SmartKake Specification& user manual

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Ⅰ. Overview

Smartkake is a new single processor for display wall, supports the single input signals to flexibly display on four output displayers; each output can be become DVI and VGA, and it can show any part through the cropping of the original input image. Each input can independently support the innovation integration of the horizontal and vertical display through the mirror image or rotating 90°, 180° or 270°;

Ⅱ. Technical index

1. Electrical index

Supply voltage: DC 12V

2. Environment index

Working temperature: 0℃-40℃

Storage temperature: -10℃-60℃

Storage environment: No solvent and corrosive gas, no dust, no interference of strong magnetic field;

3. Video input index

1）DP input

The DisplayPort interface meeting the standard DP 1.1a and support the resolution ratio below 3840*2400@30, 3840*2160@30, 2560*1600@60.

2）Dual_link input

The DVI-D digital signal interface supports the resolution ratio below 4096*2160@30, 3840*2400@30, 3840*2160@30, 1920*2160@60, 2560*1600@60.

3）HDMI 4K input

The HDMI interface meets the standard HDMI1.4, supports the resolution ratio below

4096*2160@30, 3840*2400@25, 3840*2160@30, 3840*2160@25, 2560*1600@60, 1920*2160@60, 1920*2160@50, and doesn’t support the signals of the resolution of 3840*2400@30.

4. Video output index

The DVI-I interface supports the output of the DVI digital signals and the VGA analog signals;

Maximize to support the 1920*1200 resolution ratio;

5. Control methods

Use the SmartEditor upper computer for network control operation through the RJ-45 interface;

The RS-232 interface can send a serial port command to operate;

6. Mechanical index

Appearance size: 225x45x200mm

Ⅲ. Appearance description

1. The right side

The right side of the SmartKake processor is shown in the following figure 3-1， which mainly shows the company’s logo, product name, etc.;

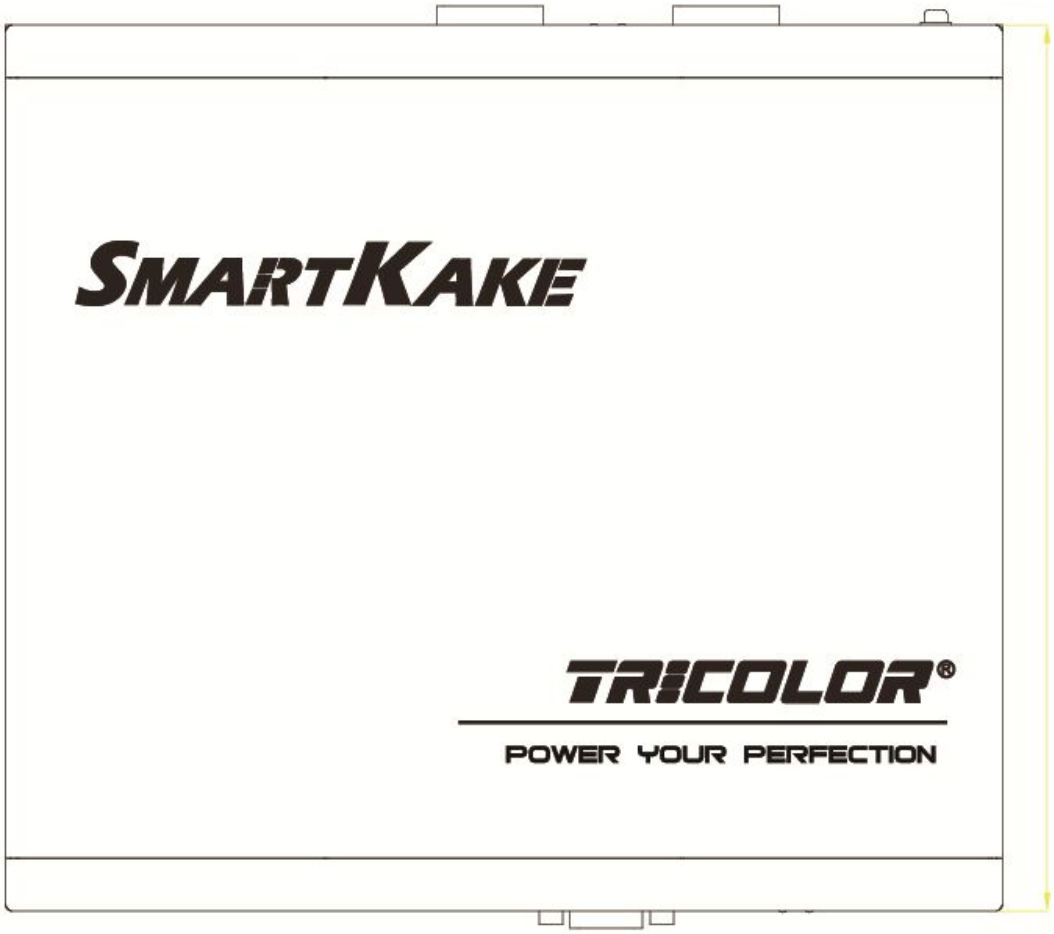


Figure 3-1

2. The side of the front port

The side of the front port of the SmartKake processor is shown in the following figure 2, figure 3 and figure 4, which respectively show three kinds of input interfaces such as: DP, Dual_link and HDMI 4K. Please see the following table 1;

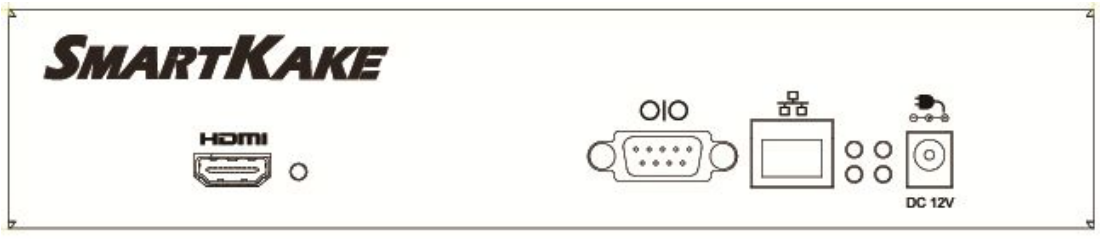


Figure 3-2

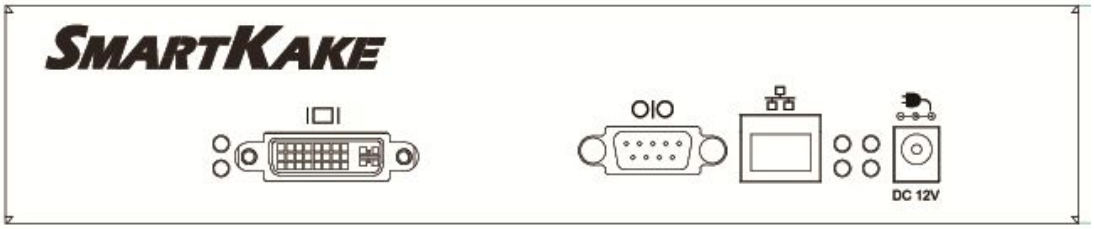


Figure 3-3

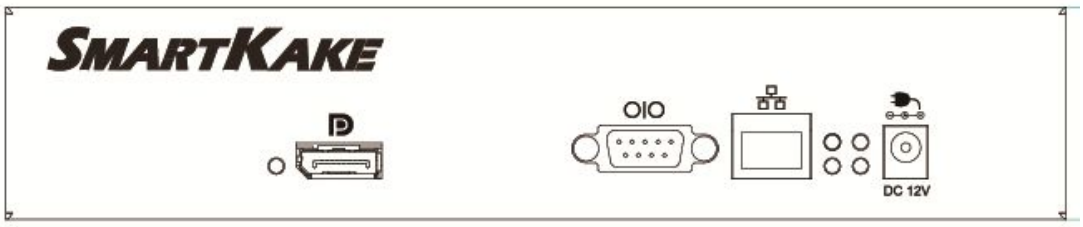


Figure 3-4

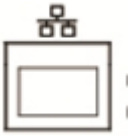
Interface name	Description
	HDMI 4K input interface, the single lamp on the right side as the input signal lamp, not bright;
	Dual_link input interface, the double lamp on the left side as the signal lamp; when the double-strand signals are inputted, the two lamps light up;
	DP input interface, the single lamp on the left side without the signal lamp, keeping on;
	RS-232 serial port
	RJ-45 internet access
	They are the status indicator lamps. When the device has electricity, the four lamps light up. When the device works normally, the lamp on the lower left lights up, and the rest three lamps don’t light up.
	12V power input interface

