# KLS12

## Twelve ports 2-in-1 video controller

version：v1.1

Release Date: October 2021
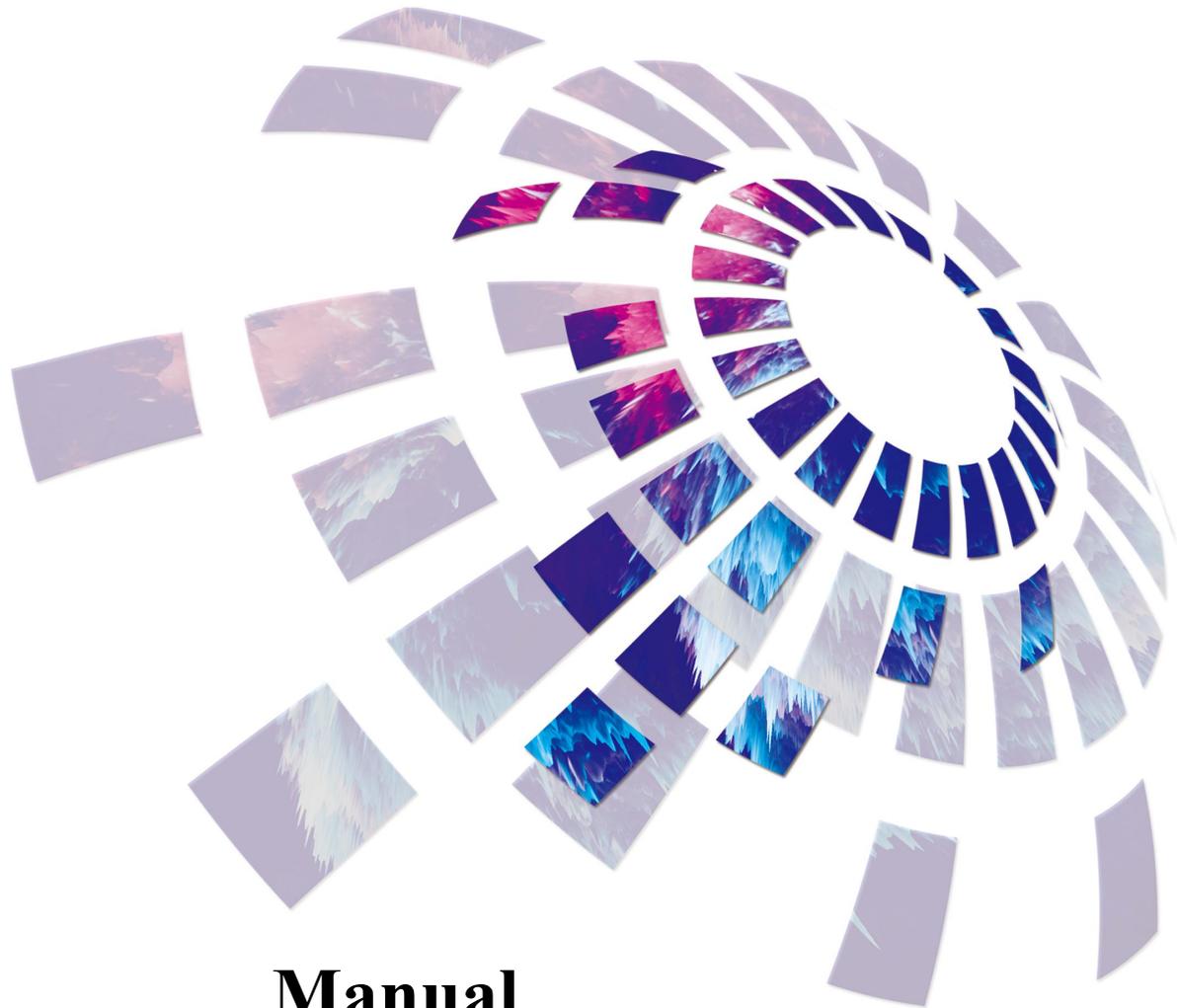
**Manual**

## Version record

| version number | Change details | release time |
|---|---|---|
| V1.0 | first release | 2021.08.02 |
| V1.1 | Modify the cover | 2021.10.25 |
| | | |
| | | |

## Safety precautions

⚡ Danger

● There is high voltage in the equipment. Non-professional maintenance personnel should not open the back cover to avoid danger.

⚠ Warning

● This equipment is not waterproof equipment, please do waterproof treatment in wet environment;

● This device is not allowed to get close to fire or high temperature environment;

● If the device emits strange noise, smoke or strange smells, unplug the power plug immediately and contact the dealer.

● **It is strictly forbidden to plug and unplug the VGA, DVI, and HDMI signal cables under power.**

⚠ Attention

1 Please read this manual carefully before use ,and keep it for future;

2 this equipment is not suitable for non-professionals to operate and debug,please use under the guidance of professionals;

3 this equipment is not suitable for non-professionals to operate and debug, please use under the guidance of professionals;

4 Do not insert anything into the vent hole of the device to avoid damage or accidents to the device;

5 It is not appropriate to place the device on a heat sink or other high-temperature place;

6 It is not suitable to place this equipment in near water or other damp places;

7 Please properly organize and place the power cord to prevent damage;

8 If the following conditions exist,the power plug of the device should be unplugged and commissioned for maintenance;

● When liquid splashes into the device

● When the device is dropped or the chassis is damaged

● When the device has obvious abnormality or performance is significantly deteriorated

# Catalog

# I、Product discussion

With the rapid development and application demand of LED display industry, various control requirements for large screen control system emerge as the times require. However, due to the limitations of the large screen control system in image processing, picture control and signal format conversion, there are some weak links in the large screen control system of LED, which can not meet the needs of users. The main problems are as follows:

1. The signal source access format of large LED screen control system is limited. At present, only digital DVI signal is commonly used. Many signal sources (such as VGA) can not be displayed directly on the large LED screen through the control system.

2. The image processing effect of traditional signal acquisition card is poor, which causes great loss to the clarity of the picture while converting the signal format.

3. The large LED screen control system can only capture the corresponding points of the large LED screen for display, while in some customer sites, it is necessary to display any size or complete computer desktop screen at will.

4. The large LED screen control system can only capture the corresponding points of the large LED screen for display, while in some customer sites, it is necessary to display any size or complete computer desktop screen at will.

In view of the above problems, our company independently developed a number of video processing products. The product adopts advanced control and image processing technology, which can not only realize switching between signals quickly and steadily, but also process multi-level pictures. In addition, the product can be controlled by keyboard and PC computer on the device, which makes the operation simple and convenient.

