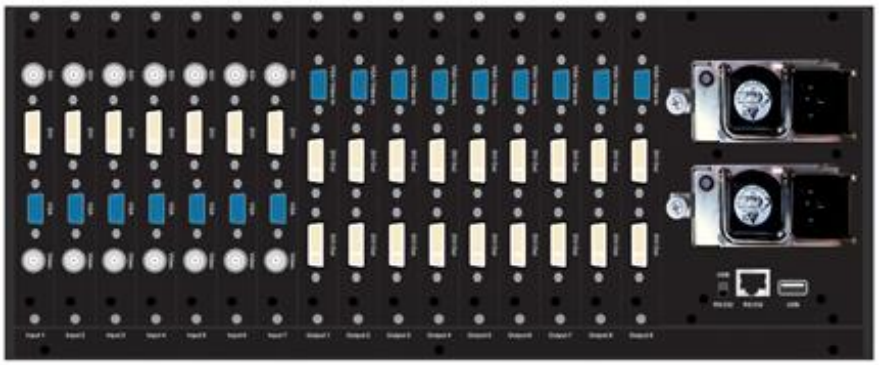
LVP98XX
LED HD Mix-Matrix Processor

USER'S MANUAL



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I. Safety Precautions

Danger!

There is high voltage in the processor, to prevent any unexpected hazard, unless you are maintenance, please do not open the cover of the device.

Warning!

1. This device shall not encounter water sprinkle or splash, please do not place anything containing water on this device.
2. To prevent fire, keep this device far from any fire source.
3. If this device gives out any strange noise, smoke or smell, please immediately unplug the power cord from receptacle, and contact local dealer.
4. **Please do not plug or unplug DVI signal cable if the device is powered on.**

Caution!

1. Please thoroughly read this manual before using this device, and keep it well for future reference.
2. In the event of lighting or when you are not going to use the device for a long time, please pull the power plug out of receptacle.
3. Nobody other than professional technicians can operate the device, unless they have been appropriately trained or under guidance of technicians.
4. To prevent equipment damage or electric shock, please don't fill in anything in the vent of the device.
5. Do not place the device near any water source or anywhere damp.
6. Do not place the device near any radiator or anywhere under high temperature.
7. To prevent rupture or damage of power cords, please handle and keep them properly.
8. Please immediately unplug power cord and have the device repaired, when
   1) Liquid splashes to the device.
   2) The device is dropped down or cabinet is damaged.
   3) Obvious malpractice is found or performance degrades.

II. Packing list

Please unpack the product with care, then check whether all the following things are included in the package. If anything is found missing, please contact the dealer.

Standard accessories

The accessories supplied with this LED Video Processor may differ from the figures contained in the User's Manual, but they are applicable for the regions where you live.

Power cord (1.5m),1pcs

DVI cable (0.5m), 1pcs （depand on input card nums）

DVI cable (0.5m), 1pcs （depand on output card nums）

User manual CD

USB cable(1.5m) ,1pcs

DVI-D to HDMI adapter, 2pcs

Rs232-RJ45 cable (1.5m)

BNC-RCA adapter: 3 pcs

PCB Connector (Audio) （depand on output card nums）

III. Connections of hardware

1. Brief Introduction of System Architecture

Input and output of LVP98XX employ plug and play (card-style) architecture, the type and number of input and output card can be configured on user's demand. LVP98XX includes 3 types of image processing boards and cards as listed in table below:

Names of card	Quantity of one device	Purpose
Input card	Each input card can capture different type signals	Capture Master input image
Output card	Maximum 9 channels, equal to the number of display units	Output the processed image signals to each display unit.
Back card	1	The transfer path of image data from input to output, Which can realize non-blacking crosspoint or broadcast.

2. Rear view

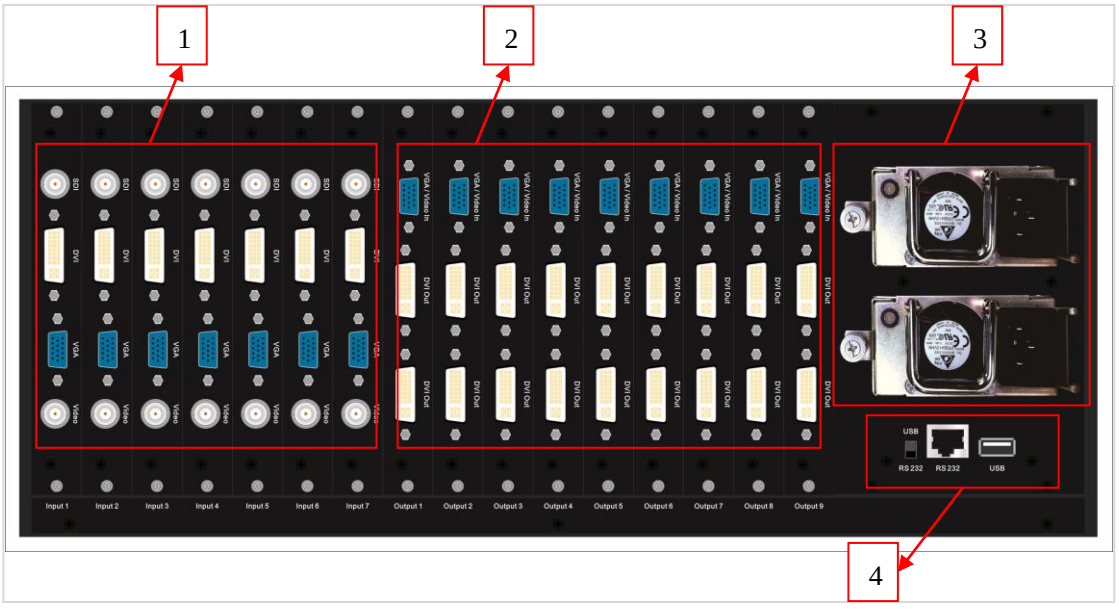


Figure 1

①Input card ports ②output card ports ③AC powerjack
④USB/RS232 input ports

3. Port description

1） Video Input card

Figure 2 input card

Every input card of **LVP98XX** supports 4-channel signal input, including:

Port name	Description
Video	1-channel PAL/NTSC composite video input
VGA	1-channel computer analog signal input
DVI/HDMI	1-channel DVI/HDMI digital HD signal input
SDI	1-channel SDI/HDSDI digital HD signal input

2） Video Input card

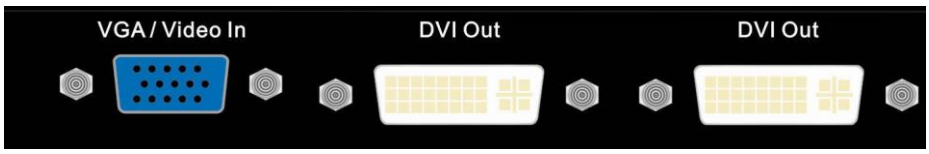


Figure 3 input card

Port name	Description
VGA/Video In	1-channel PAL/NTSC composite video input and 1-channel computer analog signal input（using VGA+VIDEO TO VGA convert）
DVI OUT1 / DVI OUT2	2 same DVI digital graphic signal output, it can be connected with external LED transmission card or LED transmission box

3） Signals of other ports

RS232/USB input ports are used to connect PC. Then the Upper Controller can operate and control LedSync820H via these communication ports.