Table 1

3. The side of the rear port

The side of the rear port of the SmartKake processor is shown in the following figure 5, and the interface specifications is shown in the following table 2;

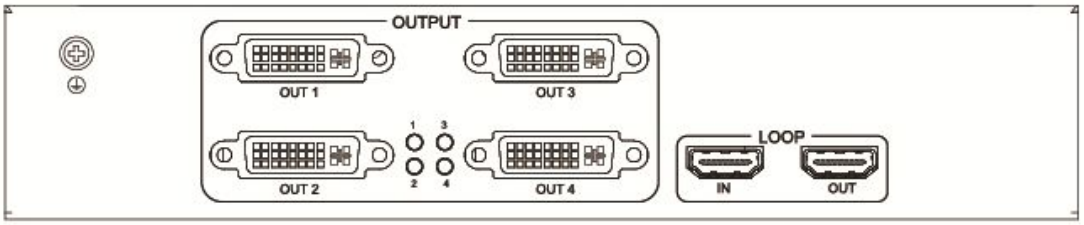


Figure 3-5

Interface name	Description
	Earthing
OUT1、OUT2 OUT3、OUT4	They are the signal output interfaces, and the DVI-I interface can output DVI or VGA signals.
	They are the output signal lamps, and 1, 2, 3, 4 respectively indicate OUT1, OUT2, OUT3, OUT4;
	They are the cascade interfaces. “IN” is the cascade signal input, and “OUT” is the cascade signal output.

Table 2

Ⅳ. Application specification

1. Input configuration

A single device only has one input-signal source, and each input-signal source only opens a window on the whole output splicing screen;

2. Output configuration

1) a single device has 4 output signals, and each output signal is DVI or VGA signal;

2) each output signal has the image rotation function, and support the output image to rotate 90°, 180°，270°.

3) the output settings support the splicing of any position and forms, namely, the display screen of the output terminal can conduct any moving, overlaying and other operations;

3. Cascade configuration

4. Scene configuration

Only save the last scene of the operation prior to the power outage, and always show the scene prior to the next power-on; do not support to save and call the rest of the scenes;

Ⅴ. Operating instructions of upper computer

1. Introduction

This article introduces the using methods of the SmartKake software at the client side, including software installation and operation.

2. Software installation

1）run the installation file of SmartEditor-x.x.x.x.exe to start installation. The installation interface is shown in the following figure 5-1.

Figure 5-1

2）select the “I Agree” to enter the next interface, as shown in the figure 5-2 below；

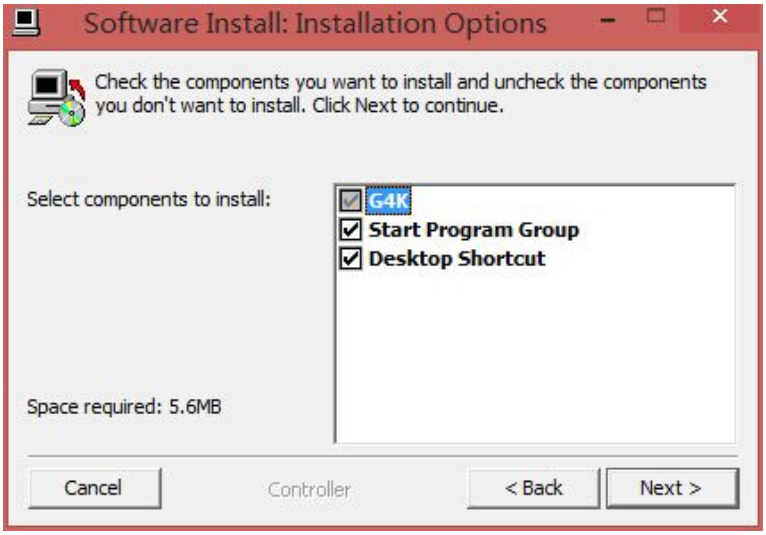


Figure 5-2

3）Select the “Next” to enter the next interface, as shown in the figure 5-3 below；

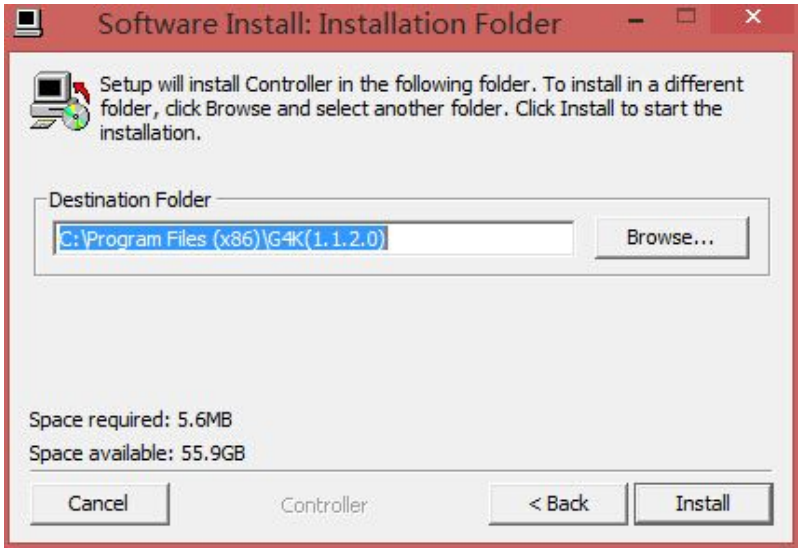


Figure 5-3

4）Select the suitable installation root directory, and click the “Install”，as shown in the figure 5-4 below;

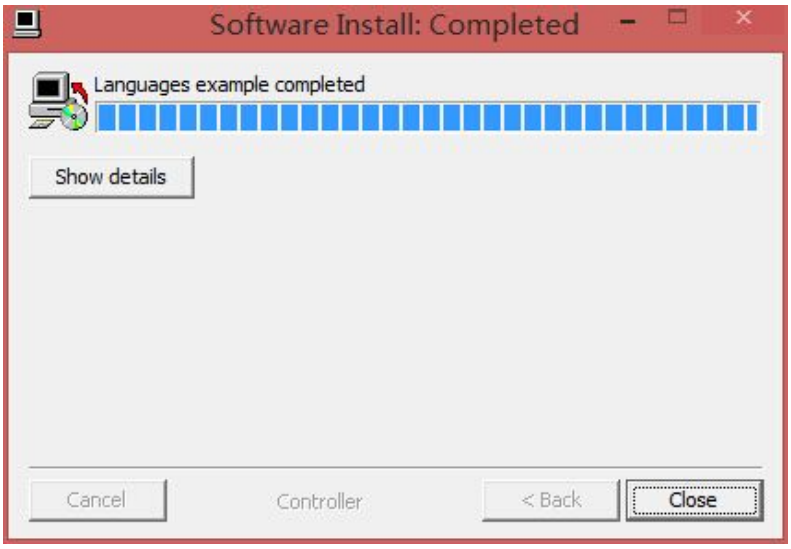


Figure 5-4

5）If you have installed the software before, the tips of the following figure 5-5 will appear:

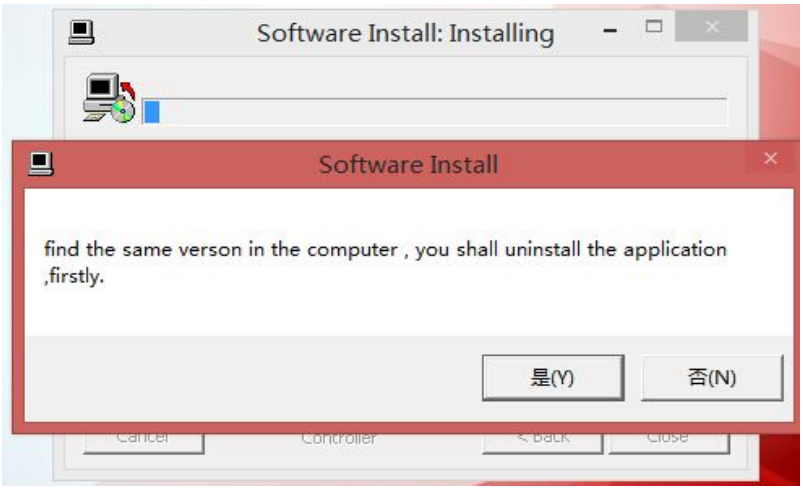


Figure 5-5

Click “Yes” to unload the installed software.

6）After the progress bar completes the read, you should click “close” to complete the software installation. At the same time, the desktop appears the following icon:

Figure 5-7

Double click the shortcut of software, pop up the main interface:

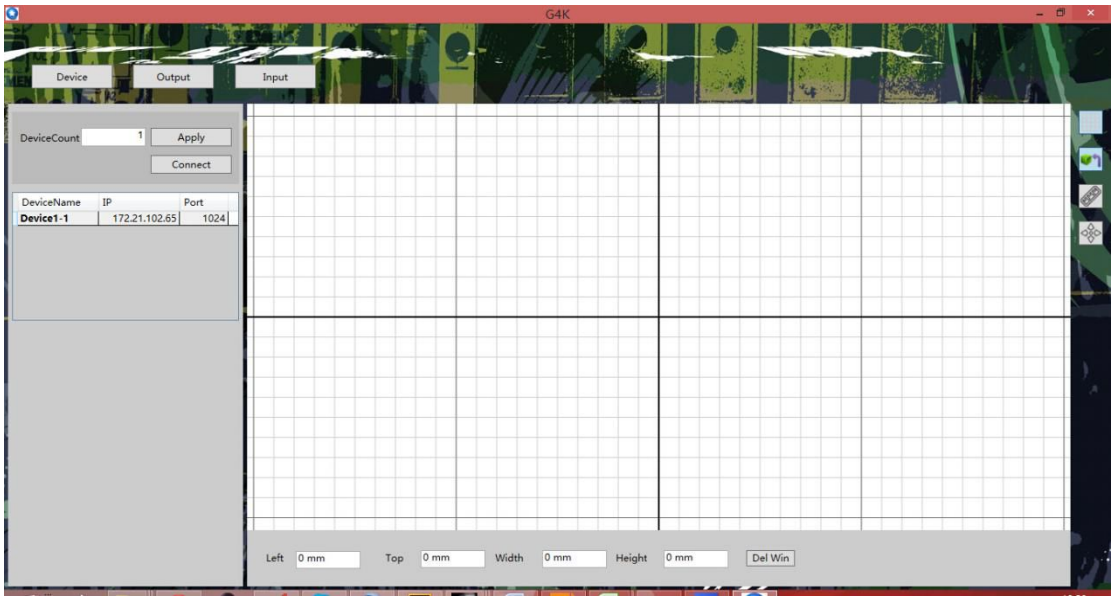


Figure 5-8

3. System login

1）Connect to server

The number of the corresponding devices filled in the “device”-“the number of device”. And click “apply”. The following list will show the information of the corresponding equipment:

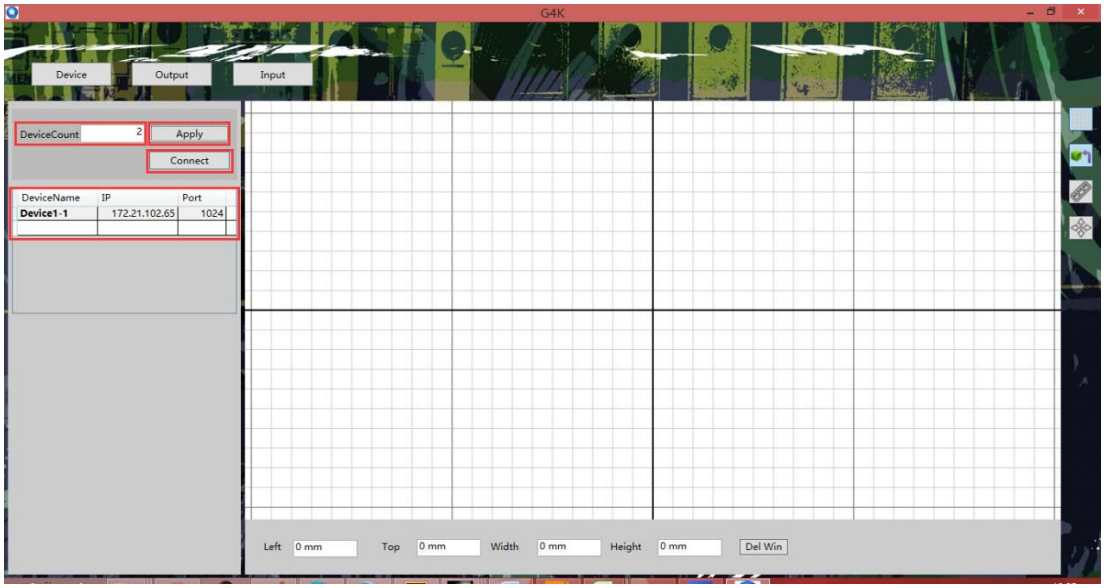


Figure: 5-9

Fill in the right device IP address and port. You can define the name of the device by yourself. After clicking “connection”, the upper computer and the device communicate normally.

Notes: The **IP of device default is 172.21.102.75;**

2）Disconnect to server

Click “disconnection”, disconnect to the upper computer and the device.