## Ⅱ、Product characteristics

- Single machine has 12 network ports, a single network port can load 650,000 pixels, and the whole machine can load a maximum of 7.8 million pixels, the width can reach 12,000 points, and the height can reach 4,000 points.

- Support multiple digital signal interfaces, including 1 DP1.1, 1 HDMI1.3 and 4 DVI-D input sources.

- Support 3 screen display, screen position arbitrary layout.

- All layers support matting, transparency adjustment, showing the best results.

- When switching between different signals, it supports a variety of special effects, including fade in and fade out, up and down left and right screen, diagonal up and down screen, circular cut-out cut-in, diamond cut-out cut-in, comb-shaped switching.

- Support signal source hot backup.

- Can set input and output signals monitor mode.

- EDID configuration management: Supports reading, modification and customization of EDID (Extended Display Identification Data).

- Support one-click black screen/static function.

- Black edge removal/cutting function: solve the black edge problem caused by the front-end signal, and do any cutting for any signal source (still keep the full screen state)

- Support key lock to prevent misoperation.

- The brightness and contrast of the overall output screen can be adjusted in real time and quickly.

- K-HDR function supports SDR to HDR image optimization technology, which can improve the contrast of ordinary SDR video and enhance the performance of image details, so that ordinary videos have HDR effects.

# III、Technical indicators

The video processor adopts the latest patented video processing technology, and has the video conversion capability of any format input and corresponding format output. Video signals including DVI, HDMI, DP, etc. can be processed and enhanced to meet customer application requirements. The detailed specifications are as follows:

| Serial number | Function Description |
|---|---|
| ① | Full color LCD information screen |
| ② | Parameter settings |
| ③ | Function load area |
| ④ | Signal source fast and preset save and call area |

| Output port | | |
|---|---|---|
| type | quantity | Specification |
| LAN（1~12） | 12 | LAN port, used to transmit data to the receiving card, with a maximum load of 7.8 million |
| HDMI（MONITOR） | 1 | Support resolution 1920×1080@60Hz |

| Control port | | |
|---|---|---|
| type | quantity | Specification |
| USB（Type-B） | 1 | USB-CFG interface, used to connect PC upper computer control |
| RJ11（RS-232） | 1 | The data transfer rate is 1200、2400、4800、9600、19200、38400、57600、115200（BT） |
| RJ-45 | 1 | 100M, used to connect to PC upper computer control |

| Whole machine specification | |
|---|---|
| Input power | 100-240V AC~50/60Hz |
| Operating temperature | 0-45℃ |
| Dimensions | 483×322×72mm（L×W×H） |
| net weight | 4KG |
| Whole machine power consumption | 60W |

# IV、Working sketch



LED screen

Desktop computer     laptop          camera          DVD
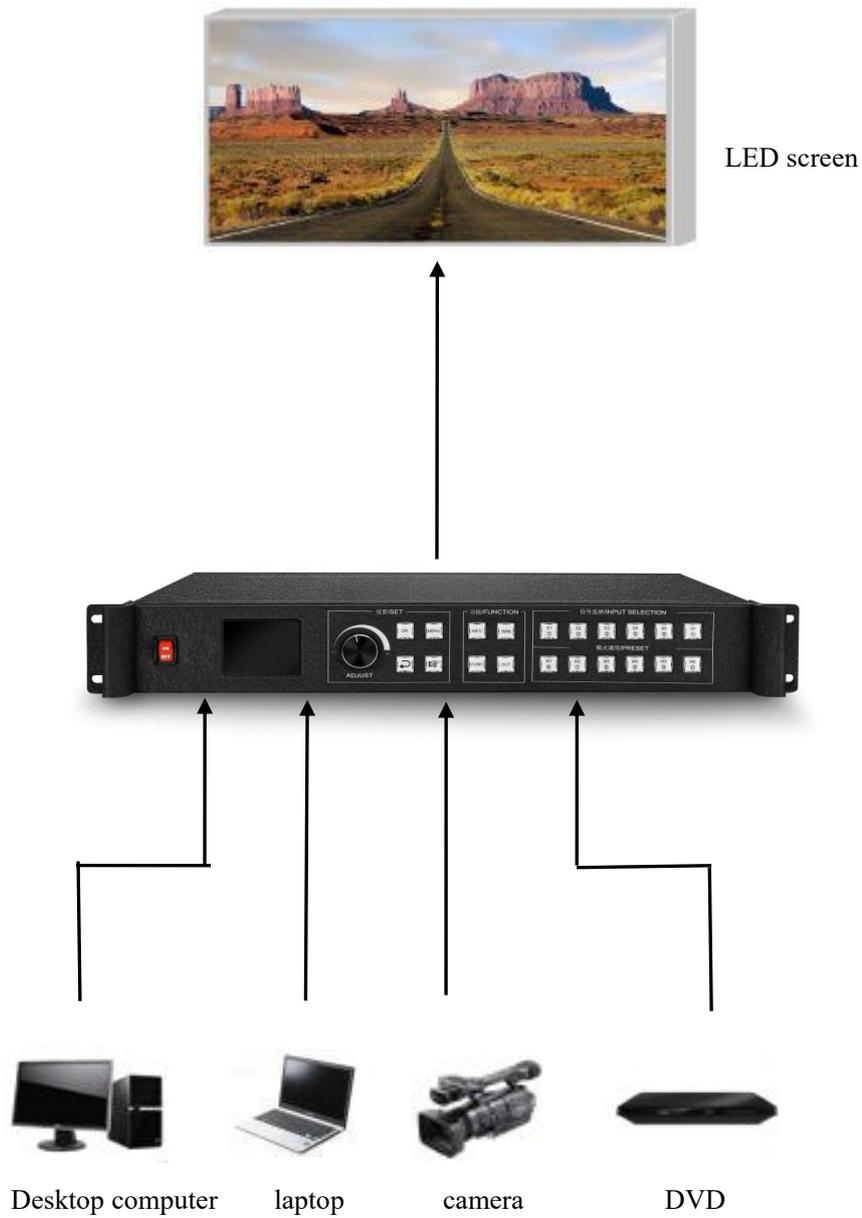
# V、Panel Structure

