SerialPort To NetworkPort', and 'Network To Network'. Underneath, there are sub-tabs: 'ID To NetPort', 'Relax Control', 'Infrared control', 'Event Configuration', and 'System Information'. The 'System Information' tab is active, displaying the following details for the selected device: IP, MAC, Group Number, ID Number, Status, Port, Equipment identification, and Run Time. At the bottom right of this panel are buttons for 'Export Configuration' and 'Import Config'.

Figure 7-37 System information

### 7.5.18 Screen Grouping

The device supports up to 4 groups, each group can be controlled independently and can be switched arbitrarily. Add grouping method see [7.5.2 Splicing settings](#)

## 7.6 System Management

### 7.6.1 Language Selection

System language setting, supports 2 languages: Simplified Chinese (system default), English. In the system management module, select and click "language selection" to enter the language setting interface, as follows:

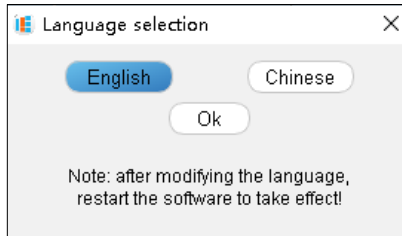


Figure 7-28 Language Selection

*Note: System language switching needs to restart the software to take effect.*

### 7.6.2 Import configuration

Importing configuration refers to importing the exported configuration file to the device again. Select and click "Import Configuration" in the system management module, and then select the backup configuration file to import the parameters saved in the backup file.

### 7.6.3 Export configuration

Export configuration refers to exporting the currently saved data to generate a backup file. The exported parameters include scene data, mapping data, grouping data, output resolution, and network data. In the system management module, select and click "Export Configuration", and then select the corresponding folder to generate the device configuration file.

### 7.6.4 User Management

User management is used to add, modify or delete user information. The default user list of this control software is divided into administrators and ordinary users. The default administrator account is "admin" (the initial password is admin). Select and click "User Management" in the system management module, enter the following user management interface, configure users and user permissions.

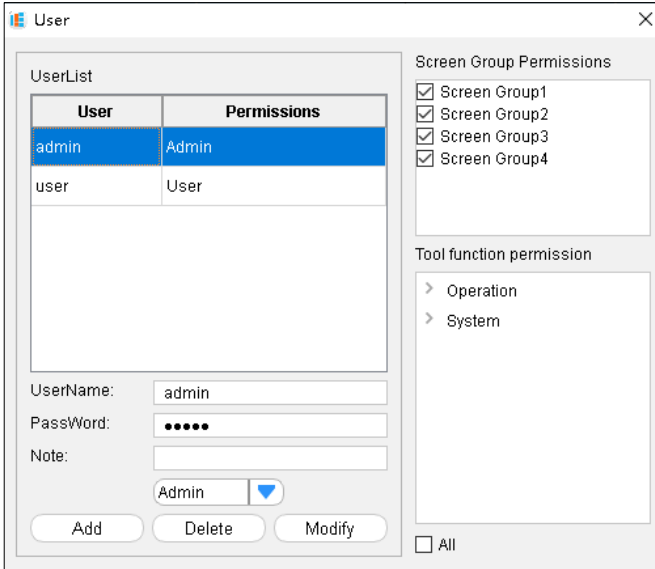


Figure 7-29 User Management

#### Explanation:

- Only administrator users can access the user management interface.

### 7.6.5 Firmware upgrade

Firmware upgrade supports software program updates for device control boards, input cards, and output cards. The upgrade file can be obtained from the company's technical or sales personnel.

Upgrade method: Select and click "Firmware Upgrade" in the system management module, enter the following interface, select the corresponding program mode of the device to be upgraded, then import the corresponding upgrade file, and click "Upgrade".

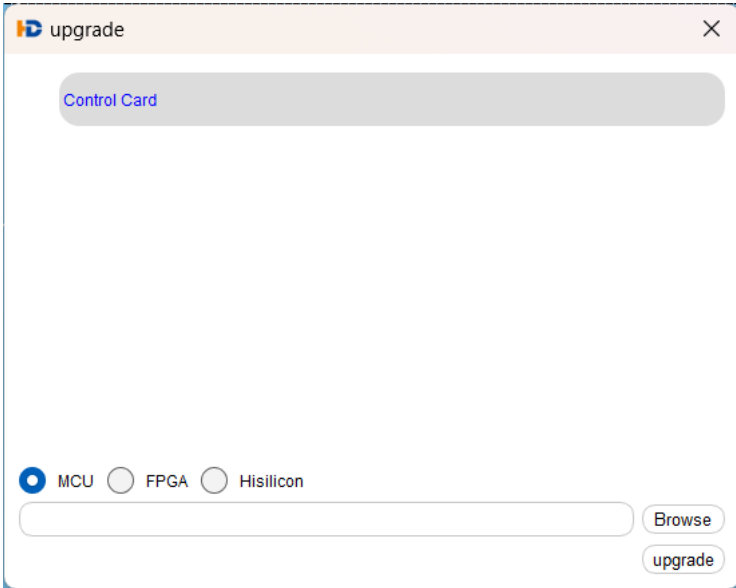


Figure 7-45 System Upgrade

**Explanation:**

- After the upgrade is complete, you need to restore the factory settings, then power off and restart the host device.

### 7.6.6 Device Configuration

Device configuration includes factory reset, fan adjustment, and brightness adjustment. Select and click "Device Configuration" in the system management module to enter the following device configuration interface, as follows:

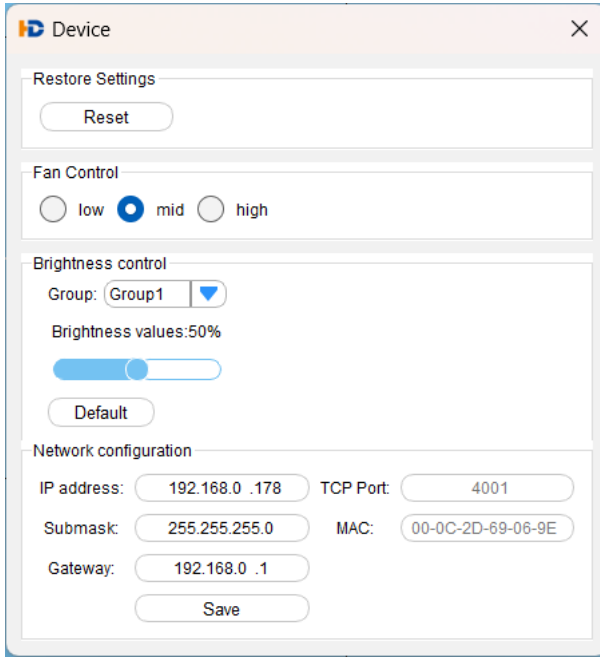


Figure 7-46 Device Configuration

- 1) Factory reset: restore the device to the factory state. After factory reset, all operation data will be cleared and the device IP address will be restored to 192.168.0.178.
- 2) Fan adjustment: When the temperature of the equipment or the operating environment temperature is too high, the rotating speed of the equipment can be adjusted according to the needs: low, medium, high.
- 3) Brightness adjustment: Set the output brightness of each group: 0~100%, the default status is 50%.
- 4) Network configuration: show information of IP

### 7.6.7 Authorization encryption

Log in to the upper computer to open the authorization function interface, copy the machine code to the technical personnel, click browse, open the authorization file, click import, check whether the authorization time is correct.

### 7.6.8 About

In the device configuration module, select and click "About" to enter the device information interface, which mainly displays the information of the board and board version.

About				
Name	Type	Hardware version	MCU version	FPGA version
Control card	8*12	/	V2.0.0	V1.0.0
Back Panel	/	/	/	V1.0.1
HDMI	IN 1	V1.0.0	V1.1.1	V1.0.2
DVI	IN 2	V1.0.0	V1.1.1	V1.0.2
HDMI	OUT 1	V1.0.0	V2.1.0	V2.0.6
DVI	OUT 2	V1.0.0	V2.1.0	V2.0.6
DVI	OUT 3	V1.0.0	V2.1.0	V2.0.6
Software Version:V2.0.5.2				

Figure 7-48 Device Version

### 7.6.9 Scheduled task

In the device configuration module, click "Scheduled Task" to enter the scheduled task setting screen. You can set the scheduled task to send commands to control the third-party device and the scheduled invocation scenario.

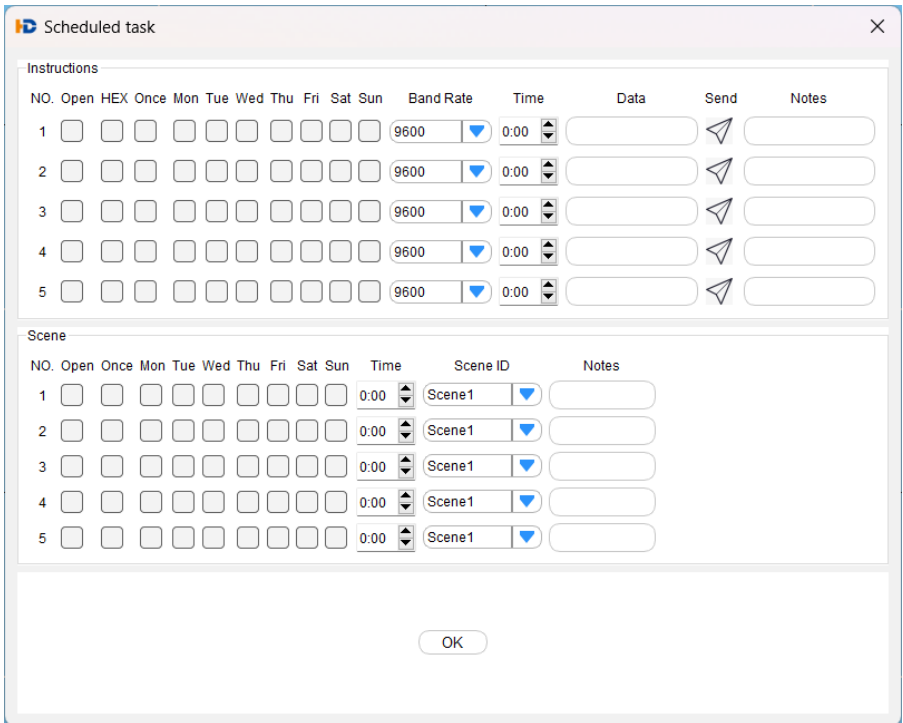


Figure 7-38 Scheduled task

1. Timing instruction sending setting area: A total of 5 instructions can be set for timing sending. Click the box with the mouse to check whether to set timing instruction to open, HEX or not, send once or send from Monday to Sunday; Band Rate drop-down triangle button Select the baud rate to be sent. Time Indicates the sending time. Enter the instruction content to be sent in the Data input box; Click Send and send the command; Note You can comment any information in the Notes input box.