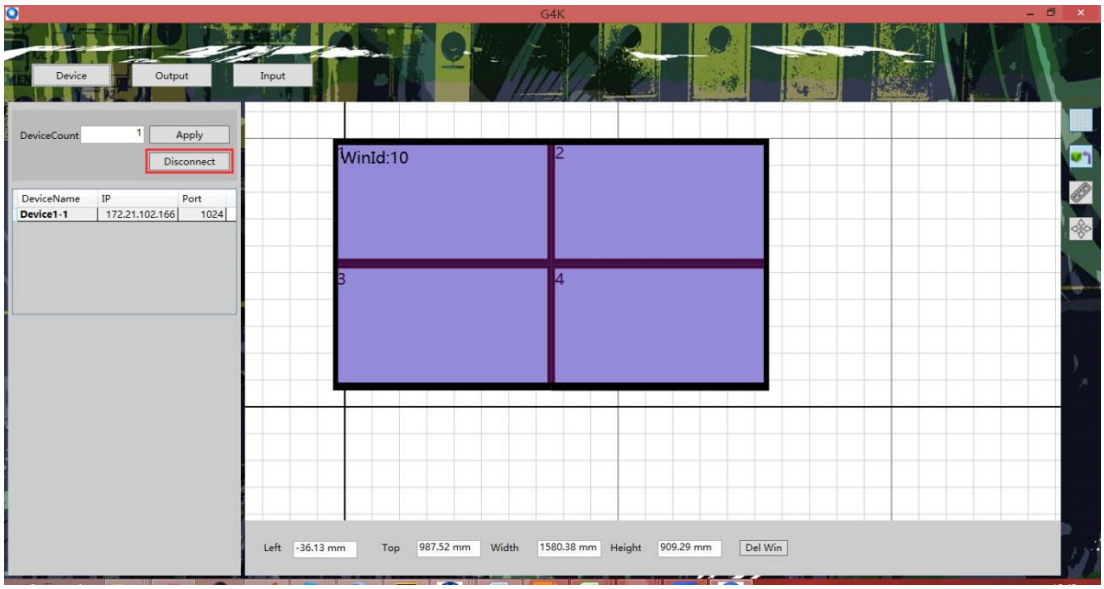


Figure 5-10

3）Modify IP

Right click the device list in the interface “device”, pop up the dialog box of modifying IP:

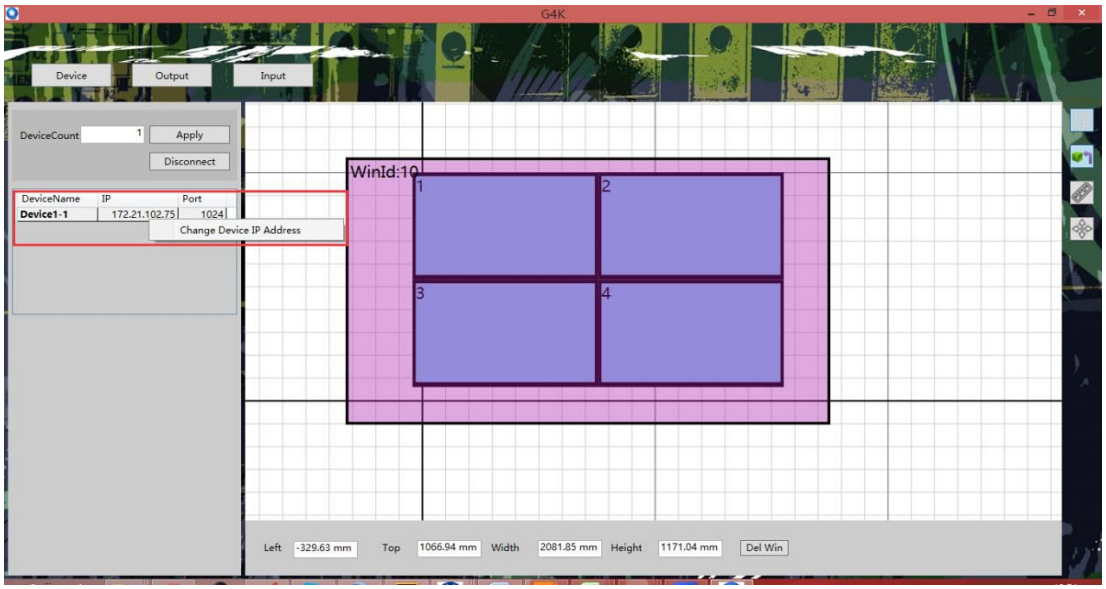


Figure 5-11

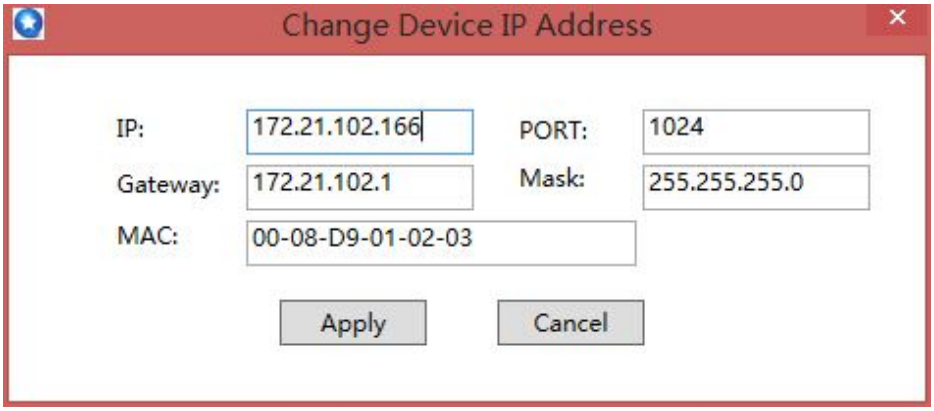


Figure 5-12

Modify the corresponding values, and click “confirmation”. After the device restarts automatically, the IP modifying is successful.

4） Notes

If the filled content of the device IP or the port number is error, the upper computer will give a connection tip of failure:

Figure 5-13

At the moment, please check the device IP, port, network cables, switches, etc. until the troubleshooting.

4. Output settings

Click “output” menu to enter the output settings interface:

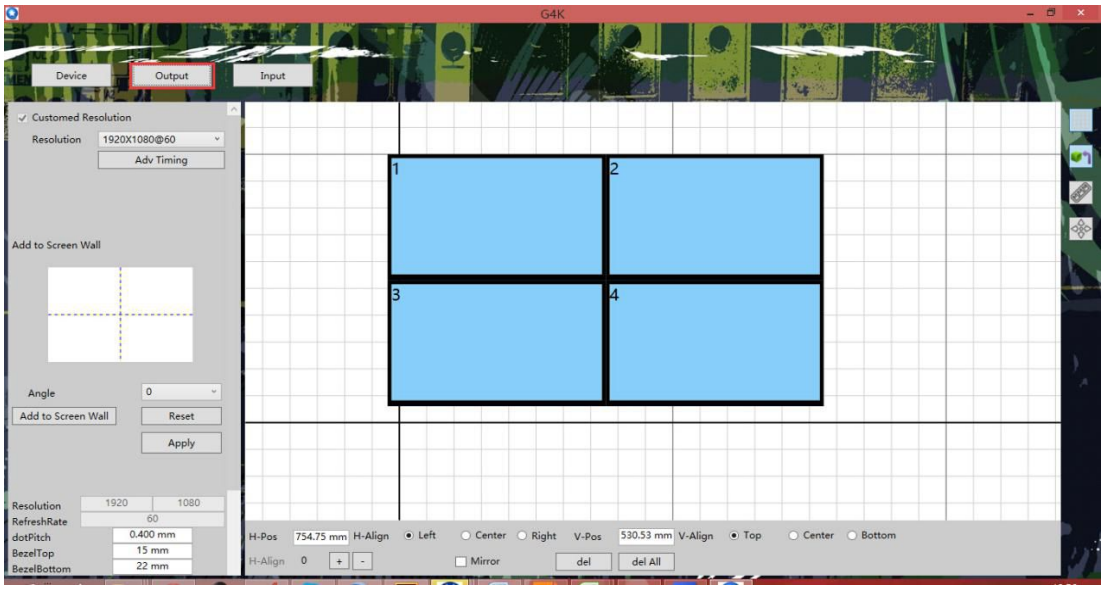


Figure 5-14

Since the device is flexible, and can be used in conventional splicing, abnormity splicing, etc., setting contents are more. The following contents will be introduced one by one.