Front panel
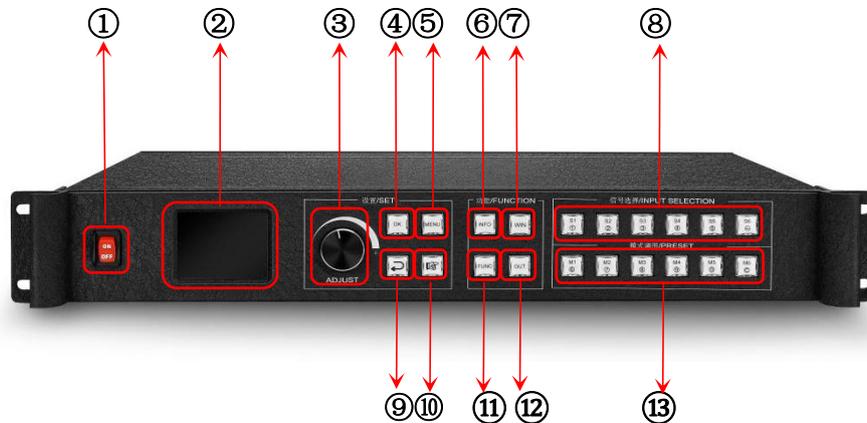


1、**POWER**：AC 220V power switch; ON state means the power is on, OFF state means the power is off.

2 、 **LCD screen** ： Information display; displays information about the device and commissioning.

3、**ADJUST**：Adjust knob;Use the knob to select the information in the color screen and quickly adjust various parameters. Turn clockwise to decrease, clockwise to increase, press OK.

4、**OK**：The OK button is used to confirm debugging information.

5、**MENU**：Press the menu button to enter the main menu interface for device debugging.

6、**INFO:**Information query button; query the real-time status of the input signal.

7、**WIN**：**W**indow information button; display the picture signal source of the picture and the signal source of switching the picture.

8、**S1-S6**：Signal source button; the main menu interface represents the input source behind the device, and the parameter input interface represents digital 1-5 and the back button.

9、 ⬅ ：Return or cancel key.

10、 👉 ：Navigation button; tap to enter navigation mode.

11、**FUNC**：Common function keys; click to enter the common function interface.

12 、 **OUT** ：Output selection key; the output can be selected as black screen, blue screen, normal.

13、**M1-M6**：M1-M6: shortcut mode call button; the main menu interface is the shortcut

mode button, and the parameter input interface indicates，Numbers 6-0 and clear key.

## Back panel
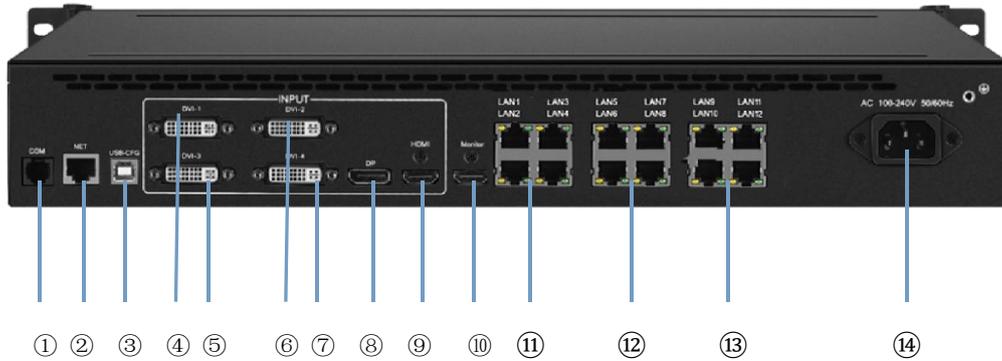


1、 COM -----------------Connect to the host computer software through the COM port

2、 NET ---------------Connect to the host computer software through the network port

3、 USB-CFG ---------------Connect the host computer software through the USB port

4、 DVI-1---------------------------DVI signal input interface such as desktop computer

5、 DVI-3--------------------------DVI signal input interface such as desktop computer

6、 DVI-2--------------------------DVI signal input interface such as desktop computer

7、 DVI-4--------------------------DVI signal input interface such as desktop computer

8、 DP--------------------------------------------------------------------DP signal input interface

9、 HDMI-------------------------------------------------HDMI input interface such as laptop

10、 HDMI-Monitor----------------------------------------------------------HDMI monitor

11、 LAN1-4---------------------------------------------------------Network port output

12、LAN5-8---------------------------------------------------------Network port output

13、LAN9-12--------------------------------------------------------Network port output

14、Power supply--------------------------------------------------------20V power port

# VI、Wiring and installation

## Wiring diagram

Power cable

Lan cable

USB control cable  Signal source  Monitor                                    LED screen
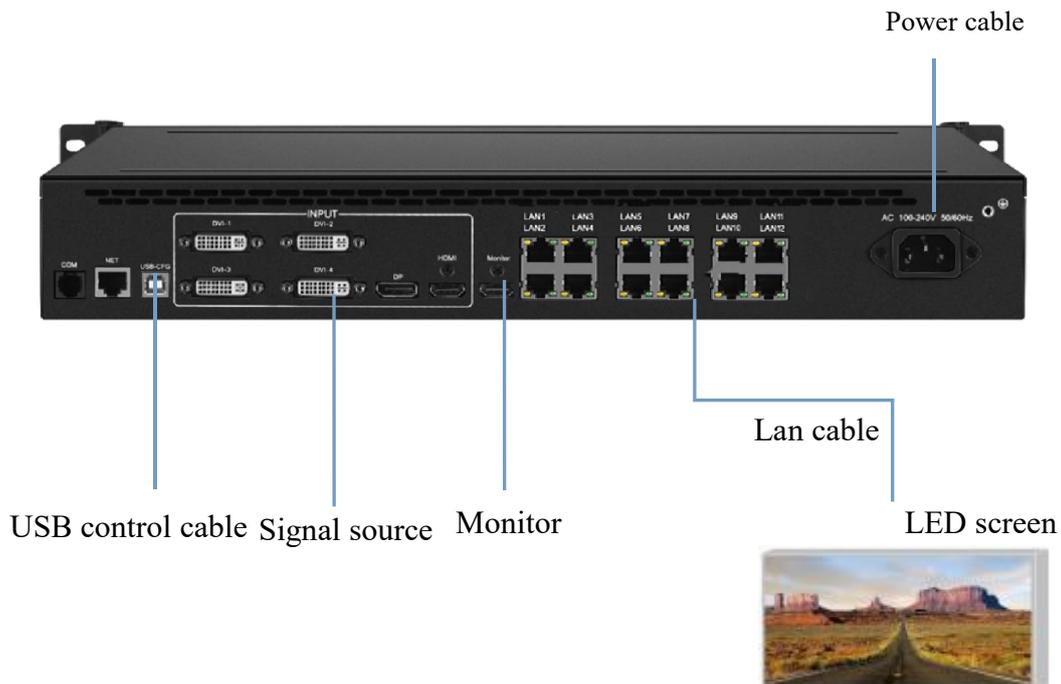
## Installation step