2. Timing call scenario setting area: A total of 5 timing call scenarios can be set. Click the box with the mouse to uncheck the set timing send instruction to open, send once or send from Monday to Sunday; Time Sets the sending time Scene ID drop-down triangle button to select the scene to be sent. Note You can comment any information in the Notes input box.

3. OK: Click OK for the above Settings to take effect.

**Explanation:**

- The scheduled task function can be performed only when the client is properly connected to the device.



## 7.7 IP decoding card control

IP decoding card supports client software control or browser WEB control. The default IP address of the decoding card is 192.168.0.200, the account is admin, and the password is admin.

IP decoding card, control computer, switch/router, encoder and other devices must be in the same network segment, otherwise they cannot be connected.

### 7.7.1 IP decoding card connection

#### 7.7.1.1 Client Control Connection

- ① Select any signal channel of the IP card in the device list, right-click and choose Decoder Card for connection.

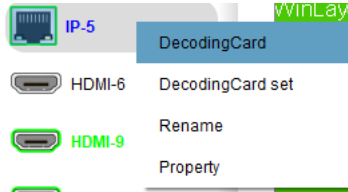


Figure 7-39 client connection

- ② If the IP address of the IP decoding card is changed, manually change the connection IP address, as shown in the following figure.

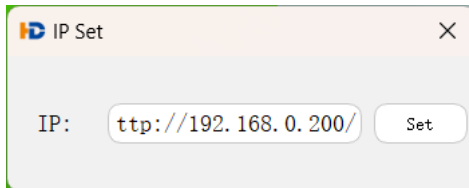


Figure 7-40 IP address modified

#### 7.7.1.2 Brower control connection

When using a browser connection, enter the IP address of the decoder card in the browser IP address input field to connect the device, as shown in the following figure.

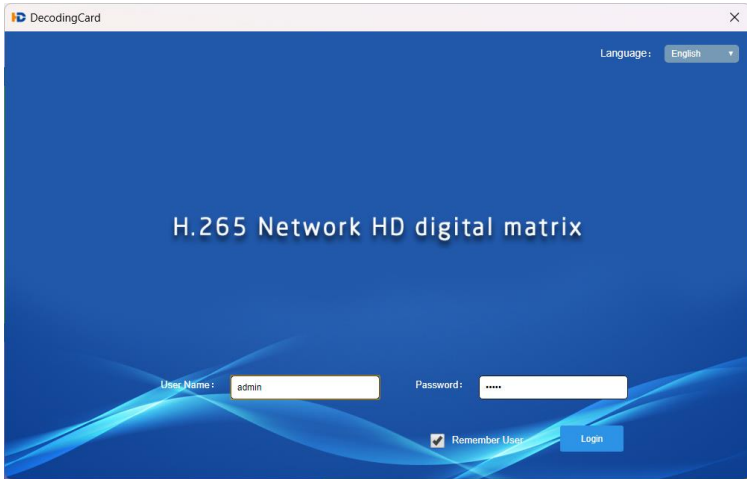


Figure 7-41 browser connection

### 7.7.2 Video control

The video control interface mainly includes input source list, decoding control area, plan polling management, operation log and so on. The video control interface is shown below:

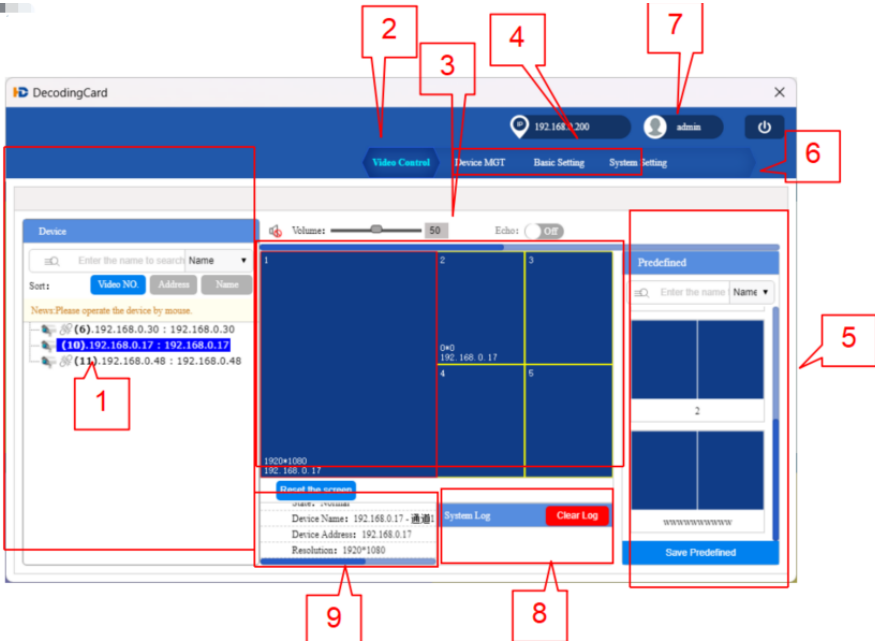


Figure 7-42 Video control page

### 7.7.2.1 Input node list

A. The added signal node is displayed in the video source list. Select the signal node and drag it to the right screen to set it as the output signal of the IP channel.

B. Sort signal nodes: You can select Video Source Number, Device IP address, and Device Name to sort the input list.

### 7.7.2.2 Screen Echo Switch

The control screen display function is displayed.

### 7.7.2.3 Decoding control area

Decode the control area, right-click the screen to operate the window menu function:



Figure 7-43 Decoding control area

- A. Split window: The window selected by the box is split into other split modes;
- B. Merge Windows: Box select multiple Windows to merge into one window;
- C. Wall-to-wall enlarge window: The selected window is enlarged to full screen;
- D. PTZ control: support to control IPC equipment with PTZ function;
- E. Clear the window: Close the currently selected window.
- F. Window rotation management: Set the current window rotation scheme. For details about how to set the window rotation scheme, see 7.7.2.4 Configuring Wheel Rotation (Single Window Rotation).
- G. Window rotation control: Control the current window rotation;
- H. Pre-plan patrol control: control the whole decoding module pre-plan patrol. For the setting method of decoding module patrol scheme, see 7.7.2.7 Pre-plan Patrol Management (all window patrol);
- I. Reset the screen: decode the screen segmentation mode Settings, support custom segmentation, single window screen, multi-window segmentation, etc.

### 7.7.2.4 Configure Patrol (Single Window Patrol)

Configuration and modification of window patrol program parameters.

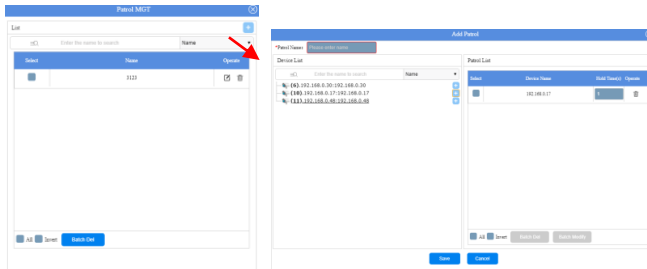


Figure 7-44 Configure Patrol

The configuration is as follows:

- A. Enter the patrol configuration interface;
- B. Click "+" in the "Patrol List" column to add a patrol plan;
- C. Enter the name of the patrol plan;
- D. Add the scene where the program needs to patrol;
- E. Set the polling interval for each scene, the minimum is 10S;
- F. Click "Modify" to save the setting parameters.

### 7.7.2.5 Plan saving and calling

Save plan: Save data including window data, decode picture segmentation mode.

Invoking a plan: Click a saved plan to invoke it.

### 7.7.2.6 Pre-plan management

Supports the management of saved plans.



Figure7-45 Pre-plan management

### 7.7.2.7 Pre-plan patrol management (all window patrol)

Pre-plan patrol management, which supports the setting of pre-plan patrol for the entire decoding card screen.

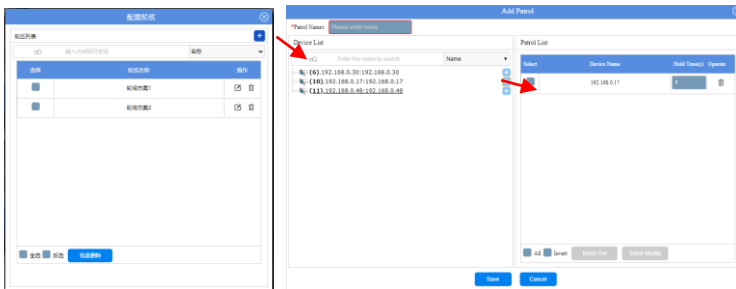


Figure7-46 Pre-plan patrol management

The configuration is as follows:

- A. Enter the plan patrol management interface;
- B. Click "+" in the "Patrol List" column to add a patrol plan;
- C. Enter the name of the patrol plan;
- D. Add the scene where the program needs to patrol;
- E. Set the polling interval for each scene, the minimum is 10S;
- F. Click "Modify" to save the setting parameters.