4. Connection diagram

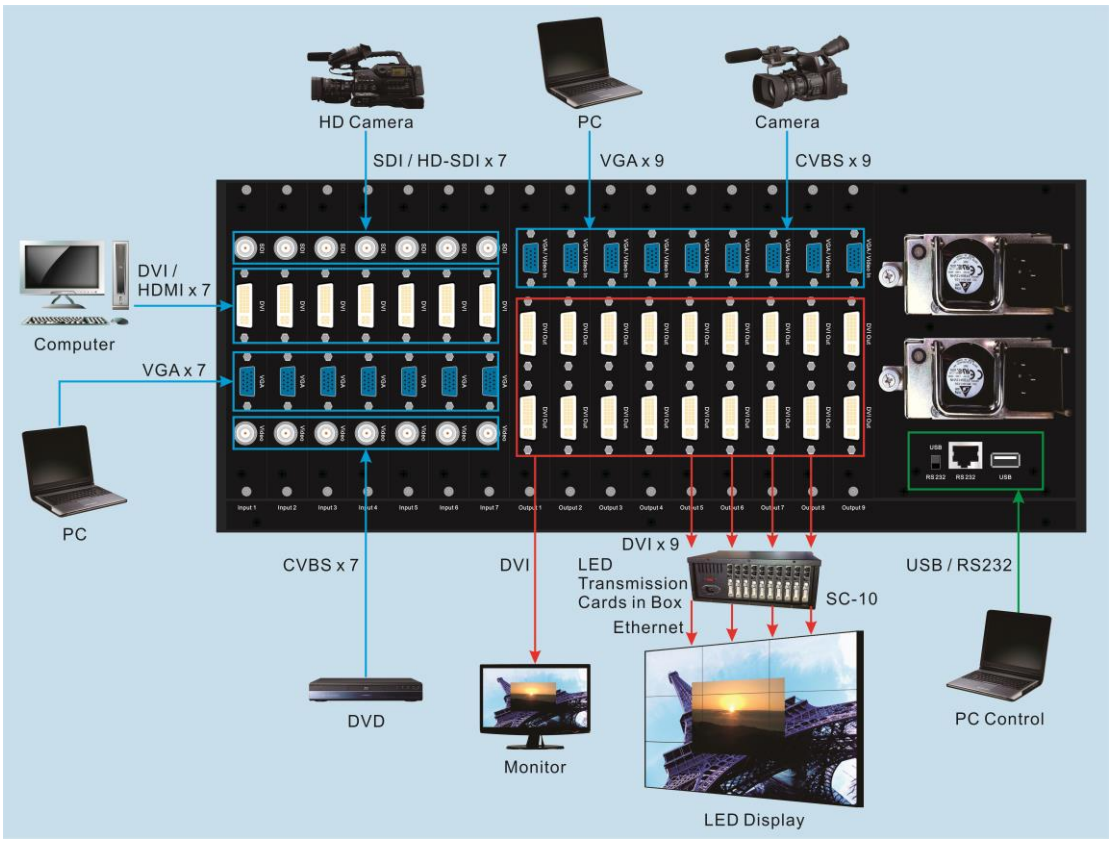


Figure 3

IV. ViewRGB LVP98XX Control Software User's Manual

ViewRGB LVP98XX High-Definition Mix-Matrix Processor Controller Software is used to control LED HD Mix-Matrix Processor. With this software, we can:

- RS232 COM port setup
- Output format setup
- Input card signals switching
- Output card signals switching
- Input card setting
- Output card setting
- Matrix switching of output cards
- Fast mosaic
- Basic setting (Brightness ,color and so on)
- Mode update

- Mode Apply
- Mode Saving and loading
- Advanced setting for data update or initialize

(I). Control modes

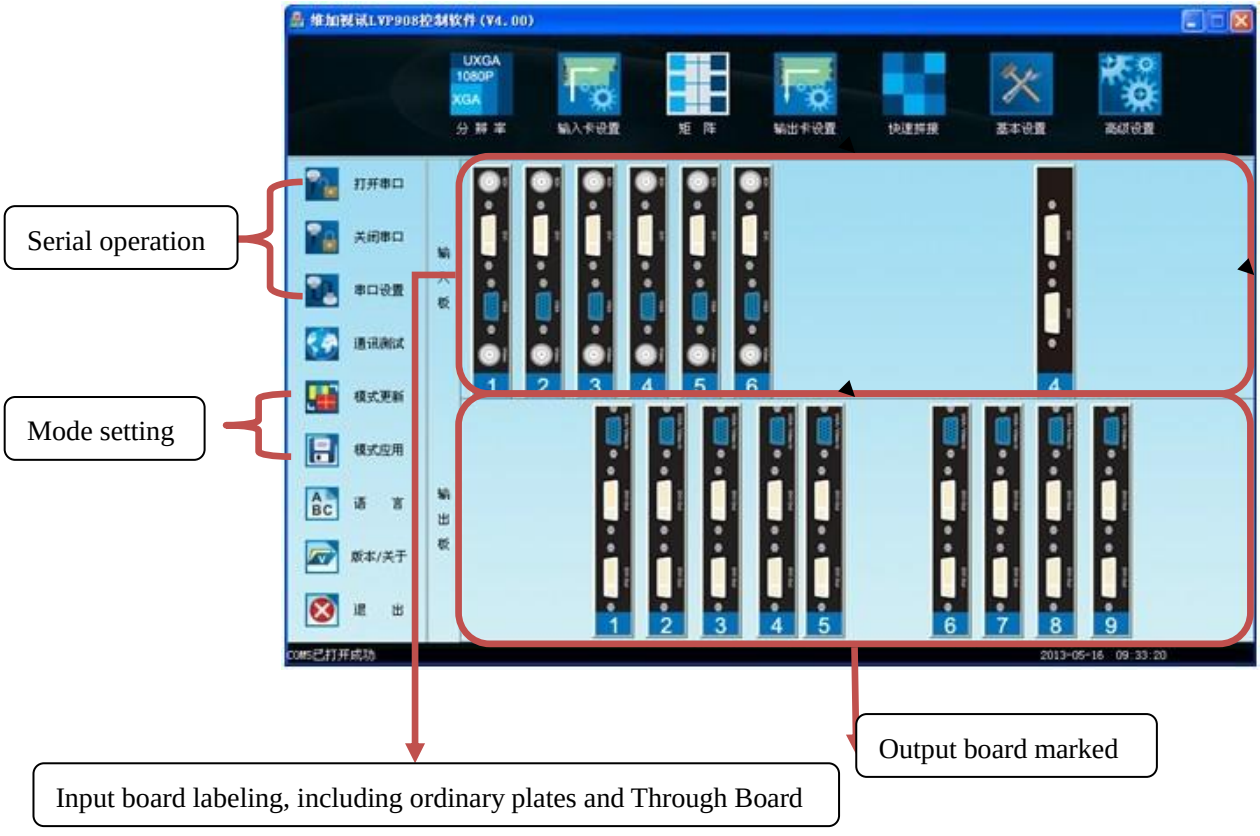
LED HD Mix-Matrix Processor LVP98XX can receive operating commands from ViewRGB LVP98XX Control Software. The LVP98XX Control Software controls LVP98XX LED HD Video Processor via RS232 COM serial port or USB of PC.

User can operate LVP98XX manually using the RS232 serial port or USB software supplied by the manufacturer.

To do so, first connect COM port of PC to RS232 port of LVP98XX, then run the control program ViewRGB LVP98XX Control Software.exe.

(II). Main menu

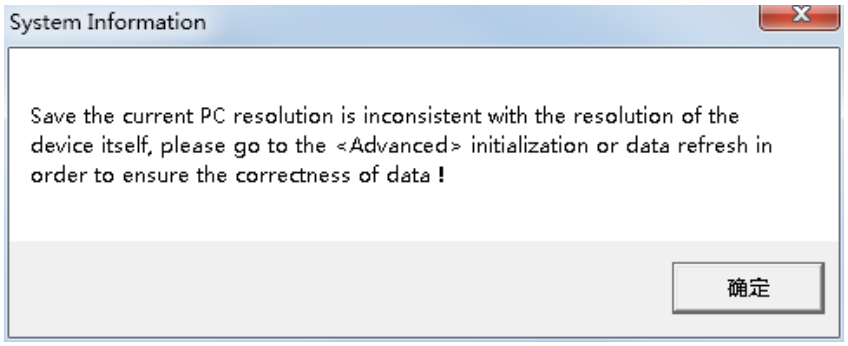
Double click the software "LVP98XX Control Software.exe", the main menu of the software as below will appear:



Cautions：

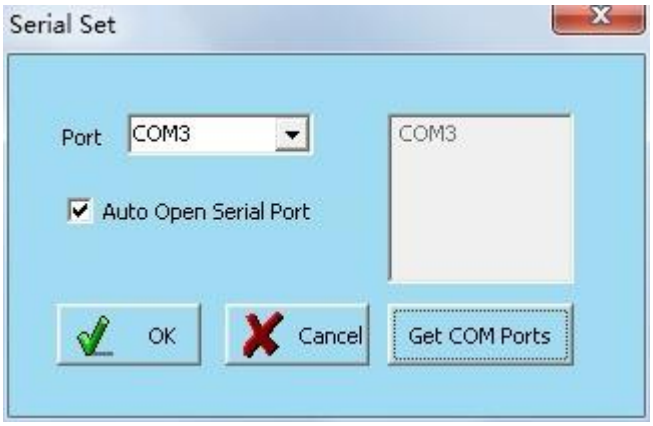
1. **If the configuration file 908info.ini not found, the following would appear**

2. **If equipment resolution and save the current PC resolution is detected not consistent, the following will appear**