1、Wiring as shown in the picture, connect the DVI port of the graphics card to the DVI-IN input port of the 2-in-1 controller;

2、Then connect the wires as shown in the figure, connect the computer to the USB-CFG control port of the device through the USB control cable, and connect the output network port of the two-in-one controller to the receiving card;
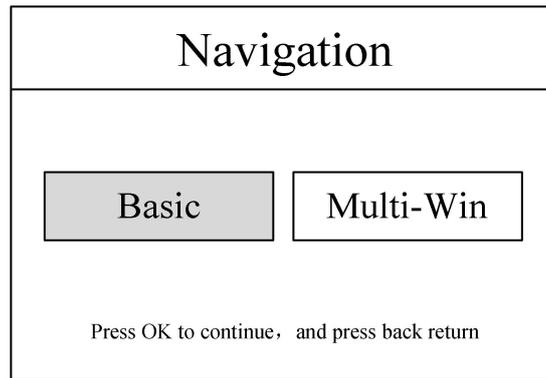
3、After making sure that the wiring is correct, power on and open the gold card debugging software. The software can correctly identify the model of the sending card and the number of receiving cards, and the debugging can be done normally.
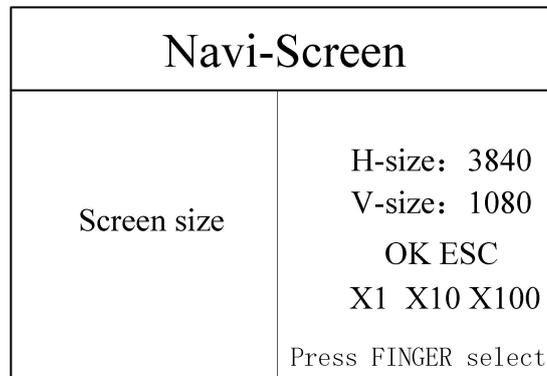
# VII、Equipment commissioning

## Navigation mode

This Wizard is suitable for most cases. It is simple to set up. With the prompt, you can gradually debug it to achieve the desired display effect. The processor automatically enters the navigation mode when it is powered up.(or Click ☞ Enter Navigation Mode）：

```
┌─────────────────────────────────────┐
│           Navigation                │
├─────────────────────────────────────┤
│                                     │
│   ┌──────────┐   ┌──────────┐       │
│   │  Basic   │   │ Multi-Win│       │
│   └──────────┘   └──────────┘       │
│                                     │
│   Press OK to continue，and press   │
│            back return              │
└─────────────────────────────────────┘
```

lick "Basic Settings" to enter the screen parameter setting interface:

```
┌─────────────────────────────────────┐
│           Navi-Screen               │
├──────────────┬──────────────────────┤
│              │                      │
│              │   H-size：3840       │
│              │   V-size：1080       │
│ Screen size  │                      │
│              │      OK ESC          │
│              │   X1 X10 X100        │
│              ├──────────────────────┤
│              │  Press FINGER select │
└──────────────┴──────────────────────┘
```

screen resolution, click "OK" to complete the parameter settings

Note: You can directly enter by click the number keys, or set parameters through the knob, and select the step size through the finger keys

Navigation mode, select "Multi-screen settings", click OK to enter

```
┌─────────────────────────────────────┐
│           Navigation                │
├─────────────────────────────────────┤
│                                     │
│   ┌──────────┐   ┌──────────────┐   │
│   │  Basic   │   │  Multi-Win   │   │
│   └──────────┘   └──────────────┘   │
│                                     │
│   Press OK to continue，and press back return │
│                                     │
└─────────────────────────────────────┘
```
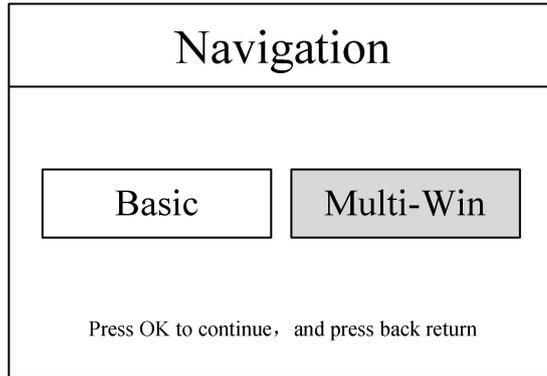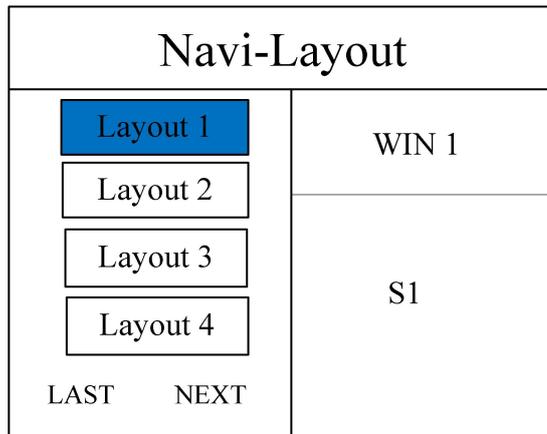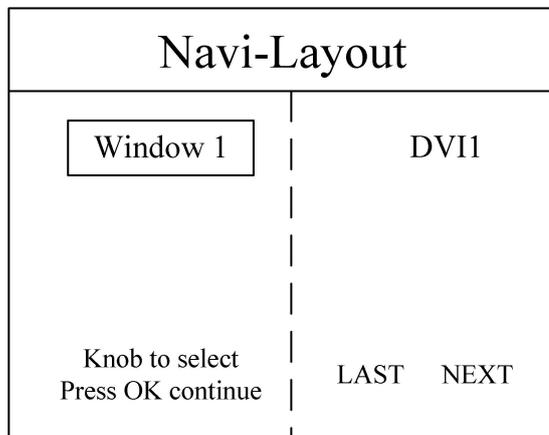
Select window layout (Layout1/Layout2/Layout3/Layout4)

```
┌─────────────────────────────────────┐
│           Navi-Layout               │
├──────────────────┬──────────────────┤
│  ┌────────────┐  │                  │
│  │  Layout 1  │  │     WIN 1        │
│  └────────────┘  │                  │
│  ┌────────────┐  ├──────────────────┤
│  │  Layout 2  │  │                  │
│  └────────────┘  │                  │
│  ┌────────────┐  │                  │
│  │  Layout 3  │  │      S1          │
│  └────────────┘  │                  │
│  ┌────────────┐  │                  │
│  │  Layout 4  │  │                  │
│  └────────────┘  │                  │
│  LAST    NEXT    │                  │
└──────────────────┴──────────────────┘
```