### 7.7.2.8 System log

The left side of the bottom bar is the operation prompt, indicating the operation status and result; On the right is a system log prompt, such as a warning when the

decoding capability is exceeded.

### 7.7.3 Device management

Device management mainly includes device node search, add, delete, node group management, node list management, and import and export parameter information operations. Click "Device Management" to enter the following interface:

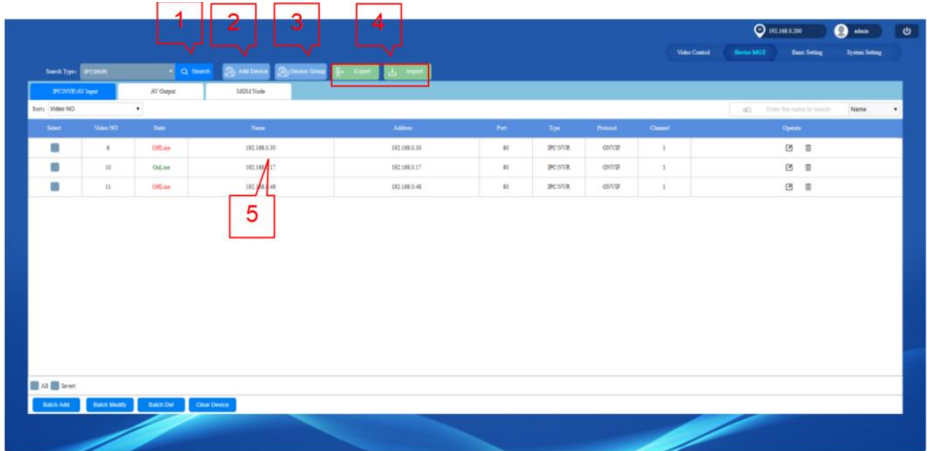


Figure 7-47 Device management

#### 7.7.3.1 Search device

Click Search to enter the "Search Device" page, the system automatically searches for online devices on the same LAN. Enter the account and password of IPC webcam and click Add to add the device to the device list.

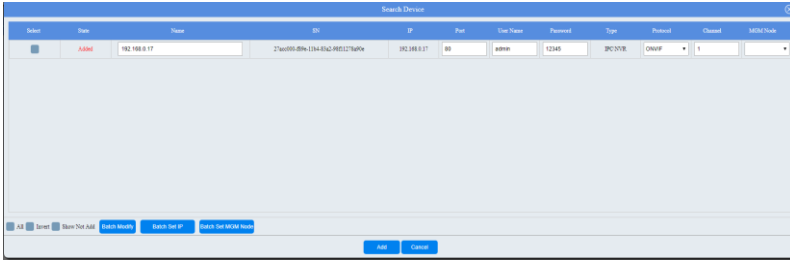


Figure7-48 Search device

### 7.7.3.2 Add device

Add devices manually. You need to manually enter the device address, protocol type, account password, and other information. Red stars are mandatory, as shown in the following figure:

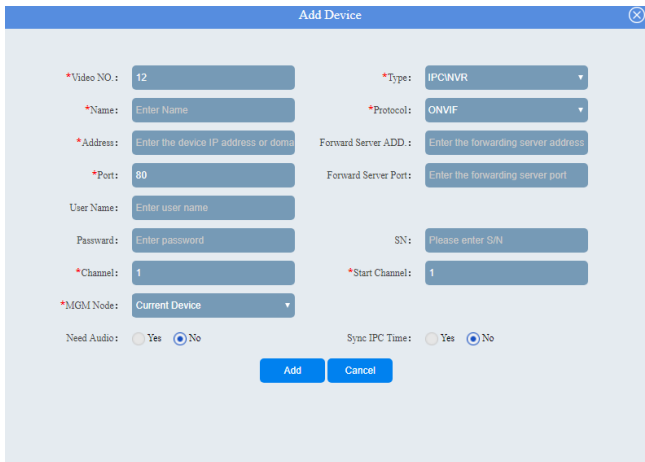


Figure7-49 Add device

### 7.7.3.3 Group management

It is used to manage the group of added device nodes and add the added device nodes to the corresponding group. As shown in the picture below:



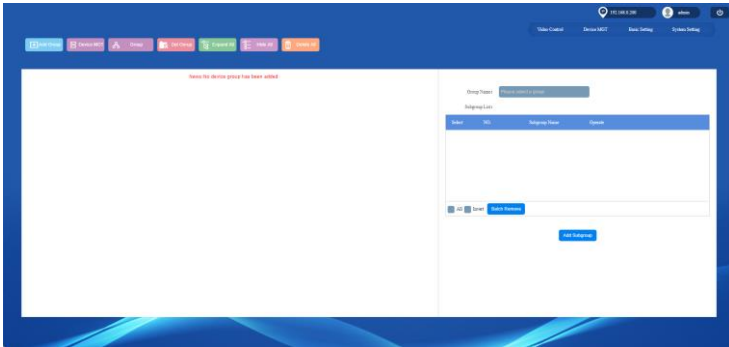


Figure 7-50 Group management

### 7.7.3.4 Import/export device

Export device: Click Export to back up the added device node information in xlsx format.

Import a device: Click Import to quickly add a device node using the backup file.

### 7.7.3.5 Device node list

Device node list Displays all added device nodes. You can view whether the devices are online, edit node information, delete nodes, and manage device nodes in batches.

## 7.7.4 Basic setting management

Basic Settings management is to set the relevant contents of the current decoded screen, such as cache frame number, code stream, window display content, etc. As shown below

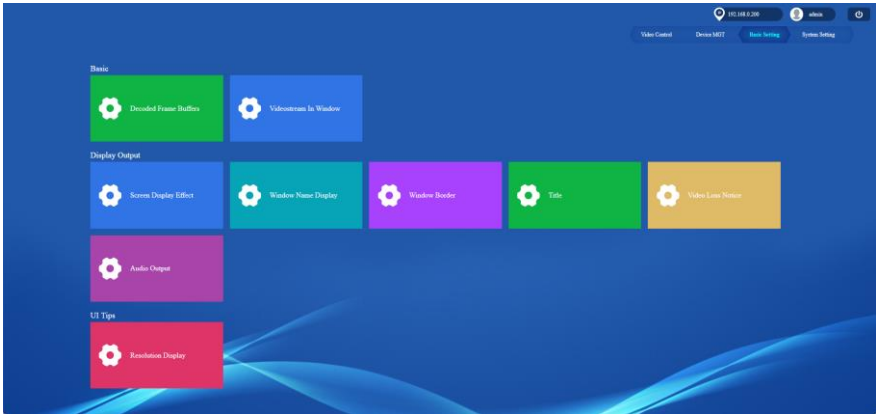


Figure 7-51 Basic setting management

### 7.7.4.1 Basic setting

#### 1) Decoded frame cache number set

It is used to alleviate abnormal phenomena such as frame loss when the network fluctuates.

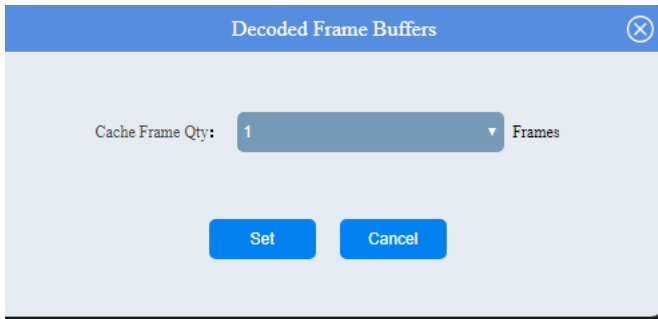


Figure7-52 Decoding frame buffer number setting

#### 2) Window stream Settings

Used to set the split mode of the current output to select a primary stream or a substream.

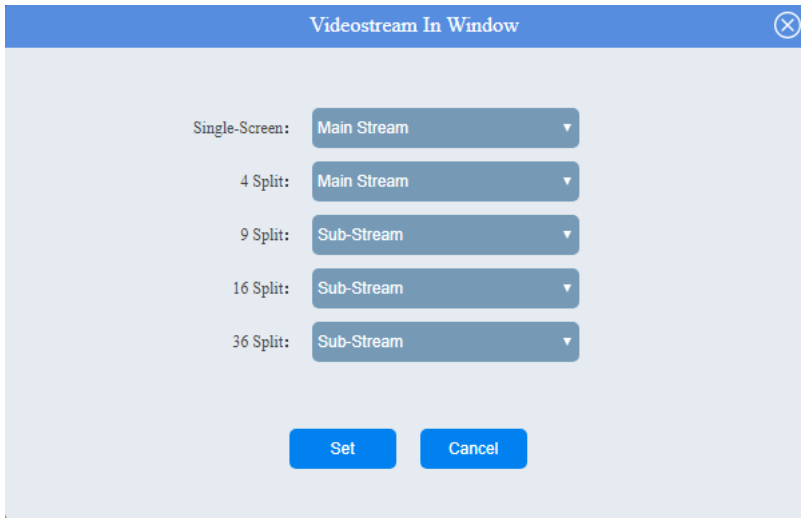


Figure 7-53 Window stream Settings

#### 7.7.4.2 Display output setting

1) Output display setting

It is used to set the brightness value, contrast value, hue value and saturation value of the output screen.