(III). Instructions of software menu

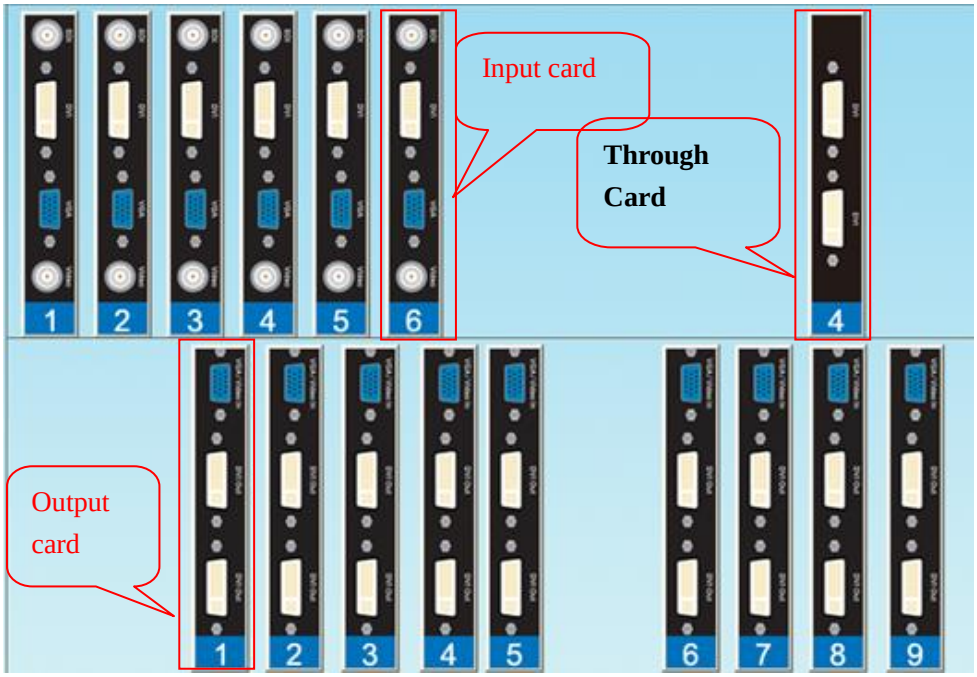
1. COM port setup



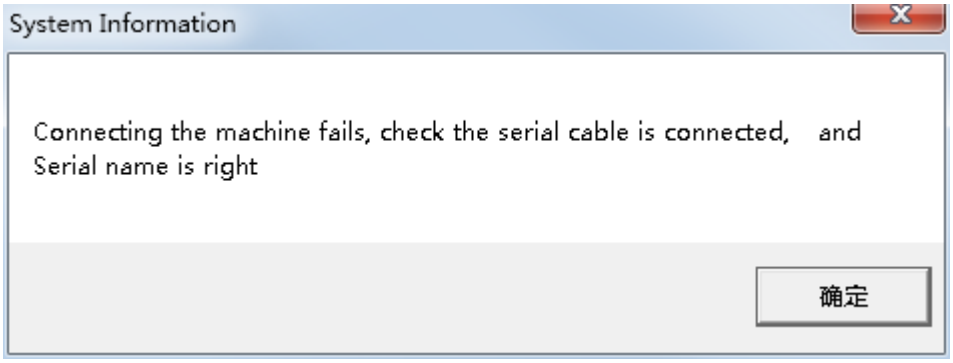
1） Click the button "Get COM Ports", in the above list，all the serial ports detected on the current PC will show.

2） Select a proper COM port in the field RS232_Com_Port,then click the button"Serial Open".

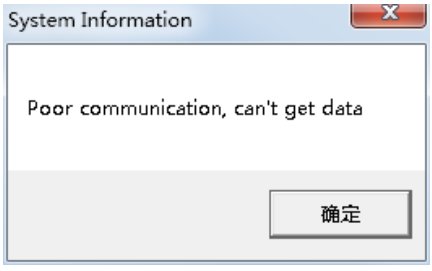
3） After the device is successfully connected, the main interface will appear as shown in figure



If the connection fails, following tips will show



If the serial port can be opened, but the equipment does not connect, can appear the following tips

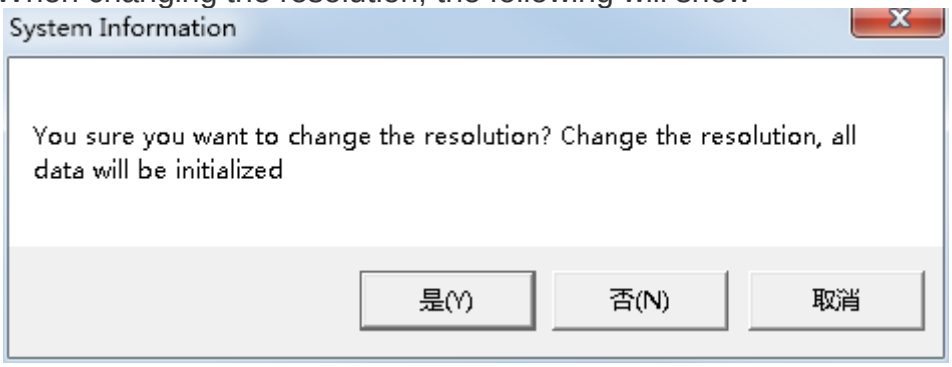


Select "Auto Open serial Port", then the machine automatically connects serial port when it is started next time.

2. Output format setup

1) The color of the current resolution

will be dark, others will be gray like
2) When changing the resolution, the following will show

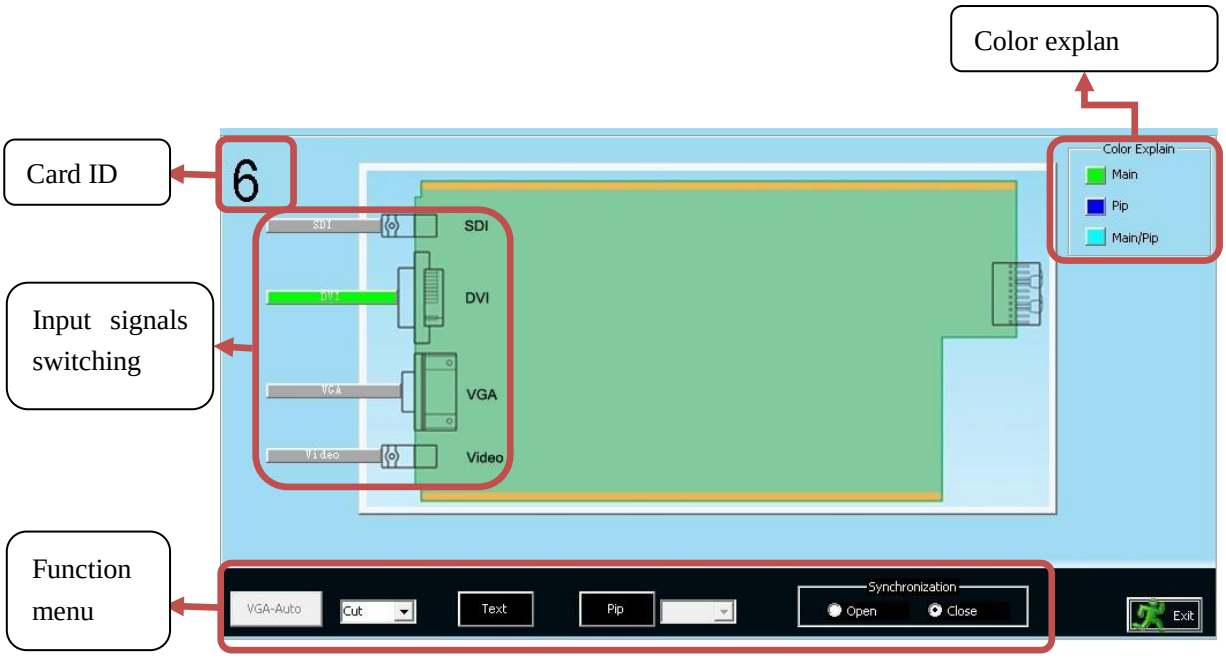


after click"yes", all the resolution of input and output board will be changed. We recommend user restart the equipment after setting.