Select the win signal source, and use the knob to select the signal source input

```
┌─────────────────────────────────────┐
│           Navi-Layout               │
├──────────────────┬──────────────────┤
│  ┌────────────┐  ┊                  │
│  │  Window 1  │  ┊     DVI1         │
│  └────────────┘  ┊                  │
│                  ┊                  │
│                  ┊                  │
│                  ┊                  │
│  Knob to select  ┊                  │
│  Press OK continue ┊ LAST   NEXT    │
└──────────────────┴──────────────────┘
```

Set window parameters

```
┌─────────────────────────────────────┐
│              Navi-Scaler             │
├──────────────────┬──────────────────┤
│  ┌────────────┐  │    H-POS： 0     │
│  │  Window 1  │  │    V-POS:0       │
│  └────────────┘  │    H-SIZE:3840   │
│                  │    V-SIZE:1080   │
│                  │                  │
│  Knob to select  │   X1 X10 X100    │
│  Press OK continue│ Press FINGER select│
└──────────────────┴──────────────────┘
```

Save mode, mode 1 - mode 32

```
┌─────────────────────────────────────┐
│              Navi-Save               │
├──────────────────┬──────────────────┤
│     Mode 1       │   Save mode 1    │
│     Mode 2       │   Screen size    │
│     Mode 3       │   3840X1080      │
│     Mode 4       │   Layout 1       │
│     Mode 5       ├──────────────────┤
│     Mode 6       │    Window 1      │
│                  ├──────────────────┤
│  LAST    NEXT    │       S1         │
└──────────────────┴──────────────────┘
```

## Expert mode

**Step 1:** Click "MENU" to enter the main menu interface, no need to set in "Device Mode", the default horizontal splicing

```
┌─────────────────────────────────────────┐
│                  Device                  │
├─────────────────────────────────────────┤
│  ┌──────────┐                            │
│  │   Copy   │                            │
│  └──────────┘                            │
│                    ┌─────┬─────┬─────┐   │
│  ┌──────────┐      │OUT1 │OUT2 │OUT3 │   │
│  │Horizontal│      └─────┴─────┴─────┘   │
│  └──────────┘                            │
│  ┌──────────┐       Tip：                │
│  │ Vertical │    All outputs are spliced │
│  └──────────┘    horizontally            │
└─────────────────────────────────────────┘
```

**Step 2:** Set the screen parameters, the horizontal size and vertical size in the screen parameters are set to the number of points of the LED screen

| Screen | |
|---|---|
| Screen size | H-size：5760<br>V-size：1080<br>OK ESC<br>X1  X10 X100 |
| | Press FINGER select |

Note: There are two ways to enter numbers:

(1)  Adjust by rotating the knob, and adjust the step size by "×1", "×10" and "×100", for example, "×100" means that the number increases by 100 each time the knob is rotated.

(2)  through the front panel number keys, for example, the number on

| S1 |
|---|
| ① |

the key represents the number 1 .

**Step 3:** set the screen layout, optional layout 1/layout 2/layout 3, select the corresponding screen layout according to the customer's project requirements

| Layout | |
|---|---|
| Layout 1 | WIN 1 |
| Layout 2 | |
| Layout 3 | S1 |
| LAST     NEXT | |

Note: This step can be skipped for single screen, as long as the number of screens is consistent with the project requirements for multi-screen, the inconsistent layout can be set by the following operations.

**Step 4:** Click "OK" to return to the main menu interface, select "scaler Parameters", enter the image parameter setting interface, and set the size and position of each screen.

```
┌─────────────────────────────────────────┐
│                  Scaler                   │
├──────────────────────┬────────────────────┤
│   ┌──────────────┐   │                    │
│   │  Window 1    │   │  H-POS：0          │
│   └──────────────┘   │  V-POS:0           │
│   ┌──────────────┐   │  H-SIZE:3840       │
│   │  Window 2    │   │  V-SIZE:1080       │
│   └──────────────┘   │                    │
│   ┌──────────────┐   │                    │
│   │  Window 3    │   │                    │
│   └──────────────┘   │                    │
│   ┌──────────────┐   │                    │
│   │  Window 4    │   │                    │
│   └──────────────┘   │                    │
│   Knob to select     │  X1 X10 X100       │
│   Press OK continue  │  Press FINGER select│
└──────────────────────┴────────────────────┘
```

**Step 5:** Click "MENU" to return to the main menu interface, enter Menu - More - Common Functions - Partial Display, enter the part display setting interface, and set the size and position of the partial interception of each signal source.

```
┌─────────────────────────────────────────┐
│                  Zoom                     │
├──────────────────────┬────────────────────┤
│   ┌──────────────┐   │                    │
│   │  Window 1    │   │  H-POS：0          │
│   └──────────────┘   │  V-POS:0           │
│   ┌──────────────┐   │  H-SIZE:0          │
│   │  Window 2    │   │  V-SIZE:0          │
│   └──────────────┘   │                    │
│   ┌──────────────┐   │                    │
│   │  Window 3    │   │                    │
│   └──────────────┘   │                    │
│   ┌──────────────┐   │                    │
│   │  Window 4    │   │                    │
│   └──────────────┘   │                    │
│   Knob to select     │  X1 X10 X100       │
│   Press OK continue  │  Press FINGER select│
└──────────────────────┴────────────────────┘
```

Note: Skip this step if the signal source picture needs to be completely displayed on the large screen; if you only need to capture a certain signal source in the multi-picture, you only need to set the picture of the signal source; horizontal size or vertical size A value of 0 indicates that no local interception is performed in this direction.

**Step 6:** Click "MENU" to return to the main menu interface, select "Save Settings", enter the data saving interface, select any mode and click "OK" to save the above operation data.