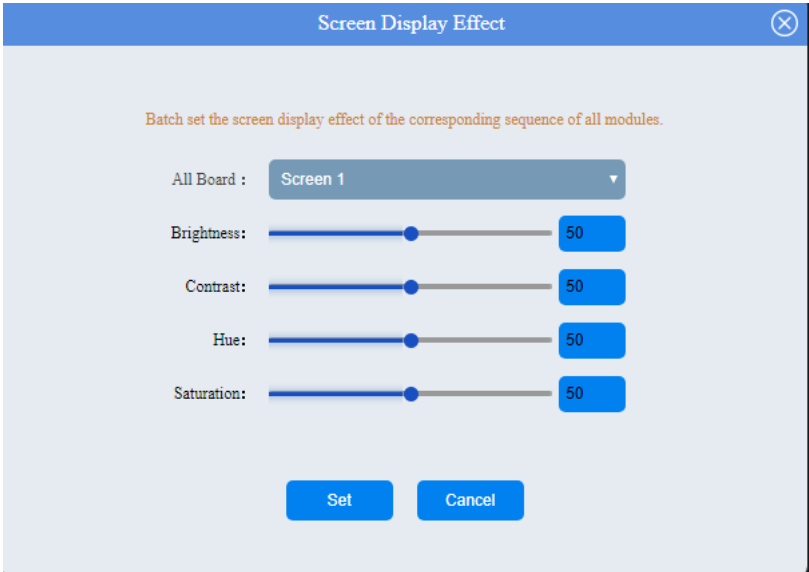


Figure 7-54 Output display settings

## 2) Window Name Display Settings

It is used to set the serial number, color, position, transparency, and switch of the large-screen display window.

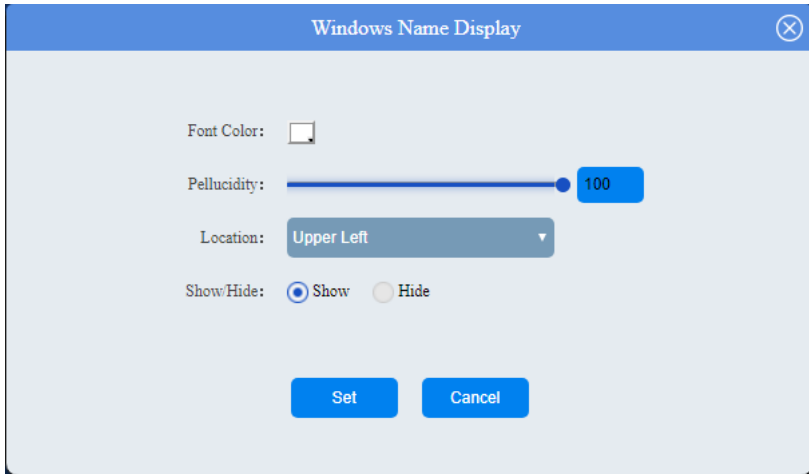


Figure 7-55 Window Name Display Settings

3) Windows border setting

Used to set the display screen, the line border between Windows and Windows, support color, transparency, line width Settings.

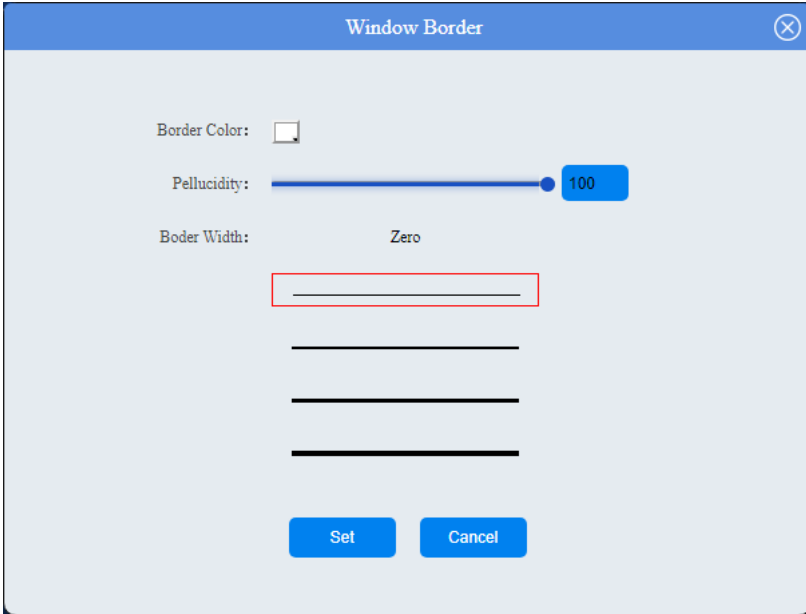


Figure7-56 Windows border setting

4) TV wall head-up setting

Used to set the display screen subtitles, support subtitles content, font size, transparency, position, scrolling effect, status adjustment.



Figure 7-57 TV wall head up setting

5) Video Loss Notification Settings

Can be set display effect after lost decoding signal.

On: After the coding signal is lost, the large screen displays "No video signal".

Off: After the coded signal is lost, the last frame is displayed on the large screen.

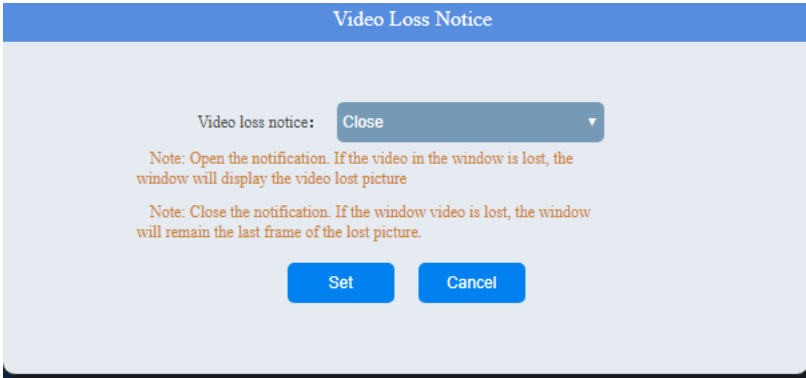


Figure 7-58 Video Loss Notification Settings

6) Audio output settings

The reservation function is not enabled.

### 7.7.4.3 Web display Settings

Resolution display setting: Used to display the current channel decoding resolution in the echo screen.

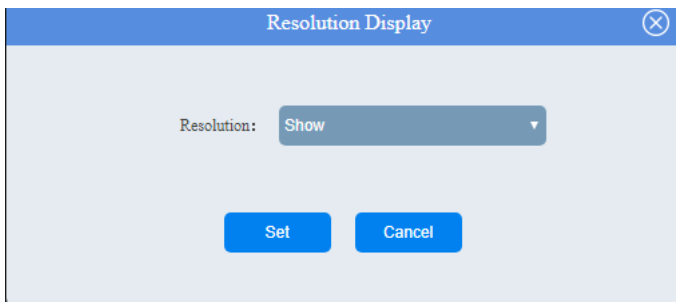


Figure 7-59 Resolution

### 7.7.5 System setting management

System Settings management is used to decoding card network settings, restart and reset, and export/import configuration data.

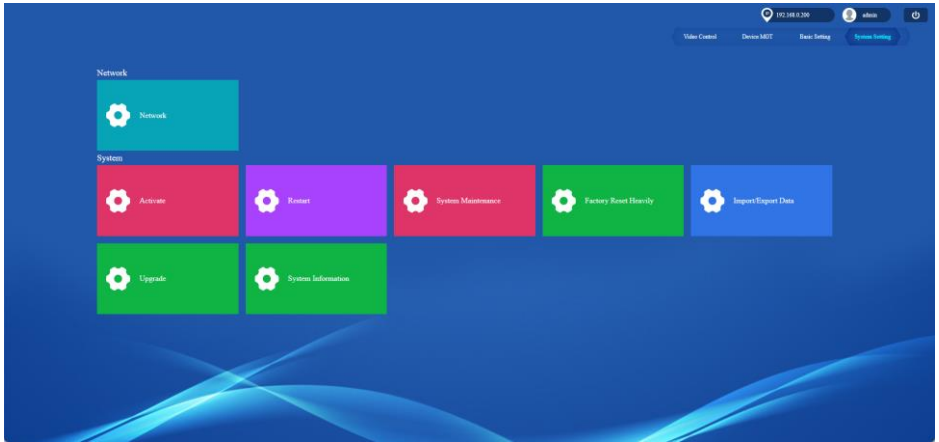


Figure7-60 System setting management

### 7.7.5.1 Network setting

Network setting: Can set decoder card IP address, subnet mask, gateway and other information; The default IP address of the decoder card is 192.168.0.200. If the decoder card is used in other network segments, you need to modify the network address of the decoder card on this page.

The device supports a maximum of 10 network segments.



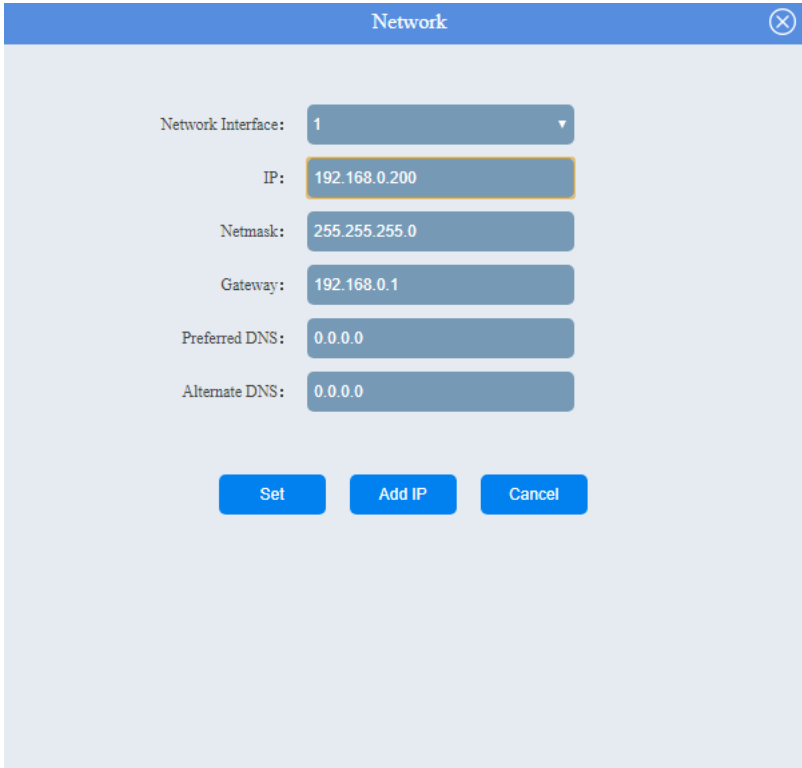


Figure7-61 Network settings

### 7.7.5.2 System setting management

- 1) Activate the device  
This function is not enabled.
- 2) Restart the device  
Restart the decoding card system service.
- 3) System maintenance Settings  
The decoding module can be restarted periodically.
- 4) Heavy reset to factory value  
Forcibly clear the Settings of the decoder card, and restore the IP address and gateway to the default values.