3) schematic diagram, To display the approximate image current resolution ratio

3. Input card signals switching

Double-click input board icon, the following will appear:

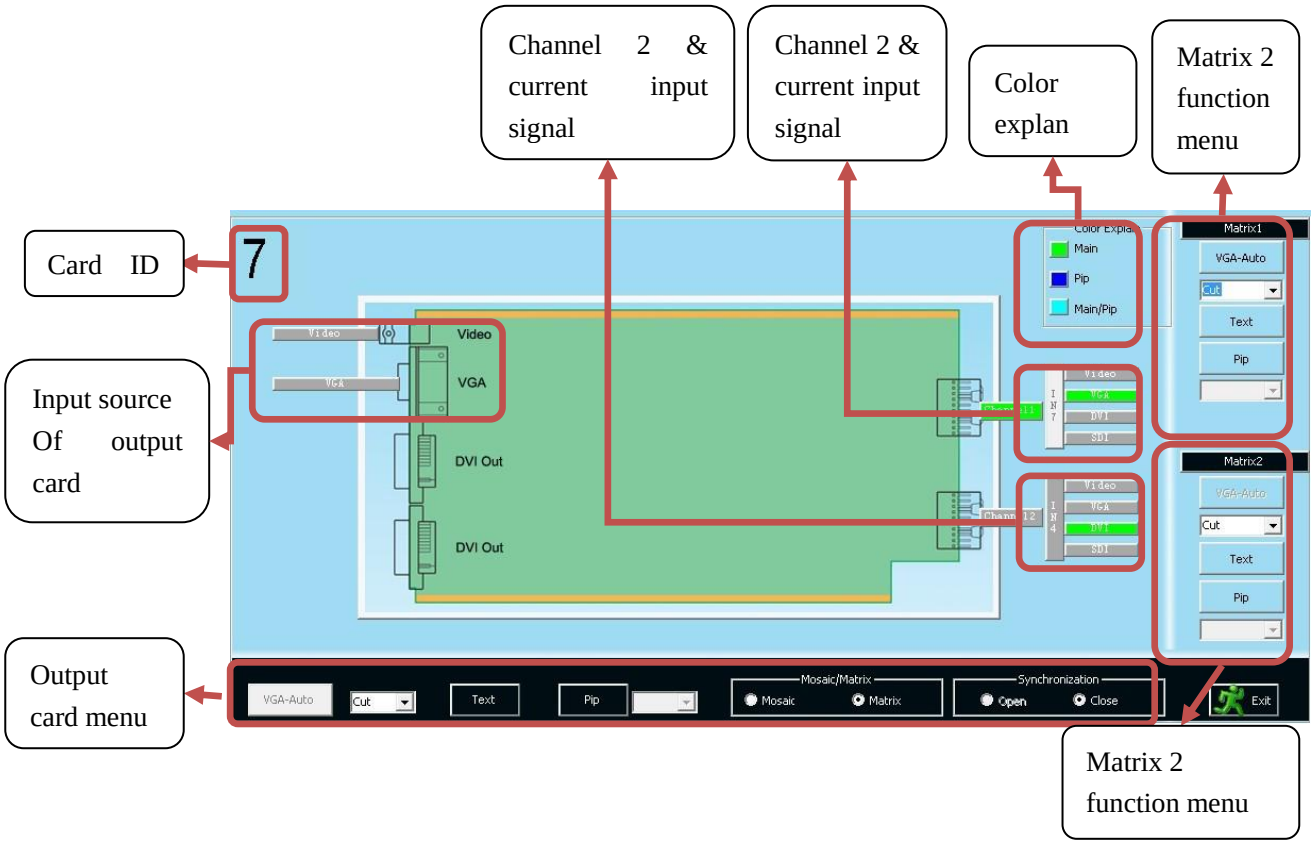


1) Input signal include SDI, DVI, VGA, Video

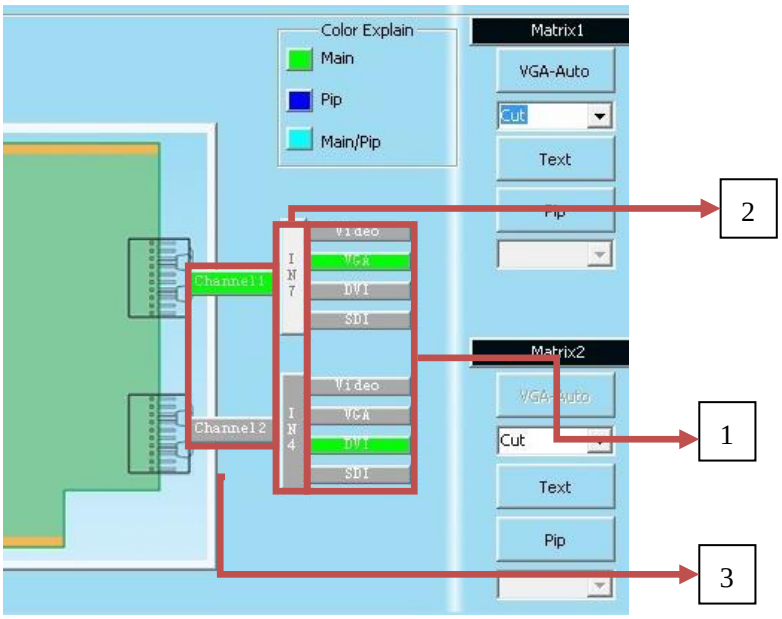
2) External Synchronous is available only for DVI signal, otherwise synchronous can't be used. Signal cannot be switched in synchronous status (DVI)

4. Output card signals switching

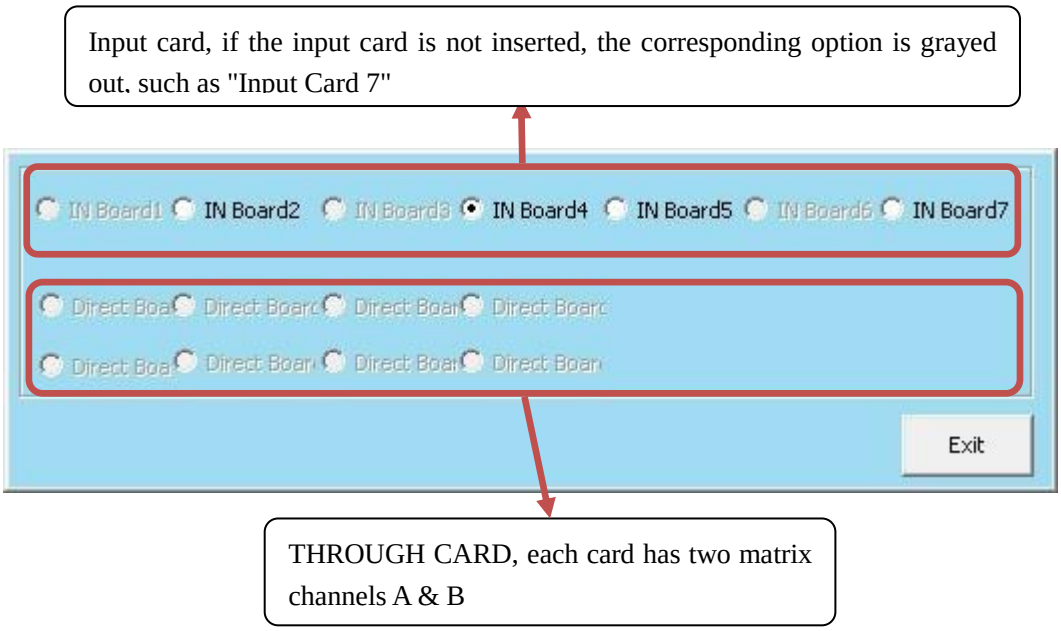
Double-click input board icon, e.g. the following will appear



The following is the matrix channel selection and the signal selection of matrix channel



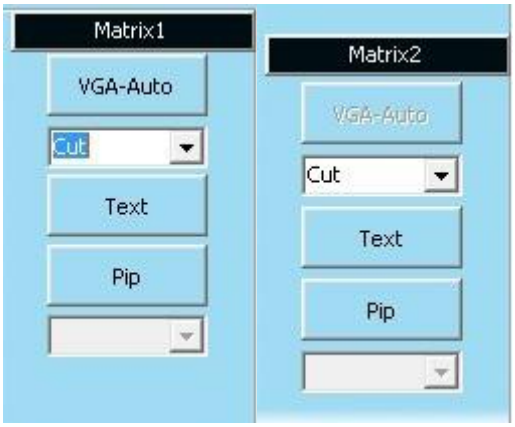
1）On above picture, ② means matrix channel selection, click on the button, will pop up the following interface



After select matrix channel and click the "exit", matrix channel selected at present will appears at 2", to switch channels, click "3"

Note : if the matrix selected is a THROUGH CARD, position "2" will be shielded, if not, then the signal status of current matrix will be displayed

2）Here is the menu information of two matrices



Note that, if the selected matrix is a THROUGH CARD, then all menus are shielded, if not, then the menu information of the current matrix will be displayed