1）Screen setup area

The red box area is the screen setup area as shown in the figure below:

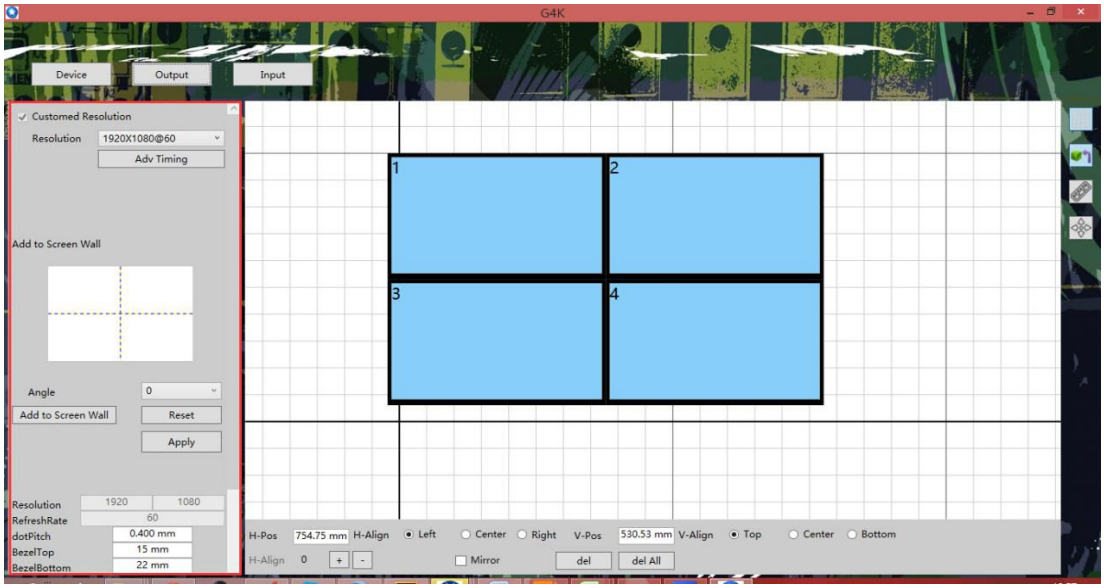


Figure 5-15

(1) The setting of resolution ratio

Now support 14 kinds of resolution ratio, simultaneously support the customed “advanced timing”.

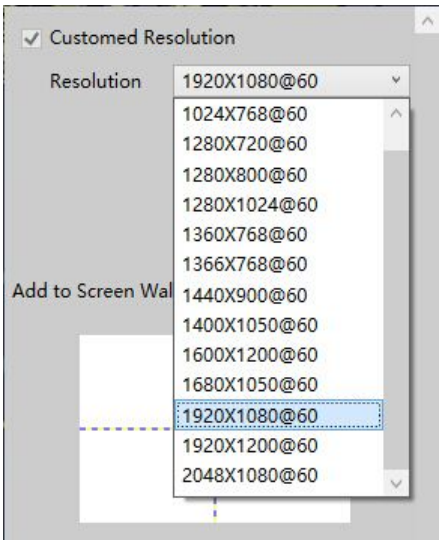


Figure 5-16

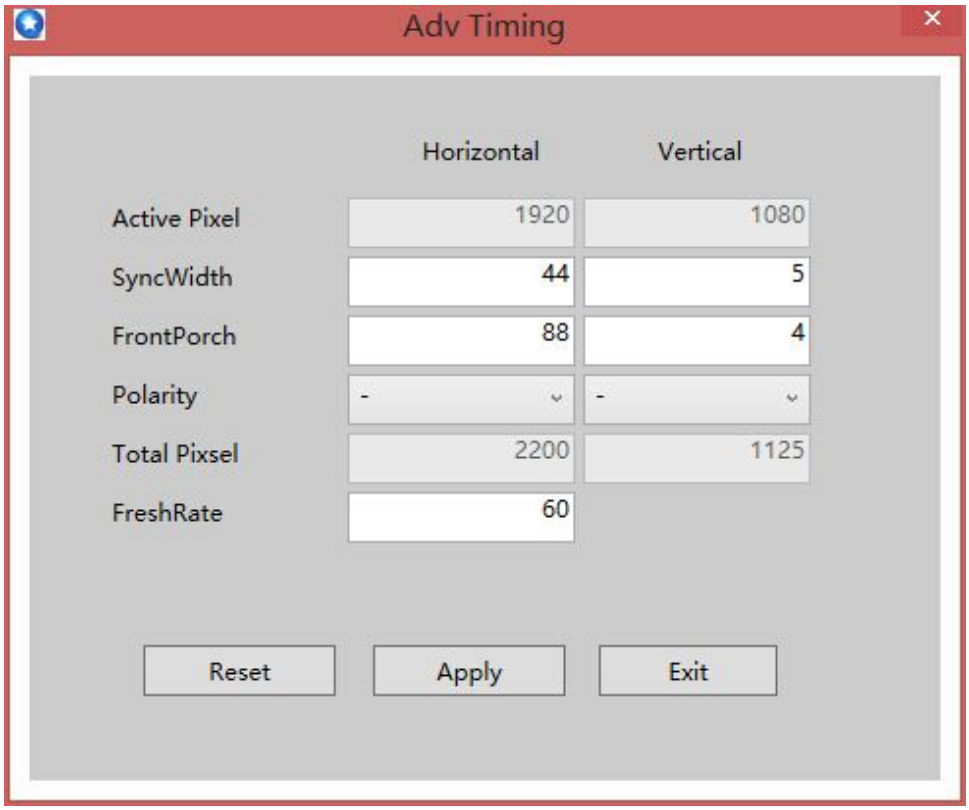


Figure 5-17

Effect timely after selecting the output resolution;

(2) The setting of displayer arrangement

Accordingly set up according to the actual placement position of the output screen:

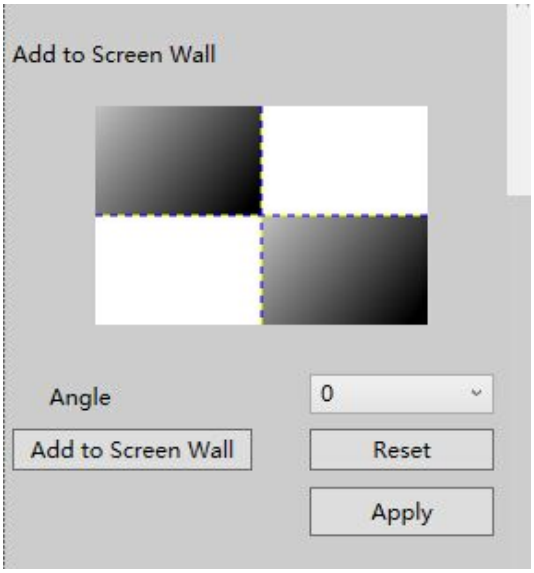


Figure 5-18

The concrete steps are as follows:

<1>Click to select the screen of the corresponding position in the four regions. After the screen is selected, it becomes black.

<2> Select the required rotating angle in the drop-down menu of the “rotating angle”, (can choose four angles).

<3>Click “adding the output screen to the wall”. At the moment, you may observe the setting conditions in the area on the right of “ screen setting area Ⅰ”.