- 5) 5Export/import configuration data  
Export related data of decoder card; Or import the saved data to a new decoder card.
- 6) Equipment upgrade  
Decoding card software program update. Upgrade documents can be obtained from our technical or sales personnel.
- 7) Version information  
Displays the version number of the current version of the identified board and the latest software update time.

## 8 WEB Interactive interface control

Through the computer/tablet to open a browser to login to the web, you can realize the control operation of the product, such as opening Windows, saving scenes, upgrading, configuration, user Settings, mapping Settings, etc. Supports Web access from Windows, IOS, and Android systems.

### **Explanation:**

- To support WEB access operation, contact technical personnel for version confirmation.

### 8.1 Login mode

Enter IP address :192.168.0.178 on the browser (Internet Explorer is not supported) to go to the splicing processor login page. The initial account is admin and the default password is admin. Select the default user name for the first login, as shown in the following figure:

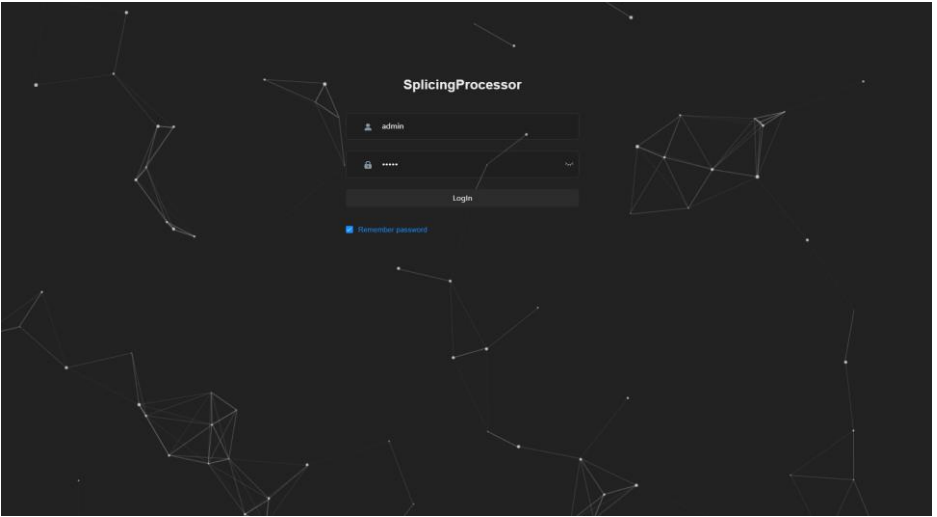


Figure 8-1 Login

## 8.2 WEB main interface introduction

Enter to the WEB side main interface of splicing processor, after logged in to the connection of the browser, The WEB window is supported, as shown in the following figure:

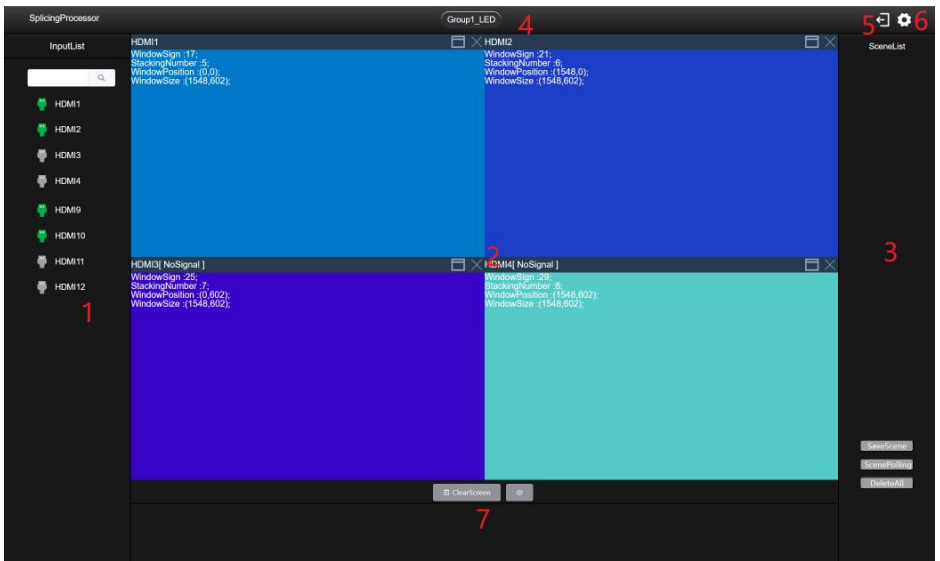


Figure 8-2 WEB main interface

①	The list of input, display all input channels
②	Window display area, set window opening and display window opening state, edit window
③	Scene list display area, save the scene, scene polling, delete all, etc
④	Grouping area
⑤	Quit the web login
⑥	Enter setting interface
⑦	Clear screen window

### 8.3 Introduction to the Settings Screen

Click the setting icon of the main interface to enter the setting interface, as shown below:



Figure 8-3 Setting interface

①	Close the left sidebar
②	Change the display language to Chinese/English
③	Back to the web main interface
④	Enter the device setting interface, see 8.3.1 for details
⑤	Enter upgrade management interface, see 8.3.2 for details
⑥	Enter account setting interface, see 8.3.3 for details
⑦	Enter the interface of custom resolution setting, see 8.3.4 for details,
⑧	Enter the splicing setting interface, see 8.3.5 for details

### 8.3.1 Device setting interface

Set the device input and output card configuration, as shown below:

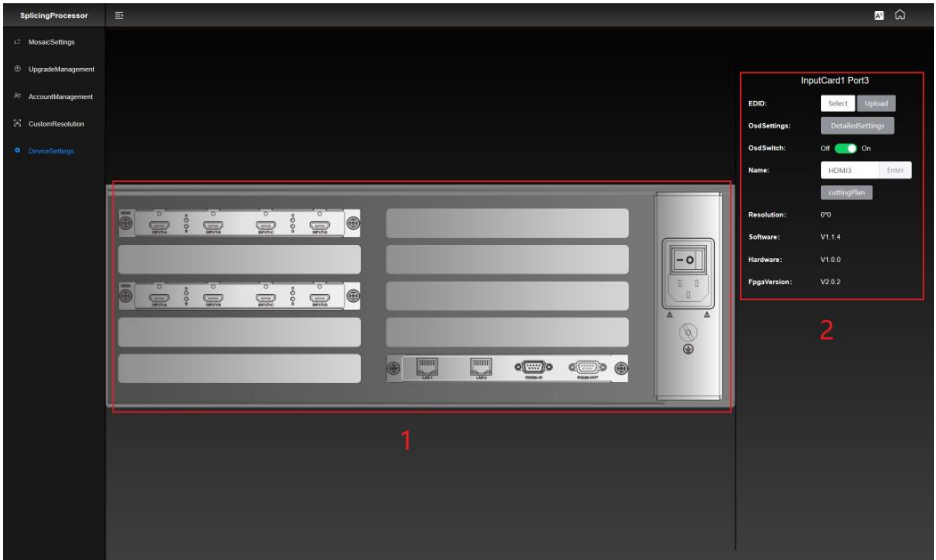


Figure8-4 Device setting interface

①	In the device display area, click the corresponding board or channel, and the configuration interface is displayed in the right bar
②	On the right side of the column setting and read parameters

#### 8.3.1.1 Device input port configuration

Device input port configuration: Click any channel of the input board, and the input channel setting interface pops up in the right bar. You can set the input channel EDID, OSD setting, OSD switch setting, input channel name editing, display board input resolution, display software and hardware version.



Figure 8-5 Device input port configuration

### 8.3.1.2 Device output channel configuration

Device output configuration: Set the output channel name and display the hardware and software versions of the output channel.



Figure 8-6 Device output channel configuration

### 8.3.1.3 Control card configuration

Device control card configuration: set control card IP, reset operation, fan gear setting, brightness setting, display control card software version.



Figure 8-7 Device control card configuration



### 8.3.2 Upgrade management interface

The input/output board and control board can be upgraded online.

