



# Visual switcher K2

## User manual



Beijing Kystar Technology Co., Ltd.

## Statement

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Version Information

Version: v1.0

Release date: October 2018

## Safety instructions

	<p><b>Power supply</b></p> <p>The normal working power of this equipment is 100 ~ 220V AC, please make sure to use this product within this voltage range.</p>
	<p><b>High voltage</b></p> <p>This device contains high voltage components.</p>
	<p><b>Non-professionals do not disassemble</b></p> <p>This equipment is not equipped with maintenance accessories for users to repair and use by themselves, please do not open the case for operation by yourself. Disassembly by yourself may cause irreparable damage to the equipment. If repair is required, please contact the after-sales personnel.</p>
	<p><b>Ensure good grounding</b></p> <p>In order to protect the personal safety of the user, before use, please ensure that the power cable is well grounded.</p>
	<p><b>Keep away from strong magnetic fields, engines and transformers</b></p> <p>In order to ensure the normal use of the equipment, please keep away from strong magnetic fields, engines and transformers.</p>
	<p><b>Pay attention to moisture</b></p> <p>Keep the use environment dry. If the device is wet accidentally, do not connect it to the power supply. Dry the device before using it.</p>
	<p><b>Keep away from explosives</b></p> <p>Do not use this product in a flammable or explosive environment.</p>
	<p><b>Prevent liquid or conductive debris from entering the case</b></p> <p>Conduct conductive materials such as liquids or metal scraps into the equipment case. If it happens, immediately cut off the power, and then reconnect the power supply after removing foreign objects.</p>

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# 1 Product introduction

K2 is a pinch-controlled video processor designed for small-pitch super-large screens. The device has built-in video playback, editing, and control functions, supports two 4K @ 60HZ DP inputs, has multiple monitoring modes, switching modes, complete backups, and is safe and reliable. The machine carries 9.6 million pixels, which meets the needs of most field applications.



## Functional characteristics :

1. Eight-way splicing output, four main and four backup custom splicing belts carrying 9.6 million pixels.
2. The single machine has a horizontal maximum of 16000 pixels and a vertical maximum of 8000 pixels.
3. Support two 4K @ 60Hz DP inputs, the maximum resolution can reach 3840 \* 2160 @ 60Hz or 7680 \* 1080 @ 60Hz.
4. Support hot backup of input signal. When input signal is lost, it can automatically switch to designated backup signal.
5. Embedded operating system, users can observe the current playback screen and all input signals in real time, and complete the WYSIWYG layout operation.
6. Supports built-in storage and external U disk independent playback function.
7. Support external display, real-time monitor all input and output picture content.
8. Support real-time capture of the current output picture as a base map.
9. Supports scene pre-edit, which does not affect the current playback screen when setting the device parameters. The setting can be pushed with one-click special effects to prevent misoperation. There is no black screen, flickering, or stuttering in scene switching.
10. Seamless connection with Kommander series servers.
11. Support external mouse, operation and debugging on the monitor, more convenient.
12. A maximum of four input signals can be displayed on the screen at the same time, which can be superimposed and roamed at will.
13. Supports more than ten kinds of scene switching effects such as straight cut, fade in and fade out, and push screen. One-click Take and Cut are supported.
14. All layers support matting and transparency adjustment, as well as arbitrary cropping of the signal source.
15. Support one-button black screen / still.
16. Supports adjusting the brightness and contrast of the input signal separately, and supports EDID online editing.
17. Built-in military-grade power anti-interference filter to cope with the complex power environment on site.

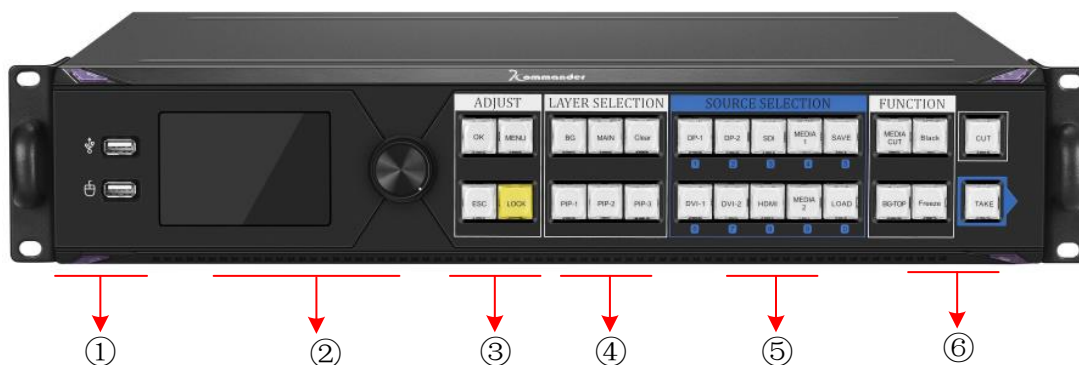
## 2 Hardware introduction

### 2.1 Front panel

#### K2 software-visual interactive management platform

The user can observe the current playback screen and all input signals in real time, and complete the layout operation of WYSIWYG; the layout and playback content can be visually edited in preview mode, and the playback is pushed after confirmation.