3) In splicing status, NOT switch the main channel signal

4) In external synchronous status, NOT switch the main channel signal

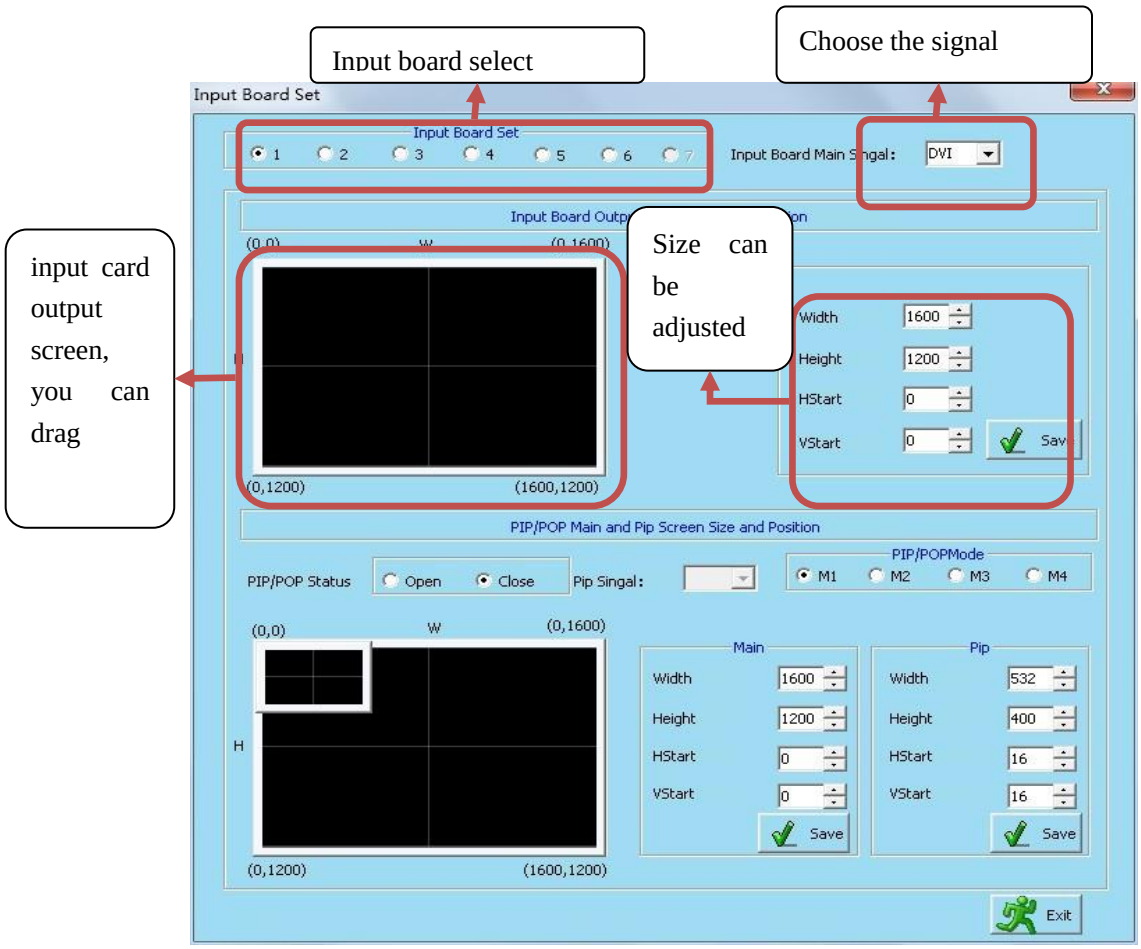
5) Main channel matrix switching procedure:

Change the channel 2 matrix - > switching channel

2 -> automatically change the channel 1 matrix - > automatically switch channel 1

Therefore, the main channel matrix switch is not available. It's possible by switching the channel two only