<4>Clicking “reset” can delete the previous setting.

<5> Clicking “application”, the settings take effect.

For example:

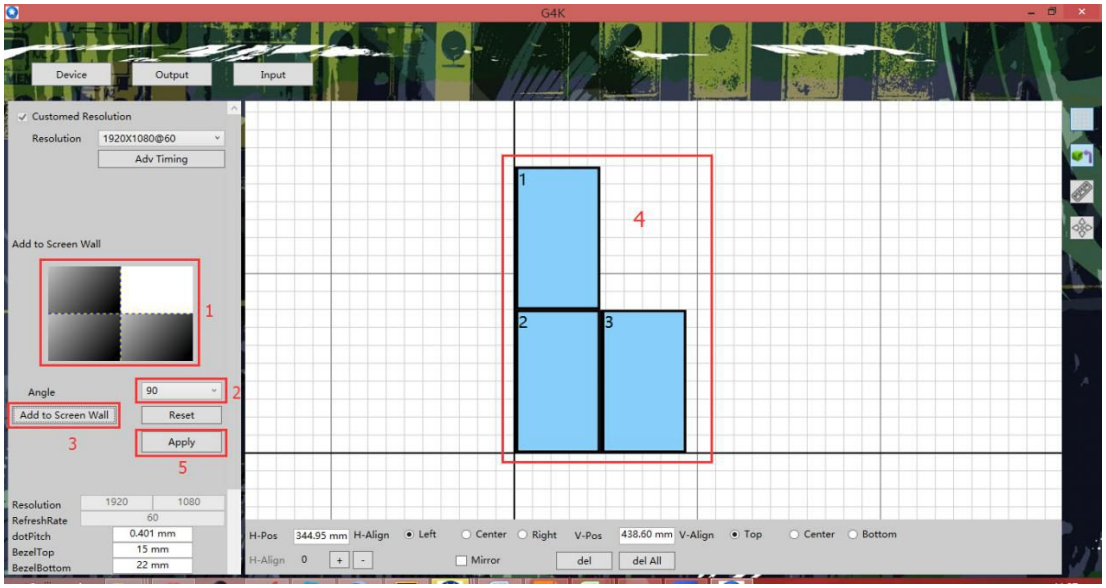


Figure 5-19

（3）The settings of screen pixel pitch, border width

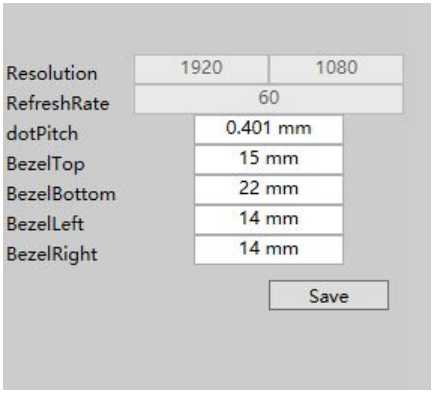


Figure 5-20

There are two alter modes.

Method 1:

<1>Select the changed screen (the related screen becomes green.)

<2> Respectively modify the “dot pitch” and the “the height of upper border”.

<3> Please pay attention to press “Enter” to take effect after changing the parameters every time.

4>Click the button “application”.

For example:

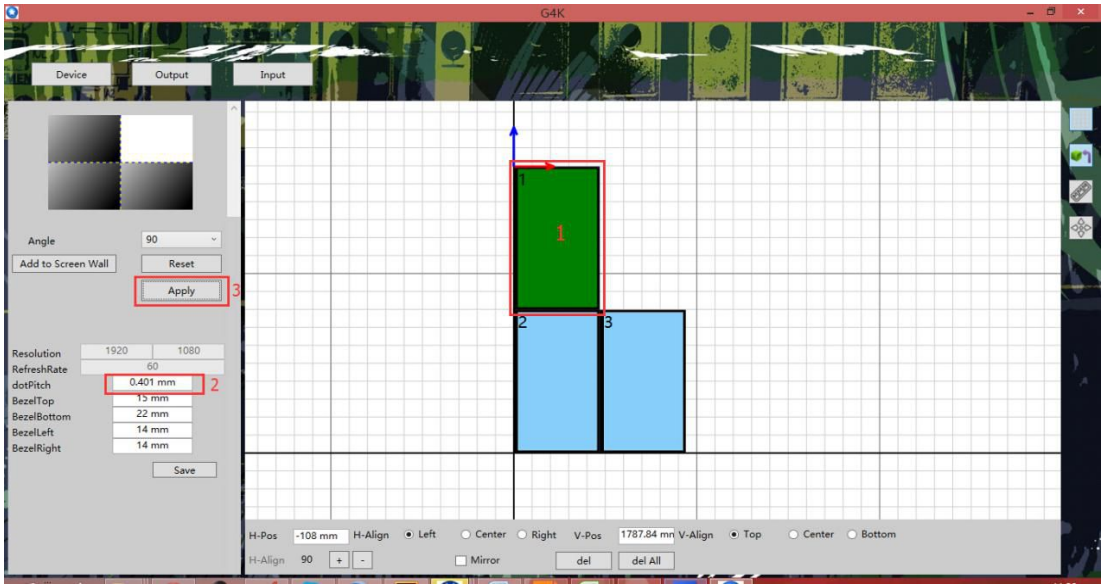


Figure 5-21

Method 2:

<1>Do not select any screen, directly fill in the parameters at the corresponding position, and click the “save the border”.

<2>Reconnect the device.

Notes: Using this method can enable all the screens to change at the same time. This method doesn’t apply to modify “dot pitch”.

2）Screen adjusting area

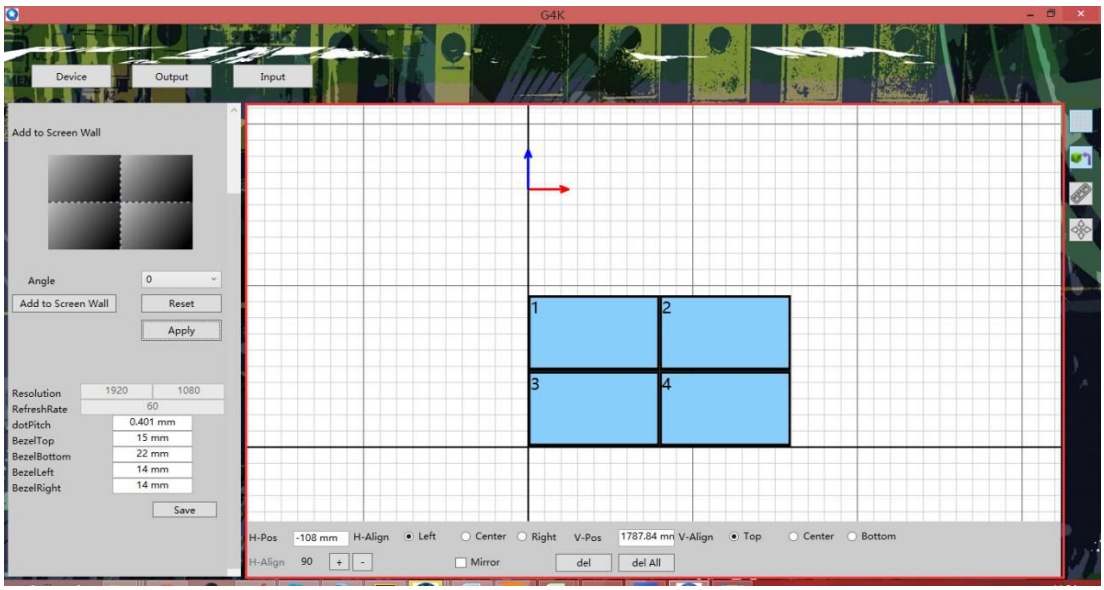


Figure 5-22

The red box area in the figure is the screen adjustment area.