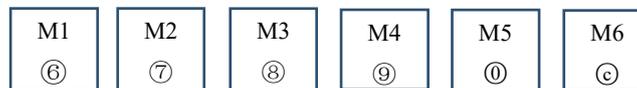| Save | |
|---|---|
| Mode 1<br>Mode 2<br>Mode 3<br>Mode 4<br>Mode 5<br>Mode 6<br>Mode 7<br>Mode 8 | Save mode 1<br>Screen size<br>3840X1080<br>Layout 1 |
| | Window 1 |
| | S1 |

Note: Mode 1 is the data that is started by default when the device is powered on. It is recommended that the most commonly used or the mode that needs to be displayed when booting is saved to Mode 1.

At this point, the basic debugging of the equipment is completed. If there are other requirements, repeat the operation and save it to other modes.

After the equipment is debugged, the saved data can be called according to different scenarios in later use.

There are two types of mode calls:

（1）To call through the shortcut keys, just click the front panel keys "M1-M6", this method is convenient to use when there are few mode scenes.

| M1<br>⑥ | M2<br>⑦ | M3<br>⑧ | M4<br>⑨ | M5<br>⓪ | M6<br>ⓒ |
|---|---|---|---|---|---|

（2）Called via user mode within the main menu. Click "MENU" and select "User Mode" to enter the user mode calling interface. Select the desired mode and click "OK".

| Mode | |
|---|---|
| Mode 1<br>Mode 2<br>Mode 3<br>Mode 4<br>Mode 5<br>Mode 6<br>Mode 7<br>Mode 8 | Save mode 1<br>Screen size<br>3840X1080<br>Layout 1 |
| | Window 1 |
| | S1 |

Thank you again for using our company's video processor. Please refer to the following sections for other detailed settings.

# VIII、 function introduction
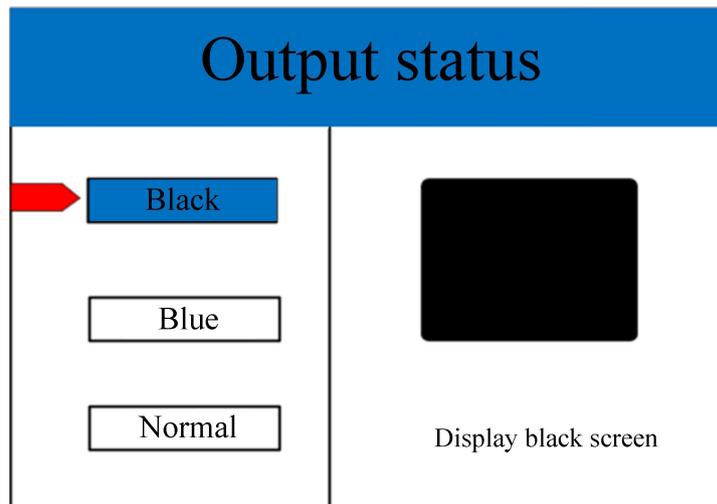
## Key Function

**INFO:** Information query button, click this button to enter the input information query interface, showing whether the input of each signal source is normal, the interface is as follows, red means the signal is lost, green means the signal is normal.
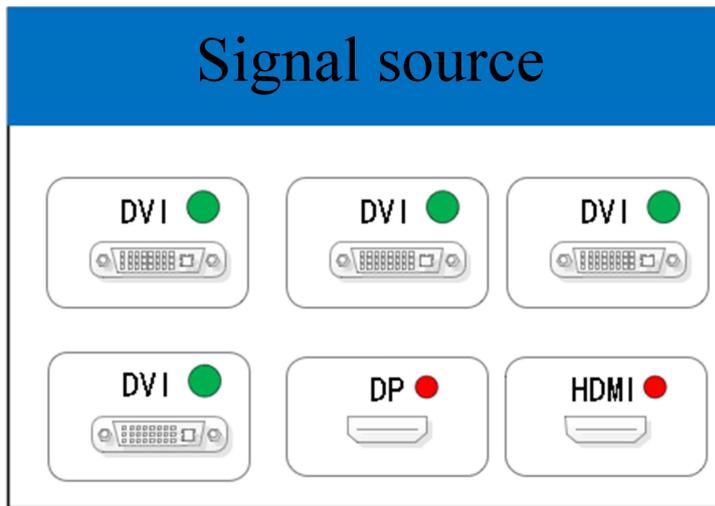


**WIN:** window button, click this button to enter the window information interface, and you can select the signal source for each window under this interface. The following takes 3 windows as an example, click the "WIN" button to enter the screen switching interface, and display the current signal sources of the three windows respectively. S1-S6" to switch.
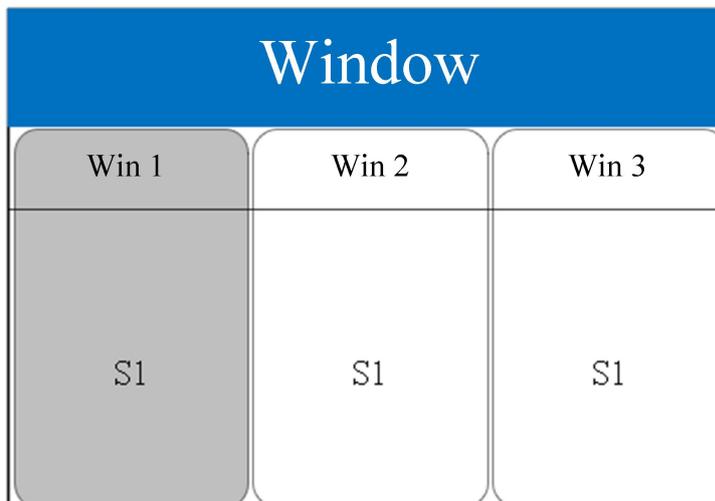
**OUT:** Output status button, click this button to enter the output status interface, there are three output options: black screen, blue screen, normal. Selecting black screen means that all output ports will output black image, and the large screen will turn black; if selecting blue screen, all output ports will output blue image, and the large screen will turn blue; selecting normal, the image will be output normally.

## Output status

| Black | Display black screen |
| Blue | |
| Normal | |

FUNC: function button, click this button to enter the common function interface. Common functions include: screen brightness, processor brightness, local global, local settings, switching effects, switching time, cutout settings, transparency settings, intelligent hot backup, OSD settings, EDID, multi-level cascade, still picture, preview settings , K-HDR.

### Common Functions

1、 Sending card Brightness

Adjust the brightness of the device sending card, 0-255 levels brightness adjustment.

2、 Processor brightness

The device supports 0-255-level brightness adjustment, and the brightness of all screens is adjusted synchronously to meet the brightness of users in different scenarios.