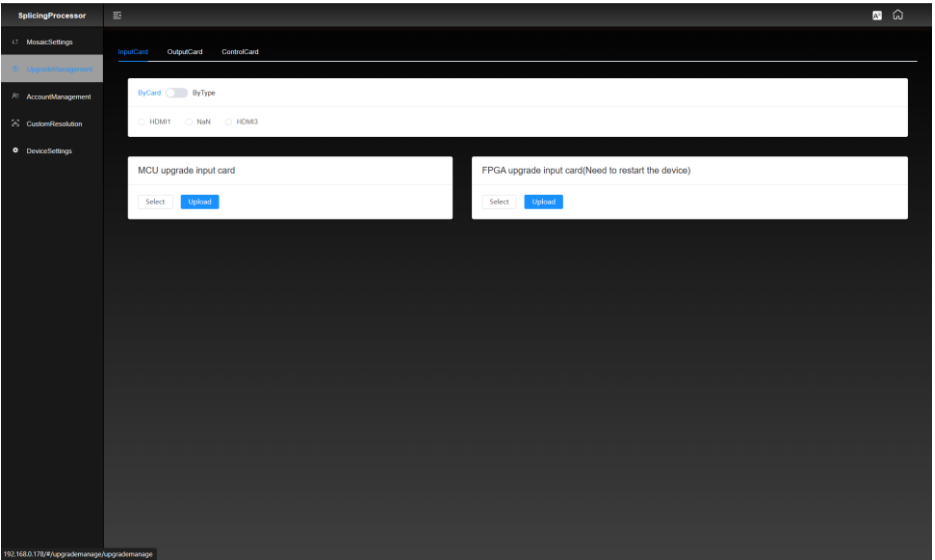


Figure 8-8 Input card upgrade management interface

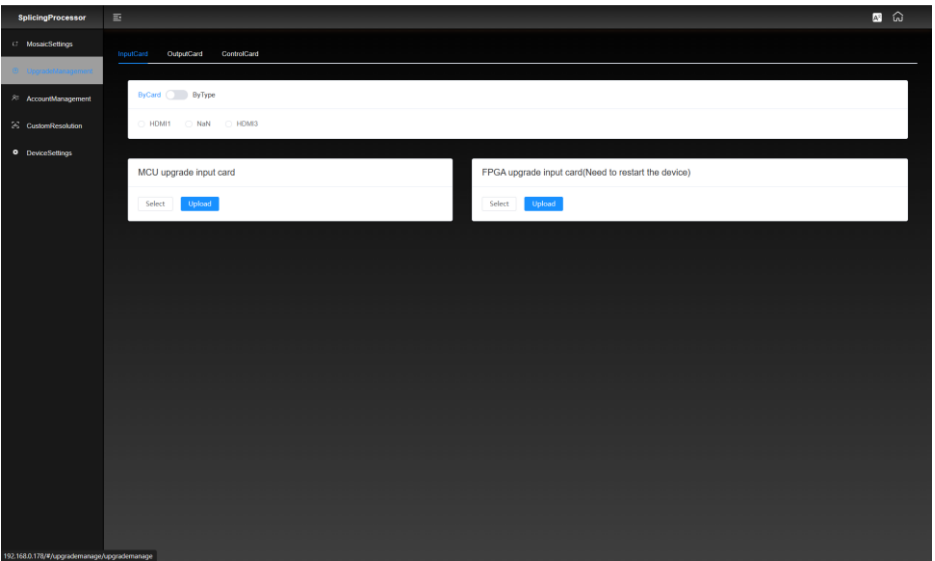


Figure 8-9 output card upgrade management interface

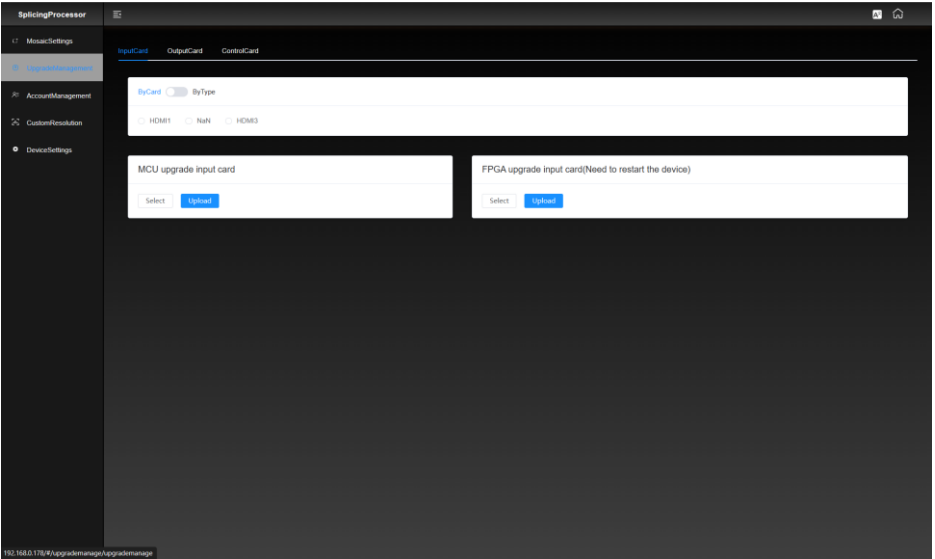


Figure 8-10 Control card upgrade management interface

### 8.3.3 Account setting interface

Account setting interface, can be used to edit users and add users.

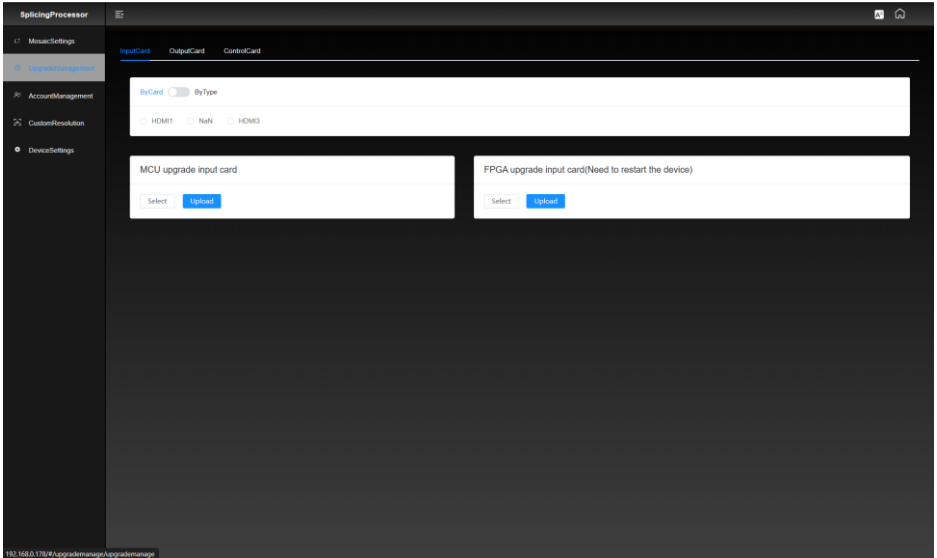


Figure 8-11 Account setting interface

### 8.3.4 Custom resolution interface

Custom resolution interface, can add, edit, and delete custom output resolution.

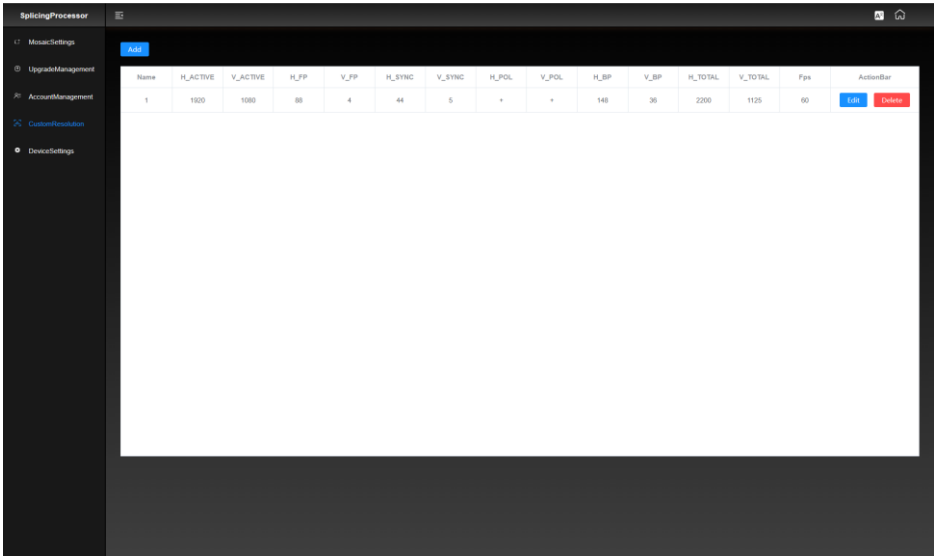


Figure 8-12 Custom resolution interface

### 8.3.5 Splicing setting interface

The splicing setting interface can set the group, group type, video wall row, output resolution, screen settings, and read the output list.

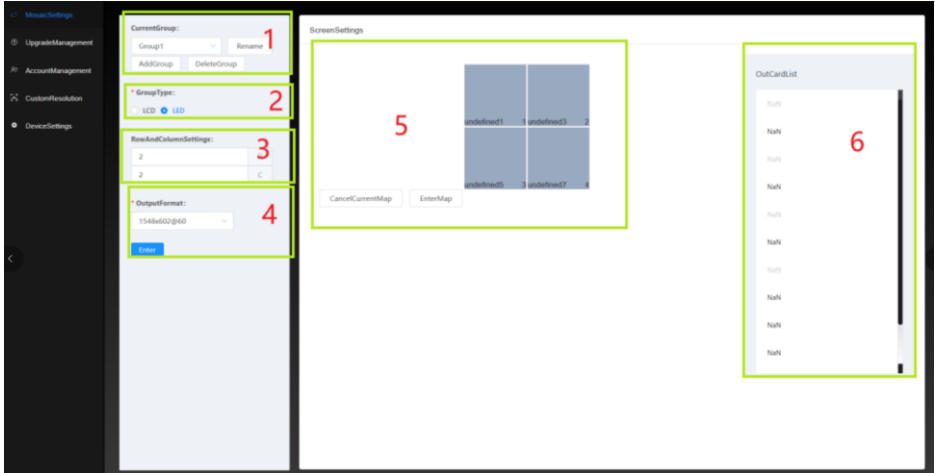


Figure 8-13 Splicing setting interface

①	Current group: Select current group, group edit rename, add group, delete group, and other Settings
②	LED/LCD Group Type: Set the group type to LED/LCD
③	Rows and columns: Set the number of Windows, rows and columns
④	Output format: Set the output resolution and press enter to confirm the setting
⑤	Screen Settings: Set the window position and output port mapping
⑥	Output card port list: Display all output ports of the machine, select any output port, use the mouse to drag to the window position set on the screen, set the mapping

## 9 Specifications

### 9.1 Host parameters

<b>Control</b>	
RS232 Control	DB9
TCP/IP Control	RJ45, Compliant with TCP/IP protocol
<b>Normal</b>	
Chassis structure	08x12 Hybrid Plug-In Processor: 2 input channel card slots; 3 output channel card slots 20x16 Hybrid Plug-In Processor: 5 input channel card slots; 4 output channel card slots 36x36 Hybrid Plug-In Processor: 9 input channel card slots; 9 output channel card slots
Power supply	100V~240V AC,50/60Hz
No-load power	08x12 Hybrid Plug-In Processor: 9.6W(Normal control card), 16W(Advanced control card) 20x16 Hybrid Plug-In Processor: 10.4W(Normal control card), 22W(Advanced control card) 36x36 Hybrid Plug-In Processor: 37.2W(Normal control card), 42W(Advanced control card)
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Chassis size (excluding hanging ears)	08x12 Hybrid Plug-In Processor: W436.6mm x H88.0mm x D320mm 20x16 Hybrid Plug-In Processor: W436.6mm x H136.0mm x D320mm 36x36 Hybrid Plug-In Processor: W436.6mm x H269.0mm x D320mm
Weight (kg)(excluding signal boards)	08x12 Hybrid Plug-In Processor: 6.3kg 20x16 Hybrid Plug-In Processor: 7kg 36x36 Hybrid Plug-In Processor: 12kg

 **Explanation:**

- The chassis size and weight are approximate, please refer to the actual product.