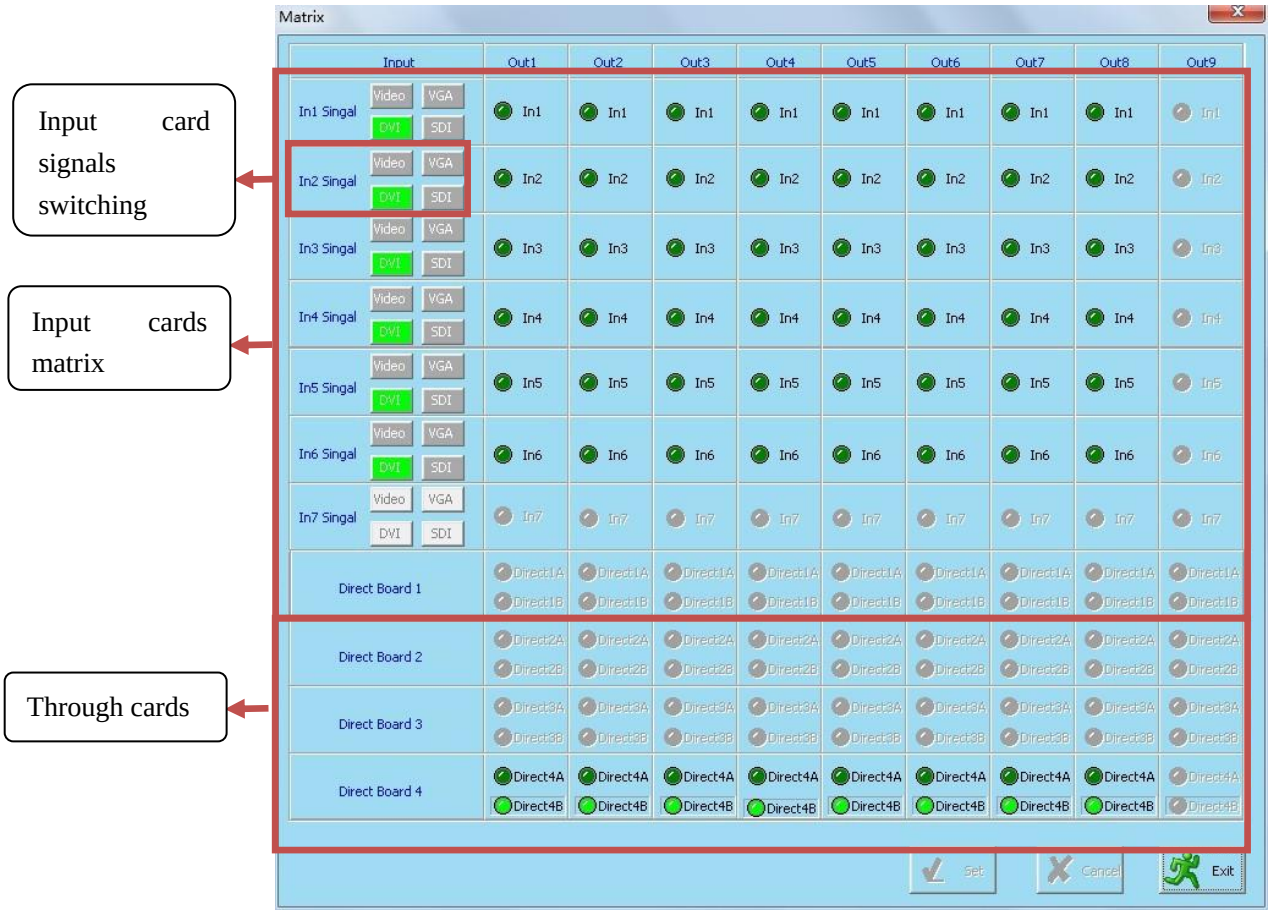
5. Input card signals setting



notes： 1） If dimension out of bounds, Save button is unavailable

2）Odd data is not available, only even number is accepted is unavailable

6. Matrix switching of output cards



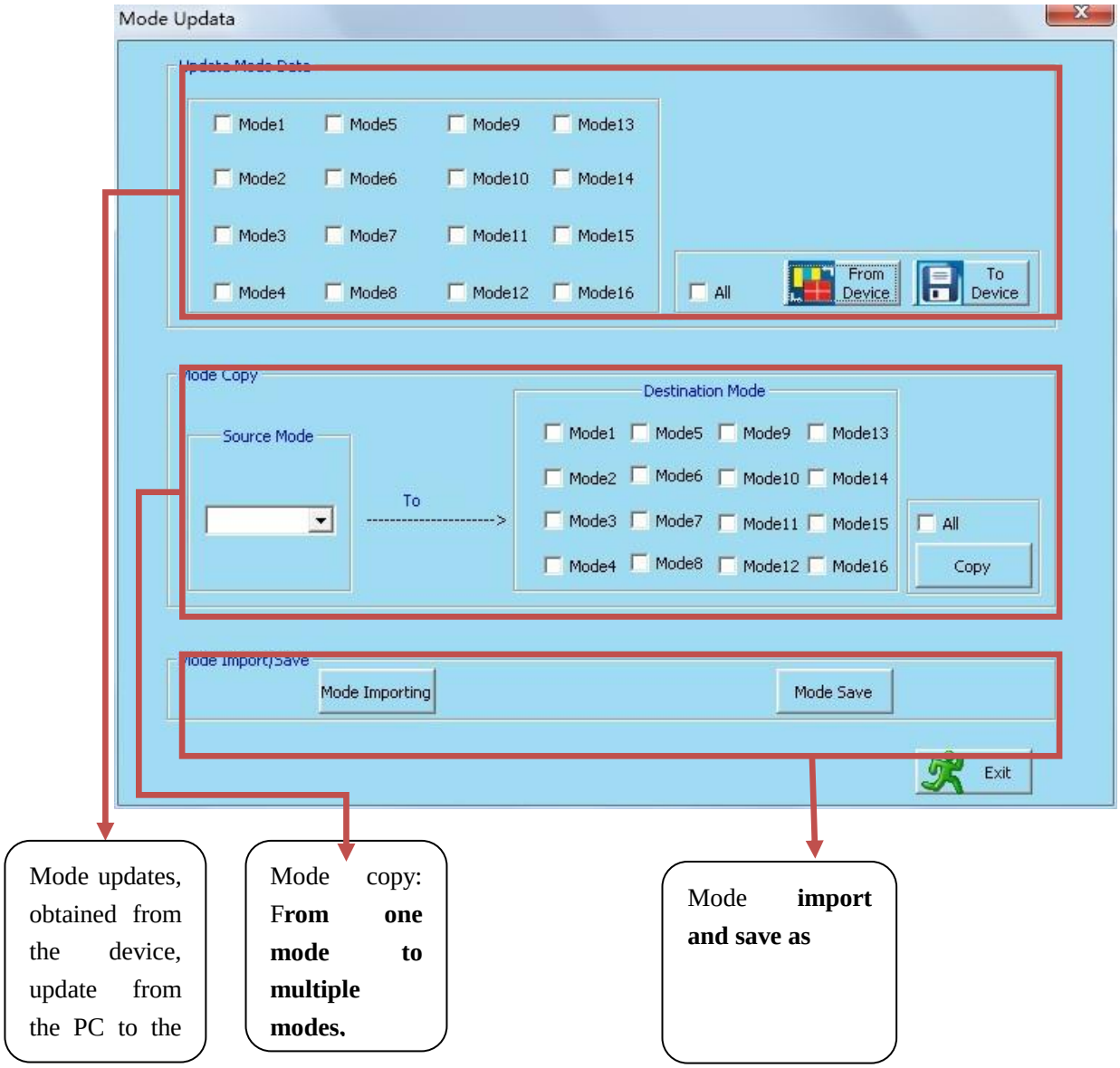
1）if the matrix is selected, if the matrix is not selected

2）If the output board is in PIP or splicing status, matrix cannot be switched, the corresponding matrix will be blocked.

3）If there's no input board, the matrix option will be blocked

4）To switch matrix, choose the matrix then click "OK". If click "Cancel", the indicator will be back to the previous matrix option

7. Mode access, update, copy, import, save as

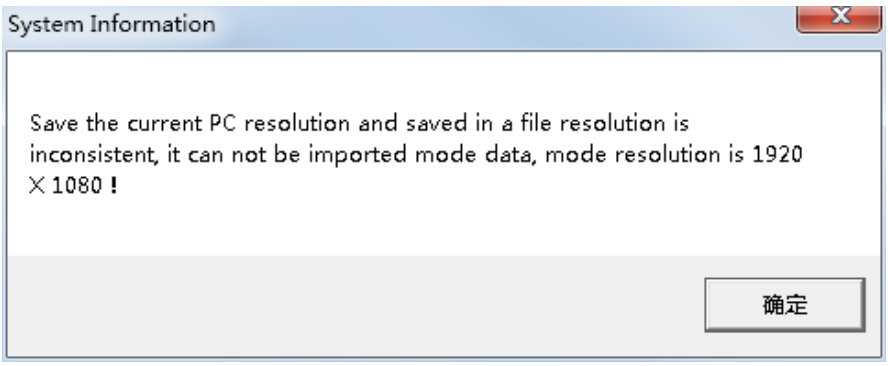


Mode updates, obtained from the device, update from the PC to the

Mode copy: **From one mode to multiple modes.**

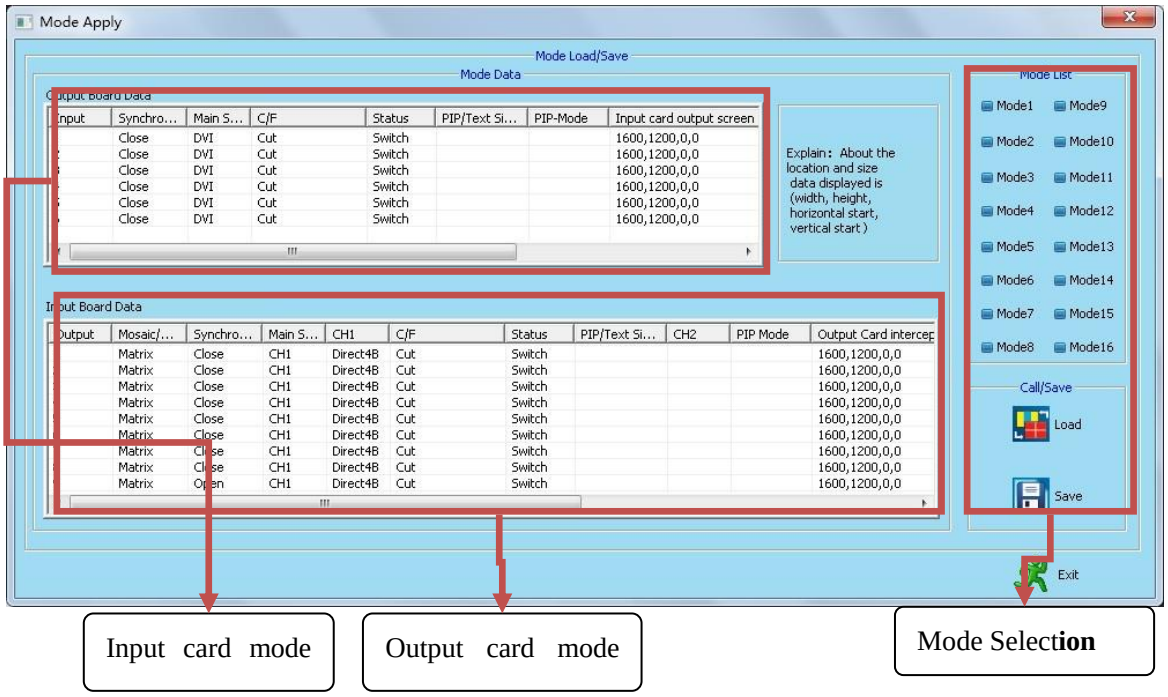
Mode **import and save as**

1） Update all the selected modes, required a longer time
2） When the mode is saved, it will save the current resolution
3） When the mode is introduced, resolution consistency will be checked first, if not consistent, the following appears

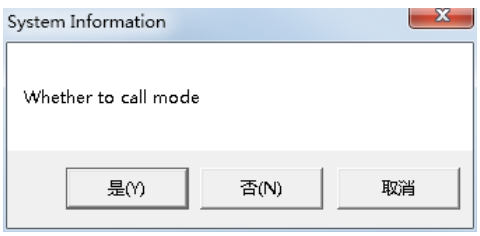


If consistent, data of all modes will be updated while PC mode data is updated

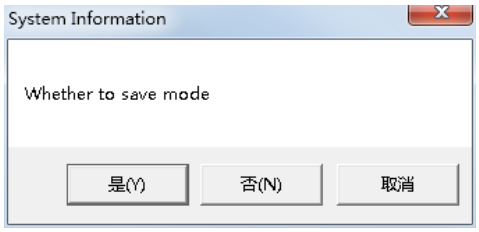
8. Mode Call and Save



1） The selected mode, press the "call" button will appear, OK box will appear after waiting