3、 Part-full

Switch the display state of the screen to global display or partial display. Before operation, you need to set the data of partial display to view the partial display effect.

4、 zoom settings

Set the local display for the selected screen, take the upper left corner of each input source image as the (0,0) starting point,

and set the four parameters of the horizontal position, vertical position, horizontal size, and vertical size of the local interception for the specified position interception. The default data is 0, which means no local interception is performed.

5、 switch effect

The device supports 16 kinds of special effects switching, including: fade in and fade out, seamless straight cut, vertical and horizontal combing, circular cut in, cut out, diamond cut in, cut out, swipe in all directions, to meet the user's scene switching for different applications need.

6、 effect time

Set the screen switching time or the switching time between modes, adjustable from 0.2s to 3s.

7、 Cutout Settings

The cutout setting is to cut out some text or pictures and remove the rest, which is often used for subtitle production.

For example, input red characters with black as background, after setting the cutout, the black background will disappear, leaving only the red subtitles above.

8、 Transparency settings

This product can adjust the transparency of the picture, and can even achieve point-by-point adjustment, making the application scene more colorful.

9、 Intelligent hot backup

The user can specify a backup signal for the source. If the current signal fails, the system will automatically detect it and call it immediately,Its backup signal, if the signal returns to normal, the system can intelligently call back the original signal. Applying this function to build a parallel system can

Effectively guarantee the reliability of the site.

10、 EDID

Set the EDID information for the input interface to perfectly connect to the specific resolution source. This function is often used in scenarios where the computer outputs a custom resolution.

11、 Freeze

Set the stillness or activity of any screen, often used in field changes or background switching, etc.

12、 Preview settings

There are three device monitoring methods: input monitoring, output monitoring, and input and output monitoring.

Preview input channel: monitor all input signal sources;

Preview output channel: monitor all output contents;

Preview input and output: monitor the input signal and output content, that is, the large-screen display.

## 13、K-HDR

The K-HDR function is Kstar's SDR to HDR image optimization technology, which can improve the contrast of ordinary SDR videos, enhance the performance of image details, and make ordinary videos have HDR effects.

Set the K-HDR function parameters of DP or HDMI, including function switch, function level, effective area switch, effective area parameters, presentation mode. By adjusting the effect level, the perfect display effect applicable to the scene can be achieved. The default level is 8.

## Advanced menu

1、Chinese/ENG

Set the language of the device: English or Chinese, the default is Chinese.

2、Common function

There are screen brightness, processor brightness, local global, local settings, switching effects, switching time, cutout settings, transparency settings, intelligent hot backup, EDID, still picture, preview settings, K-HDR. Refer to the frequently used functions in this chapter.

3、Factory

Erase all data and restore to default state. After this operation, the data cannot be recovered. The operation must be performed with caution, and the on-site configuration data should be backed up in advance.

4、Support

Query the device firmware version number and device IP address and other information.

5、IP set

View and set the IP address of the device, which can be changed according to the needs of the on-site environment. After the change, restart the device to take effect.

The default IP address is 192.168.250.250, subnet mask 255.255.255.0, gateway 192.168.250.254

6、Com settings

Set serial port parameters, such as baud rate, parity bit, data bit, stop bit parameters, and change them as required.

7、Mode delete

This function can delete the mode data stored in the device, either individually or in batches.

8、keyboard lock

Lock the keys on the front panel to prevent misoperation by personnel.

## IX、 software debug

Open the software to enter the expert debugging interface, set the parameters of the sending card, the receiving card parameters, and the screen connection.

## 1、software connect

Use USB serial cable to connect, after opening the software, the software interface recognizes that the model of the sending card is KLS8Pro, and the number of receiving cards detected is the actual number of on-site loads
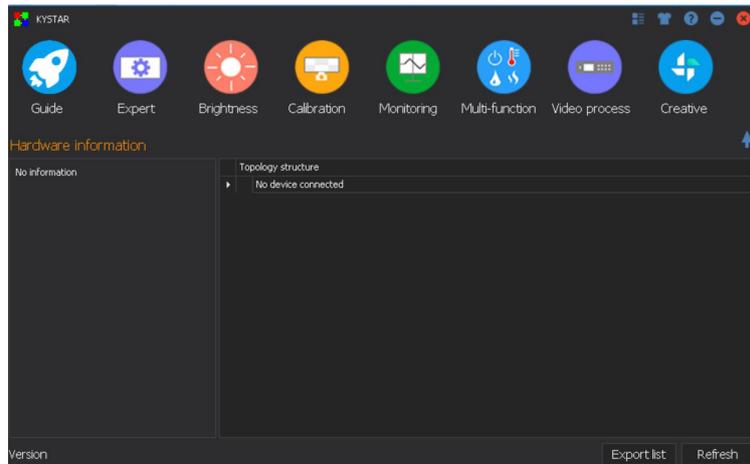


## 2、expert debug

Sending device parameter setting: set the width and height in the software according to the actual width and high resolution of the screen



18
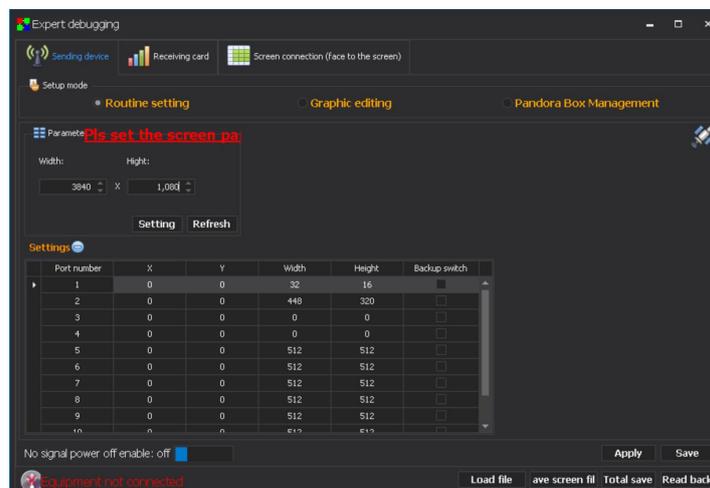
# 3、Receiving card parameter settings

Module select：select the module manufacturer: select the corresponding module manufacturer; the specifications of the main modules, the driver chip and the decoding method should be consistent

Intelligent setting: According to the width and height of the module, the driver chip and the decoding chip, make the module board loading file

Data line color: red, green and blue arrangement can be directly exchanged, no need to reset intelligently

Sweep setting: perform sweeping operation on the lamp panel, which is applied to small spacing and unconventional lamp panels

Set Single Card Load: the width and height of the receiving card load

Multi-opening setting and cascade direction: set multi-opening mode and rotation angle

Data Group Swapping: Swap Data Groups and Smart Lookups

Keep the last frame when there is no signal: set the screen to be black when the receiving card has no signal or keep the last frame when there is no signal

Effect debugging: Debug data clock frequency and multiplier, debug refresh to 1920 (PWM chip debug gray clock frequency, refresh to 3840)

Effective means to improve the display effect:

**1. Increase the data clock:** the frequency is not affected by other parameters, which is the first condition; if there is a blurry screen, reduce it one by one; try to adjust the clock phase if it is slightly blurred; 32 scan modules are generally adjusted to 20.83; too high is harmful to the module itself The impact is large and the maintenance is troublesome.