## 9.2 Signal Input Board Parameters

### 9.2.1 DVI Signal Input Board

<b>DVI signal input board</b>	
Signal	4 channel DVI signal input
Connector	DVI-I female port
Normal power consumption	8.8W
Weight(g)	286g
<b>Regular</b>	
Video signal format	DVI compatible with HDMI
Standard	HDCP standard
Input resolution	Maximum support 1920x1200 @60Hz
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power supply	Powered by the host

### 9.2.2 HDMI Signal Input Board

<b>HDMI signal input board</b>	
Signal	4 channel HDMI signal input
Connector	Type A 19 Pin female
Normal power consumption	8.8W
Weight(g)	260g
<b>General</b>	
Video signal format	Compatible with HDMI、DVI-D
Standard	Support HDMI1.3,compatible with HDCP
Input resolution	Maximum support 1920x1200 @60Hz
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power supply	Powered by the host

### 9.2.3 DVI Audio signal input card

<b>Signal input board</b>	
Signal	4 channel DVI signal input
Connector	DVI-I female port
Normal power consumption	7.4W
Weight(g)	286g
<b>General</b>	
Video signal format	DVI compatible with HDMI
Standard	HDCP Standard
Input resolution	Maximum support 1920x1200 @60Hz
Audio format	Input built-in audio supports PCM and Dobby Digital formats
Audio sampling rate	32K, 44.1K, 48K, 88.2K, 96K
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power supply	Powered by the host

### 9.2.4 HDMI Audio signal input card

<b>Input card</b>	
Signal	4 channel HDMI signal input, 4 channel Audio signal input
Connector	Type A 19 Pin female, 3pin Phoenix
Normal power consumption	8.8W
Weight(g)	260g
<b>General</b>	
Video signal format	Compatible with HDMI、DVI-D
Standard	Support HDMI1.3, compatible with HDCP
Input resolution	Maximum support 1920x1200 @60Hz
Audio format	Input built-in audio supports PCM and Dobby Digital formats
Audio sampling rate	32K, 44.1K, 48K, 88.2K, 96K
Operating temperature	0℃~+45℃

Relative humidity	10%~90%
Power supply	Powered by the host

### 9.2.5 SDI Signal Input Board

<b>SDI Signal input board</b>	
Signal	4 channels SDI signal input, 4 channels SDI loop out signal
Connector	BNC connector
Normal power consumption	6.5W
Weight(g)	390g
<b>General</b>	
Video signal format	SDI
Working distance	1080P≤100m (Please use high-quality wire)
Input resolution	Maximum support 1920x1080P @60Hz
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power supply	Powered by the host

### 9.2.6 CVBS Signal input board

<b>CVBS signal input</b>	
Signal	4 channel CVBS signal input
Connector	BNC Connector
Normal power consumption	9.5W
Weight(g)	320g
<b>General</b>	
Video signal format	CVBS
Input resolution	PAL: 720x576I, NTSC: 720x480I
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power Supply	Powered by the host



## 9.2.7 VGA Signal Input Board

<b>VGA signal input board</b>	
Signal	4 channels VGA signal input
Connector	15Pin HD female port
Normal power consumption	7.1W
Weight (g)	270g
<b>General</b>	
Video signal format	VGA
Input/ Output resolution	Maximum support 1920x1080P @60Hz
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power supply	Powered by the host

## 9.3 Single-card Two Signal Input Board parameters

### 9.3.1 4K@30Hz HDMI Signal input Board

<b>4K HDMI Signal input</b>	
Signal	2 channel HDMI Signal input
Connector	Type A 19 Pin female
Normal power consumption	7.8W
Weight(g)	260g
<b>General</b>	
Video signal format	HDMI
Standard	Support HDMI1.4, compatible with HDCP
Input resolution	Maximum support 3840x2160 @30Hz
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power Supply	Powered by the host

### 9.3.2 DP Signal Input Board

<b>4K@30Hz DP Signal input board</b>	
Signal	2 channels DP input signals
Connector	Display Port
Normal power consumption	9.2W
Weight (g)	240g
<b>General</b>	
Standard	Support DP1.1
Output resolution	Maximum support 3840x2160@60Hz
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power Supply	Powered by the host

### 9.3.3 4K@60Hz Signal Input Board

<b>4K@60Hz Signal Input Board</b>	
Signal	1 channel HDMI input signal, 1 channel DP input signal(pick one of two)
Connector	Type A 19 pin female, Display Port
Normal power consumption	10W
Weight (g)	250g
<b>General</b>	
Standard	Support HDMI2.0, compatible with HDCP, support DP1.2,
Output resolution	Maximum support 3840x2160@60Hz
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power Supply	Powered by the host

### 9.3.4 IP Decoding Signal Input Board

<b>IP stream input card</b>
-----------------------------

Signal	1-channel IP streaming network input port, 1-channel HDMI input port, 1-channel independent audio input port, 1-channel USB upgrade port
Connector	RJ45, HDMI, 3PIN Phoenix seat, USB-A female
Normal power consumption	7.8W
Weight (g)	260g
<b>General</b>	
HDMI Standard	Support HDMI1.3, compatible with HDCP
Decoding protocol	Standard ONVIF, RTSP protocol, support H.264, H.265 stream
HDMI input resolution	Maximum support 1920x1200@60Hz
Decoding ability	Support 1 channel 4K30Hz / 2 channels 4K@24Hz / 4 channels 1080P@60Hz / 9 channels 1080P@25Hz / 16 channels 720P@25Hz / 32 channels D1 decoding
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power Supply	Powered by the host

## 9.4 Single-card Quad Signal Output Board parameters

### 9.4.1 DVI Signal Output Board

<b>DVI Signal Output board</b>	
Signal	4 channels DVI signal output
Connector	DVI-I female port
Normal Power consumption	10.2W
Number of windows	2K input supports 2 windows; 4K@30 input supports 1 window;
Weight (g)	270g
Video signal format	DVI compatible with HDMI
Output resolution	Maximum support 1920x1200@60Hz
Operating temperature	0°C~+45°C
Relative humidity	10%~90%
Power Supply	Powered by the host

### 9.4.2 HDMI Signal Output Board

<b>HDMI Signal Output board</b>	
Signal	4 channels HDMI output signals
Connector	Type A 19 pin female
Number of windows	2K input supports 2 windows; 4K@30 input supports 1 window;
Normal power consumption	10.2W
Weight (g)	250g
Video signal format	Compatible with HDMI、DVI-D
Standard	Support HDMI1.3
Output resolution	Maximum support 1920x1200@60Hz
Operating temperature	0°C~+45°C
Relative humidity	10%~90%
Power Supply	Powered by the host



## 9.5 Single-card Two Signal Output Board parameters

### 9.5.1 DVI Signal Output board

DVI Signal Output board	
Signal	2-channels DVI output signal, 2-channels DVI loop-out signal
Connector	DVI-I female port
Number of Windows	2K input supports 4 windows; 4K@30 input supports 2 windows; 4K@60 input supports 1 window
Normal Power consumption	10 W
Weight (g)	255g
Video signal format	DVI compatible with HDMI
Output resolution	Maximum support 1920x1200@60Hz
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power Supply	Powered by the host

### 9.5.2 HDMI Signal Output board

HDMI Signal Output board	
Signal	2-channels HDMI output signal, 2-channels HDMI loop-out signal
Connector	Type A 19 PIN female port
Number of Windows	2K input supports 4 windows; 4K@30 input supports 2 windows; 4K@60 input supports 1 window
Normal Power consumption	10 W
Weight (g)	246g
Video signal format	Compatible with HDMI,DVI-D
Output resolution	Maximum support 1920x1200@60Hz
Operating temperature	0℃~+45℃
Relative humidity	10%~90%

Power Supply	Powered by the host
--------------	---------------------

### 9.5.3 4K@30Hz Signal Output board

<b>HDMI Input Board</b>	
Signal	2-channels HDMI output signal,
Connector	Type A 19 PIN female port
Number of Windows	2K input supports 4 windows; 4K@30 input supports 2 windows; 4K@60 input supports 1 window(fixed window mode)
Normal Power consumption	6.2W
Weight (g)	260g
Video signal format	HDMI
Output resolution	Maximum support 4096x2160@30Hz
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power Supply	Powered by the host