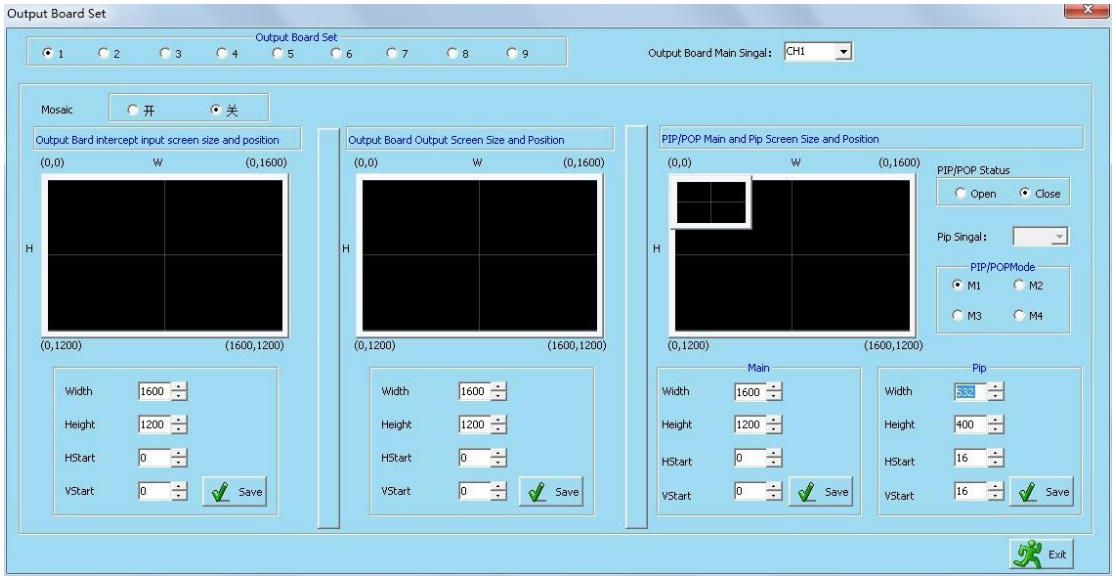


2） The selected mode, press the "call" button will appear, Prompt will appear after waiting box to determine



3） Input and output cards mode data list will show all data saved for the current modes.

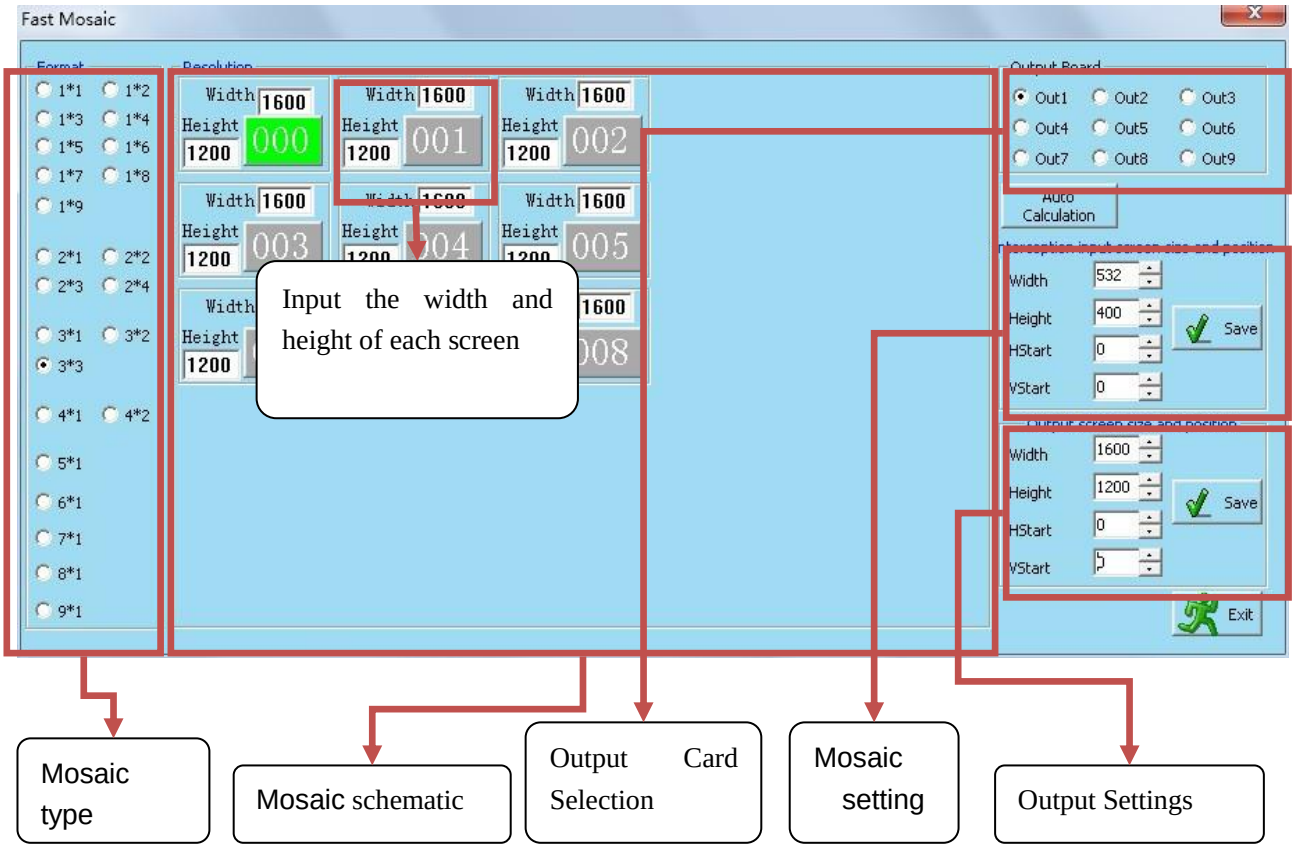
9. Individual output card data setting



1） Data cannot be odd numbers, only even numbers are acceptable

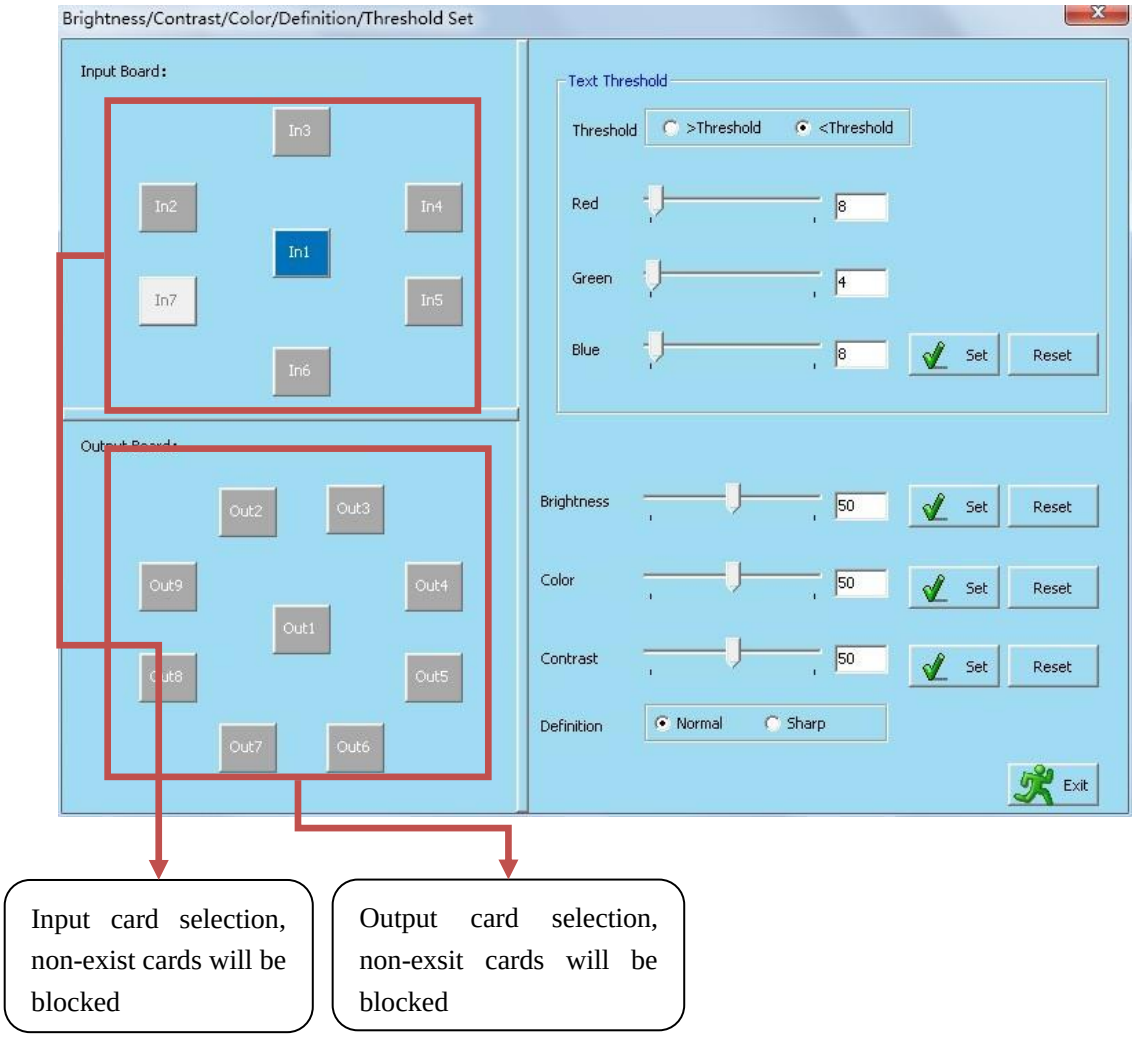
2） Black parts can be dragged

10. Fast mosaic



Operation sequence: first select size, then input the width and height values of each screen, and then select the corresponding input card numbers and , are saved automatically calculated by Data is not available for the odd number