Basic introduction:

<1>Selecting a certain screen, you can see a coordinate axis with blue and red at the edge of the screen. This coordinate axis is used for the screen positioning. Select the position of the coordinate axis below the screen adjustment area.

<2>The mouse can be used for freely dragging of the screen.

<3>Each screen can be 0°、90°、180°、270° rotation separately.

<4> Each screen can be subject to mirror flip separately.

（1）The setting of the screen position

Method 1:

Use the mouse to drag the screen, timely see the coordinate of the screen below the area.

Method 2:

Select a certain screen, adjust the position of the coordinate axis, and fill in the horizontal and

vertical position of the coordinate axis.

（2）Screen rotation

Click the **“+”、“-” on the right of “rotation angle”** below the area. only select 4 angles, i.e., 0°, 90°, 180°, 270°.

（3）Mirror image

After this option is ticked, the picture in the displayer will make the mirror image turnover.

3) Auxiliary tools area

There is a sequence of icons on the top right of the “output” interface. This area is the auxiliary tools area.

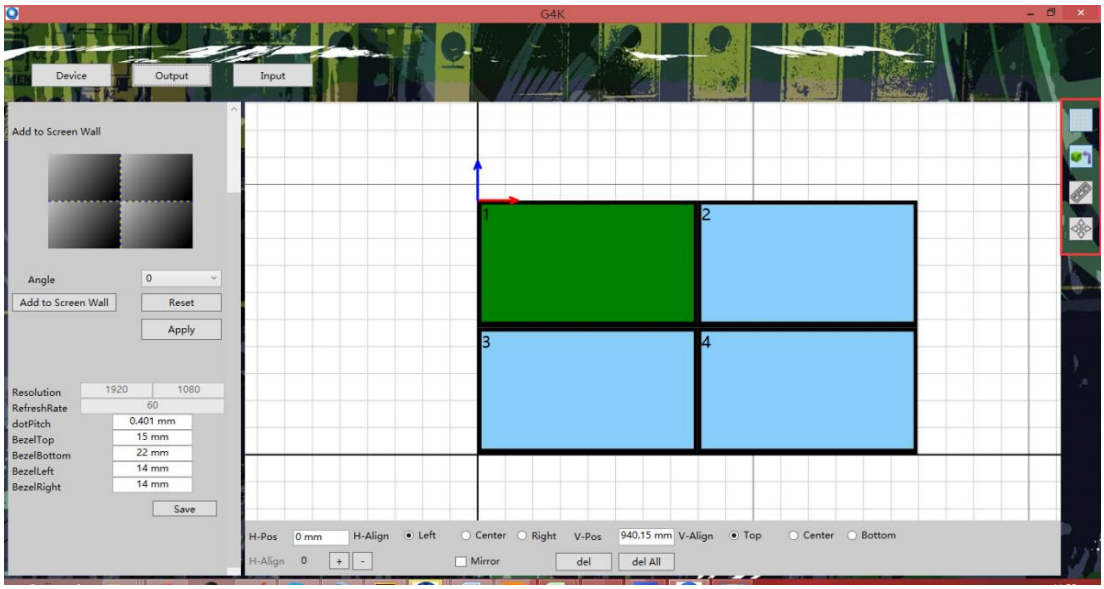


Figure 5-23

Icon introduction:

The buttons are ranked in proper order form top to bottom, respectively button 1, button 2, button 3 and button 4.

Button 1: After the button is clicked, the left margin of the screen can automatically adapt to the background grid vertical lines. Click the button again to cancel this function. The screen is free mobile.

Button 2: Click the button for the automatic adsorption alignment of the screen edge. Click the button again to cancel this function.

Button 3: After the button is clicked, the upper computer shows the overall height and length of the screen. Click the button again to cancel this function.

Button 4: Click the button to make the screen display in the center of the upper computer in order to rapidly view the screen arrangement.

5. Window operation

1）The operations of opening window

Method 1: Click the button “Open Window” in the interface “input”.

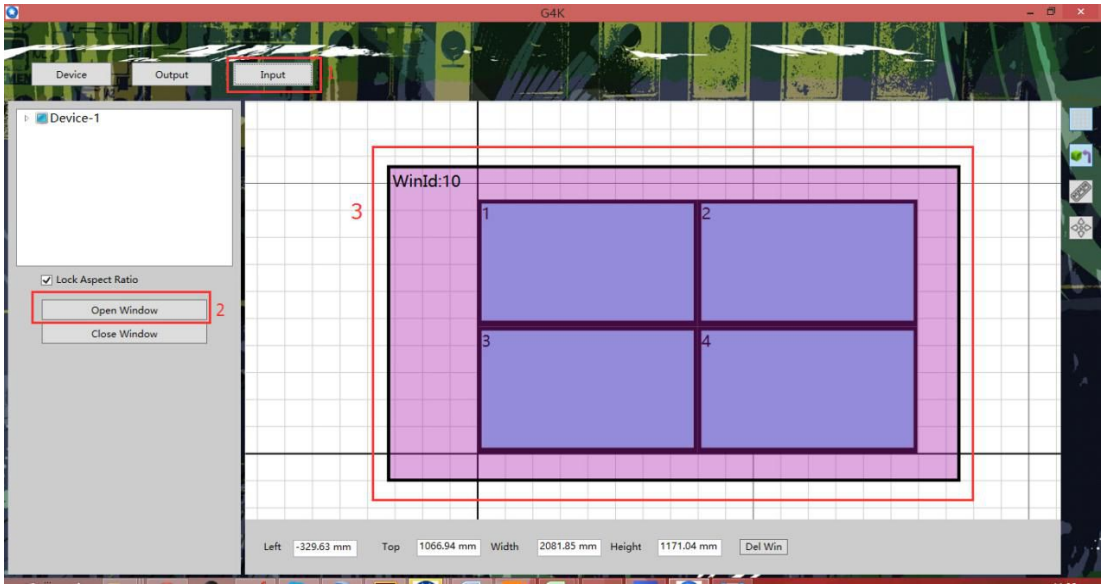


Figure 5-24

Method 2: Place the mouse on a certain screen on the non “Output” interface, press the left button to drag for open window.

Special tips:

（1）If the “Keep Aspect Ratio” is ticked in the interface “input”, when you use the method 2 for open window, the window is enlarged according to the aspect ratio.

（**2**）In the case of the window existing, still click the button “Open Window” to shut the original window, at the same time open a self-adaption frame window.

2）The operations of closing window

Method 1: Click the button “Close window” in the interface “input”.

Method 2: Click the button “close window” below the interface “device”.

3）Zoom window

Method 1: Place the mouse pointer at the window edge on the non “output” interface. After the pointer changes, you should drag the mouse to change the size of the window.

Method 2: Fill in the corresponding length and width at the bottom of “device” interface. After filling in every times, press the ENTER button to take effect.