## 9.6 Single Board Single Output Signal Parameters

### 9.6.1 DVI Output Signal Board

<b>DVI Output Signal Board</b>	
Signal	1 channel DVI output signal (the other three channels have no function)
Connector	DVI-I female port
Number of Windows	9.8W
Normal Power consumption	Support 8 windows for 2K input; support 4 windows for 4K@30 input; support 2 windows for 4K@60 input
Weight (g)	270g
Video signal format	DVI Compatible with HDMI
Output resolution	Maximum support 1920x1200@60Hz
Operating	0℃~+45℃

temperature	
Relative humidity	10%~90%
Power Supply	Powered by the host

### 9.6.2 HDMI Output Singal Board

<b>HDMI Output Signal Board</b>	
Signal	1 channel HDMI output signal (the other three channels have no function)
Connector	Type A 19 PIN female port
Number of Windows	9.8W
Normal Power consumption	Support 8 windows for 2K input; support 4 windows for 4K@30 input; support 2 windows for 4K@60 input
Weight (g)	250g
Video signal format	Compatible with HDMI, DVI-D
Standard	Support HDMI 1.3
Output resolution	Maximum support 1920x1200@60Hz
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power Supply	Powered by the host

### 9.7 Audio output Board

<b>Audio output Board</b>	
Signal	4 independent audio output ports
Connector	3PIN Phoenix seat
Normal Power consumption	5.3W
Weight (g)	240g
<b>General</b>	
Signal format	PCM Format
Standard	Output 48KHz
Noise floor	- 88 dBu
SNR	- 86 dBr



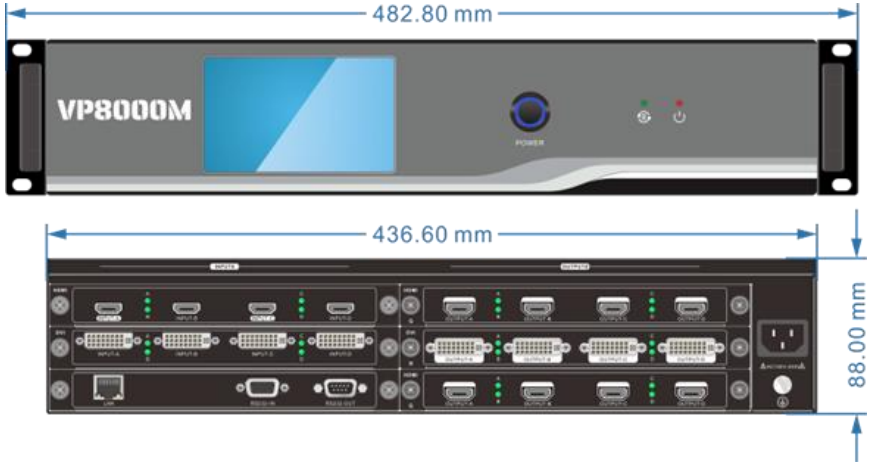
Distortion	≤0.01% @1KHz, +4dBu
Frequency response	200Hz~20KHz(± 1dB)
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power Supply	Powered by the host

## 9.8 Multi-function output card parameters

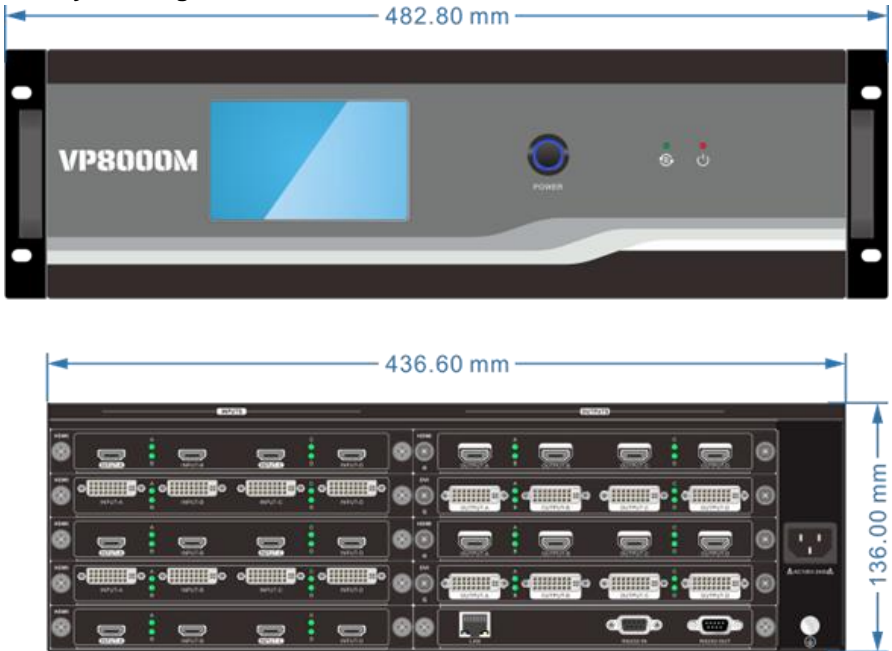
Port	1-channel 3pin Phoenix seat RS485 interface, 1-channel RS232 male socket, 1-channel IR IN receiving head, 1-channel IR OUT 3.5mm interface, 2-channel IO 3pin Phoenix seat interface, 1-channel RJ45 interface
Button	One Reset Button
Indicator	One power indicator light, green
Normal Power consumption	0.96W
Weight(g)	260g
Operating temperature	0℃~+45℃
Relative humidity	10%~90%
Power Supply	Powered by the host

## 10 Dimensions

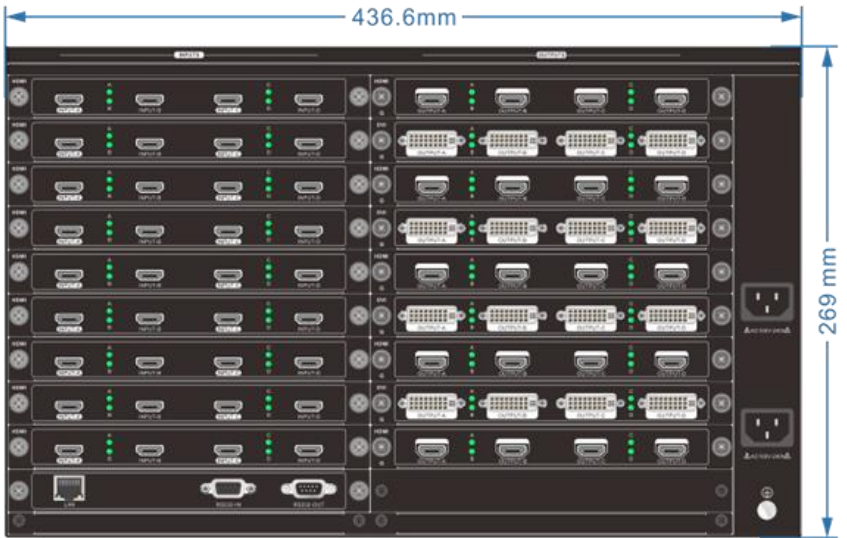
08x12 Hybrid Plug-In Processor: W436.6mm x H88.0mm x D320mm:



20x16 Hybrid Plug-In Processor: W436.6mm x H136.0mm x D320mm:



**36x36 Hybrid Plug-In Processor: W436.6mm x H269.0mm x D320.0mm:**  
482.8 mm



## 11 Common failures and maintenance

<b>Fault phenomenon</b>	<b>Cause Analysis</b>	<b>Troubleshooting</b>
The power indicator light is off, and the operation has no response	The power supply is not plugged in	Check power and make sure it's on
	Poor power input contact	Check the power interface and make sure it is in good contact, and connect it to another power input
When the signal is switched, there is no corresponding image output	The signal source or splicer is not turned on	Check to make sure the source and splicer are on
	Poor contact of video signal port	Check and make sure the corresponding video signal port is properly connected
The output image is disturbed	Poor contact of connecting wires between input and output devices	Connect the equipment correctly and make it in good contact
	The quality of input / output connecting wire is not up to standard or damaged	Replace the regular standard wire
	Too long wire distance	Replace the high-quality wire with the length of the transmission distance range supported by the system
There is obvious static electricity when plugging or unplugging the video interface.	Splicing processor device not well grounded	Ground the splice processor ground connection well
The LAN port cannot control the splicing processor	The network segment of the control device is inconsistent with that of the splicing processor.	Change the network segment of the control device to be consistent with the splicing processor
	The network segment of the splicing processor is inconsistent with the network	Change the splicing processor network segment to be consistent with the LAN

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	segment connected to the LAN	network segment
host unavailable	Internal damage to the host	Send to professional repair point for repair

## 12 After-sales Service

- 1) If you use this product in an abnormal situation, within the warranty period of the product, under normal use conditions, the company will be responsible for free maintenance without dismantling and repairing the fault caused by the quality of the product itself.
- 2) The company provides a one-year warranty service for this product. Warranty start date:
  - ✓ Product date of manufacture;
  - ✓ The above date cannot be obtained, and the production date of the product in the company's SN code shall prevail.
- 3) In any of the following cases, the warranty service will not be implemented, and the maintenance and parts fees will be charged reasonably:
  - ✓ Damage caused by improper use, storage and maintenance of consumers;
  - ✓ Appearance and components are damaged by humans;
  - ✓ Damage caused by changing the configuration or modifying the product without the authorization of the company;
  - ✓ Damage caused by force majeure factors.
- 4) In any of the following circumstances, the company has the right to refuse to provide maintenance services or provide maintenance services for a fee:
  - ✓ No warranty certificate and valid invoice, no SN code for the product;
  - ✓ The fragile label of the body is damaged (except authorized by the company), and the content of the product label has been altered or blurred and cannot be identified;
  - ✓ Damage caused by installation, disassembly and repair not authorized by the company;
  - ✓ There is no sales certificate or the sales certificate does not match the model of the repaired product;
  - ✓ Products not produced and sold by our company.
- 5) You can contact the after-sales service department of our company directly by letter or call, please inform the following content:
  - ✓ The model and name of the product you are using;
  - ✓ Fault phenomenon (as detailed as possible);
  - ✓ The process before and after the failure occurs.