11. Brightness, color and other basic information setting

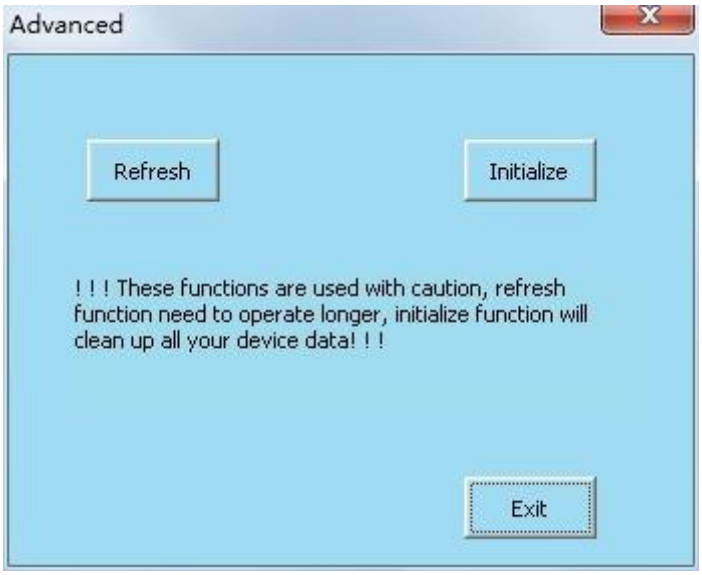


Input card selection, non-exist cards will be blocked

Output card selection, non-exsit cards will be blocked

Reset is used to resume to initial value

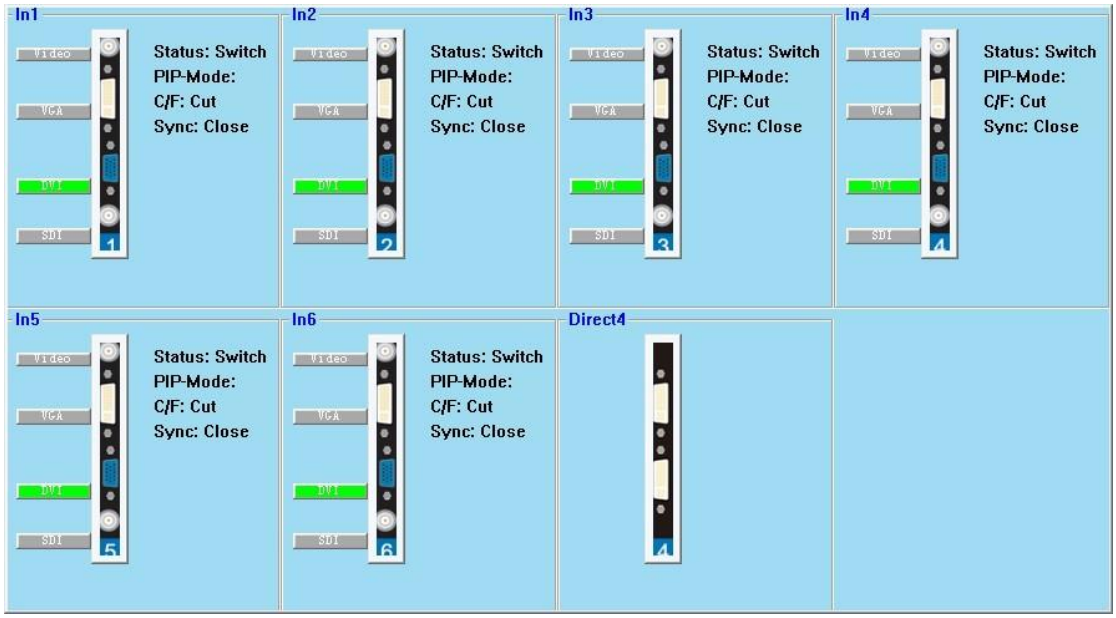
12. Advanced setting，for data refresh or initialize



Refresh： **refresh the data block from the LVP98XX**

Initialize： after initialization is complete, reboot the equipment

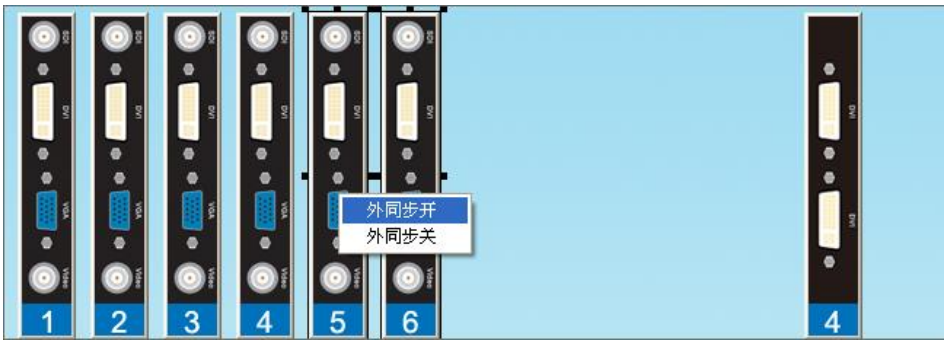
13. Preview all input card information



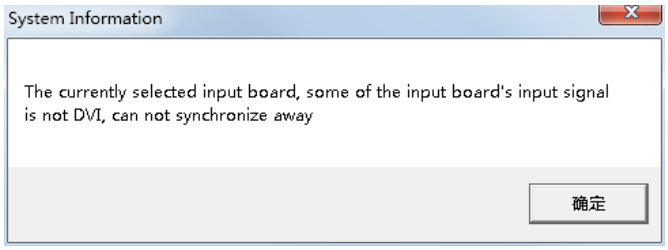
1） Double-click a blank area of input cards, all current input card information will be shown as above, no information for TRHOUGH CARD

2） Right-click the current interface, there will be [CLOSE] menu. Used to close the current interface

14. Sync multiple input cards simultaneously



若所选中的输入卡当前输入不是 DVI 信号，则无法开启同步，并出现以下提示



V. Specifications I

Inputs		
Quantity/Type	16×CVBS 16×VGA（RGBHV） 7×DVI/HDMI 7×SDI（HD-SDI）	
Video System	PAL/NTSC	
Composite Video Amplitude Impedance	1V（p_p）/ 75Ω	
VGA Format	PC（VESA）	≤1600x1200 @60HZ
VGA Amplitude Impedance	R、G、B = 0.7 V（p_p）/ 75Ω	
DVI Format	SD/HD（CEA-861）	≤1600x1200 @60HZ
	PC（VESA）	≤1600x1200 @60HZ
HDMI1.3 Format （HDCP）	SD/HD（CEA-861）	≤1920x1080P @60HZ
	PC（VESA）	≤1600x1200 @60HZ
SDI Format	SDI-SMPTE 259M-C	576i @50Hz 480i @60Hz
HDSDI 3GSDI Format	HDSDI-SMPTE 292M SMPTE 274M/296M SMPTE 424M/425M	≤1080p @50Hz/60Hz
Input Connectors	Composite Video：BNC VGA：15pin D_Sub(Female) DVI：24+1 DVI_D SDI/ HDSDI ：BNC/ 75Ω	
Outputs		
Quantity/Type	18×DVI	
Preview Output	2×DVI（Any output can be preview output）	
DVI Format	1024×768@60Hz 1366×768@60Hz 1280×1024@60Hz 1440x900@60Hz 1920×1080p@60Hz 1600x1200@60Hz	
Output Connectors	DVI：24+1 DVI_D	
Others		
Control	PC software	
Input Voltage	100-240VAC 50/60Hz	
Power Consumption	≤218W	
Temperature	0-45℃	
Humidity	15-85%	
Dimensions	Standard 4U	
Weight （G.W. ）	17Kg	

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