**2. Reduce the OE width:** the default is 32ns, and the unit is 8, and it is reduced one by one; be careful that it will affect the low gray effect if it is too low.

**3. Adjust the output gray level:** conventional modules, generally adjusted to 12-14; 12 represents the 12th power of 2, that is, 4096.

**4. Appropriately reduce the parameter value, and then solidify:** After the display effect is normalized, reduce the above data appropriately without affecting the refresh rate and brightness efficiency. At present, it is to reduce power consumption and increase the life of the screen. .
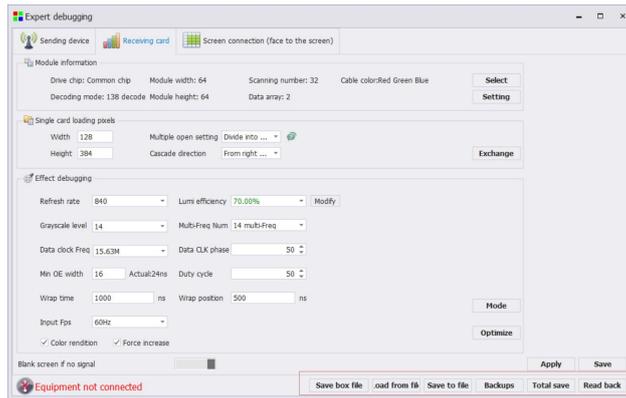
# 4、Screen connection

Single card setting: set the receiving card load size

Network port selection: select the paired network port settings

Connection method (horizontal/vertical): the connection between the receiving cards

Setting ： According to the flickering of the large screen, click the corresponding area to intelligently identify the serial connection method of the network port and network cable.

Complex display connection  ：Used to individually adjust the load and location information for each receiving card. For alien items.

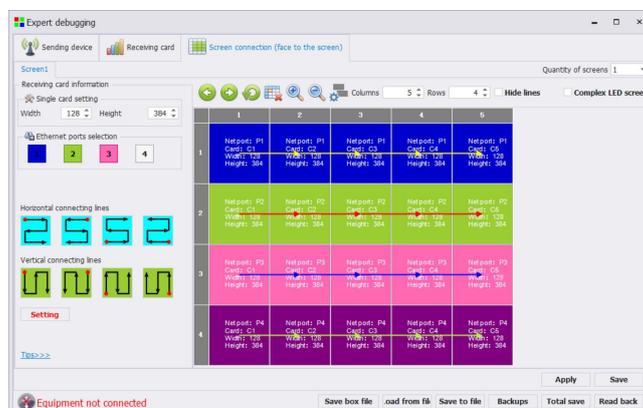Save to file: save the display connection kcfg file separately

Hub offset  ：Set the offset of the HUB port (select receiving card, click port offset to set)

**Debugging Tips**

Select the network port: directly change the width and height of all cards in the network port

Click the number before each row or column to change the size of a row or column.



After the parameter setting is completed, the large screen display is normal, click all to cure,

For detailed software parameter settings, please refer to "Kstar Control System User's Manual".

# X、FAQ

**Q1：DVI，HDMI port definition.**

**A：**

DVI： Digital (HD) video signal is an interface standard introduced by DDWG (Digital Display Working Group) in 1999 by Silicon Image, Intel and other companies. It has been well optimized in speed, clarity and HDCP protocol. Signal sources are typically desktop computers, notebooks, etc.

HDMI： High Definition Multimedia Interface (HDMI) is a digital video/audio interface technology. It is a special digital interface suitable for image transmission. It can transmit audio and video signals at the same time. The maximum data transmission speed is 5 Gbps. Signal sources are usually cameras, notebooks, information dissemination systems, etc.

**Q2：Briefly describes the connection mode of video card, video processor, receiving card and large LED screen.**

**A:** The DVI (VGA) output port of the graphics card is connected to the DVI-IN (VGA-IN) input of the video processor - the network port output of the video processor is connected to the terminal receiving card behind the screen through a network cable - the receiving card connection control The respective part of the screen body is connected to the entire large screen by cascading.

**Q3：How to set the keyboard lock of the video processor? How to unlock?**

**A:** A: Menu - Advanced Menu - Expert Settings - Keyboard Lock. Keyboard can be locked after opening. Keyboard can be unlocked even by pressing MENU key 10 times.

**Q4：What are the possible reasons why the upper computer can't detect the equipment?**

**A:** Use a computer to control the video processor, serial line.

The connection failure may be caused by the following conditions.

① The device is not powered on;

②The USB cable driver is not installed on the computer or the USB driver is damaged;

③ The serial port cable is not well connected or the cable is damaged;

Q5：The large screen of the video card directly connected with the sending card is displayed normally, and the screen will appear black screen when it is connected to the video processor.

A: Observe whether the sending card indicates that the green light flashes normally. If the signal is given by the processor's output port, the possible reasons are as follows:

① The problem of signal source. When connecting the computer graphics card, the copy mode of the graphics card should be set. If not, the DVI port of the graphics card has no data output. Setup steps: Turn off the power supply of video processor - reinsert the line from video card to video processor - ATI graphics card reads and replicates automatically. NVIDIA graphics card needs to enter the graphics card control center and set up multiple display + double screen replicate mode.

② Connection problems. When the signal line interface contacts badly or there is a problem inside the wire, the large screen will appear abnormal phenomena such as color stripes, flower screens and so on. Check carefully whether the pin in the signal line is broken or inclined and change the signal line.

If the above suggestions do not solve your problem, please contact our customer service staff in time. We will help you solve the problems in the first time.