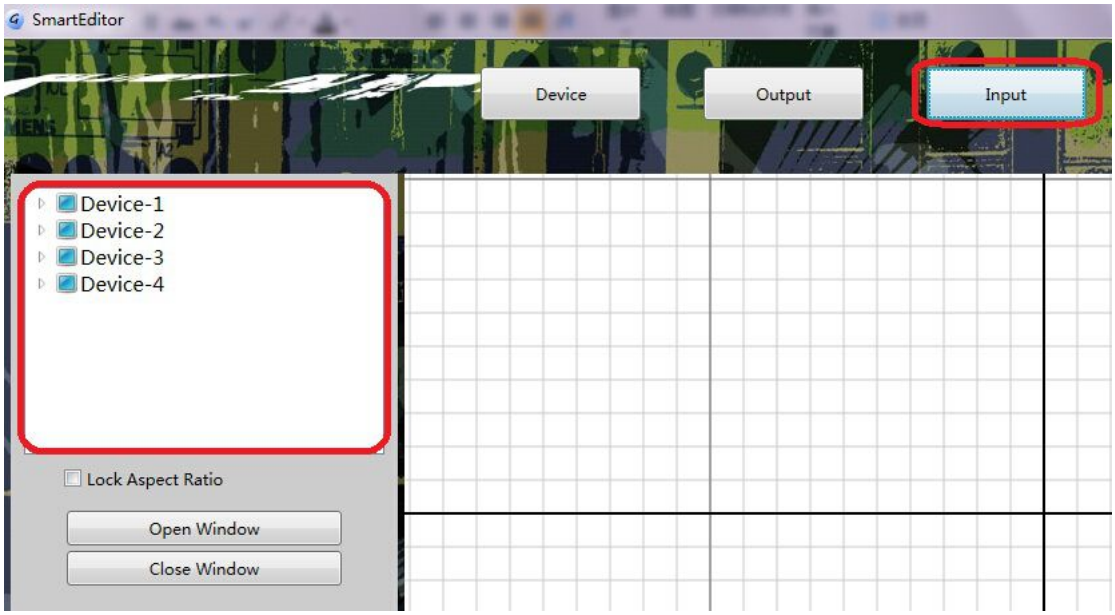
4）Scroll window

Method 1: Click to select a certain window on the non “output” interface, press on the left button to move the window to the target place.

Method 2: Fill in the corresponding the left value and upper value at the bottom of the “device” interface. After filling in every times, press the ENTER button to take effect.

6. Cascade operation

First ,follow last 3 steps instruction,and fill IP of the all cascade device, then connect,click “input” button,in the list you will see the information of the device ,like Number PCS and the name of device

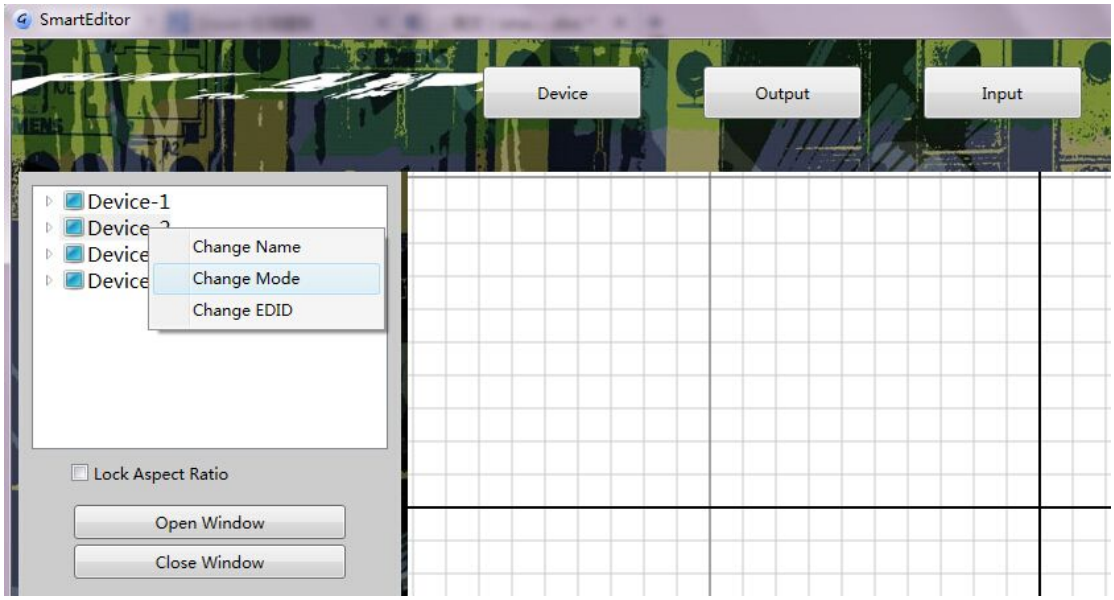


Select the device and right click will modify the device name

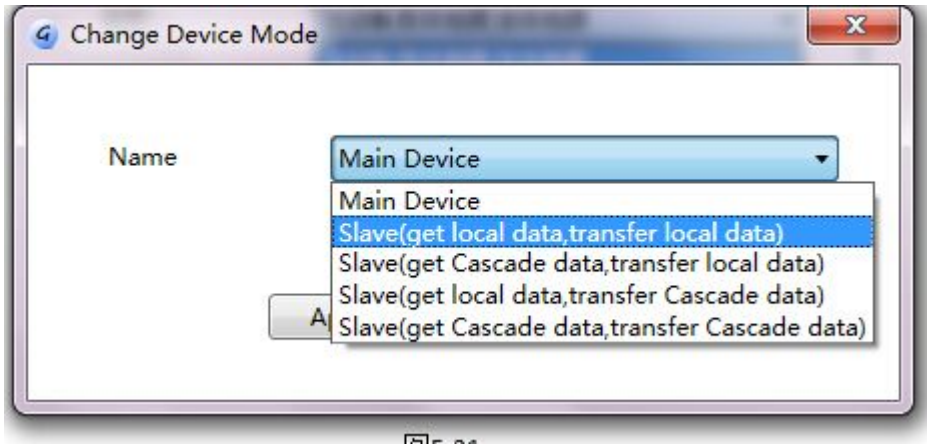
The order of the device list should be corresponding with the IP order

(1)Select Mode

In the device list ,right click,select the “change mode”



After show the message,and make sure the main and slave relationship ,the signal source information



The definition of the Mode：

1）”Main device”means this device is the main device and the output content is the input signal source,at the same time this signal source as the cascade source,and output to the next device

2）“Slave”: means get the local data and transfer local data ,and this device is the slaver device ,the output content is the input signal source,at the same time as this signal source for the cascade signal,and output for the next port for the cascade

3）“Slave” means get the local data ,transfer cascade data,and this device is the slaver device ,the output content is the signal source of the cascade, at the same time to be the cascade source ,and transfer another device

4）“slave” get local data and transfer cascade data means this device is the slave,the output content is the device input signal,and the input signal as the cascade signal once again,and transfer to next device

5）“Slave” get cascade data ,transfer cascade data means this device is the slave, the output content is the device input signal source,at the same time this source is the cascade source and transfer to next device

(2) Cascade Operation

Due to cascade only in one main device,according to the device layout relation and fill order of IP,find the name of the device,select the “Mani device”

The other according to the need of selecting

Case

Case1: select the “device -1” as the main device,and the other device is the “slave” get local data ,transfer local data

At moment the the signal source of the “device-1” will show in another device output,that will be the cascade function,especially pay attention ,all the screen will be show the main device signal source.

Case 2：select “device-1”as the main device,and select “device-2”as the slave, set the “get cascade data ,transfer local data”,the other device select the”get cascade data ,transfer local data”

At moment the output of the device-1 and device -2 are the device-1 local input signal source,the other device output is the device-2 local output,device-1 input signal source only show in device-1 and device 2.

(3) (3)Window limit

In the cascade condition,open window have some limit,follow one rule”1 device only open 1 window”.