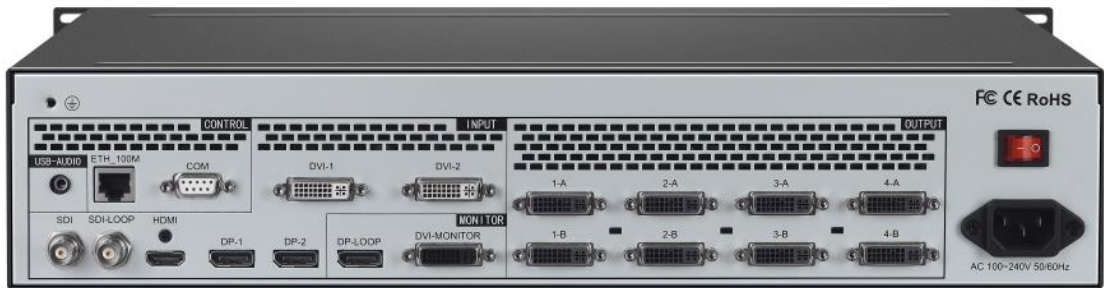


Serial number	Knob name	Function introduction
<b>LCD</b>		
①	USB interface	For U disk playback; mouse editing and control
②	LCD full color information screen	Friendly human-machine interface interaction, full information monitoring
	Turn the knob	In menu operation, used to select menu items and adjust parameters
<b>ADJUST</b>		
③	OK	Enter
	MENU/LOCK	Menu key / Keyboard lock key
	ESC	Back key to return to the previous menu
	LOCK	Keyboard lock key
<b>LAYER SELECTION</b>		
④	BG	Click to enter the basemap setting interface, you can open / close, grab, and reload the basemap.
	MAIN	Main screen, press and hold for 3 seconds to open the main screen. After the layer is opened, click to enter the main screen setting interface.
	Clear	Turn off the specified layer.
	PIP-2	Layer 2, press and hold for 3 seconds to turn on layer 2. After the layer is turned on, click to enter the layer 2 setting interface.
	PIP-3	Layer 3, press and hold for 3 seconds to turn on layer 3, after the layer is turned on, click to enter the layer 3 setting interface.
	PIP-1	Layer 1, press and hold for 3 seconds to turn on layer 1. After the layer is turned on, click to enter the layer 1 setting interface.

SOURCE SELECTION		
⑤	DVI1/1	DVI-1 input port selection key / recall preset 1, keyboard numeric key 1.
	DVI2/2	DVI-2 input port selection key / recall preset 2, keyboard numeric key 2.
	DP-1/3	DP-1 input port selection key / recall preset 3, keyboard number key 3.
	DP-2/4	DP-2 input port selection button / recall preset 4, keyboard number button 4.
	LOAD/5	Preset recall key / recall preset 5, keyboard number key 5.
	HDMI1/6	HDMI-1 input port selection key / recall preset 6, keyboard numeric key 6.
	HDMI2/7	HDMI-2 input port selection button / recall preset 7, keyboard number button 7.
	HDMI3/8	HDMI-3 input port selection key / recall preset 8, keyboard number key 8.
	SDI/9	SDI input port selection key / recall preset 9, keyboard numeric key 9.
	SAVE/10	Preset save key / recall preset 10, keyboard numeric keys 10.
FUNCTION		
⑥	AUX	Inverse signal function start button.
	BLACK	Output black screen button preset call button
	BG TOP	Basemap Sticky Button
	Freeze	Output image freeze button
CUT AND TAKE		
⑦	CUT	Straight cut switch between PVW and PGM buttons
	TAKE	Special effect switch PVW and PGM button

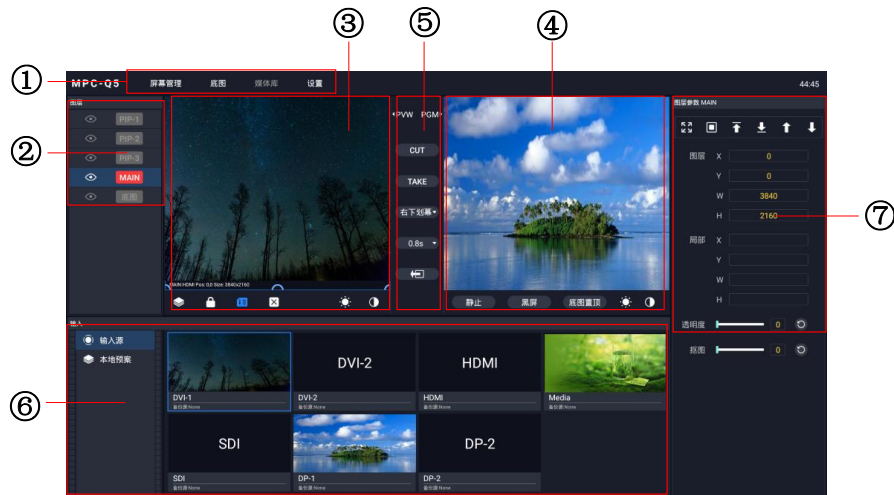


## 2.2 Rear panel



port	Number of ports	Resolution / Specification
输入端口		
DVI (24+1)	DVI×2	1920 × 1080/60HZ and backward compatible. VESA Compliant Resolution
DP1.2	DP×2	3840 × 2160/60HZ and backward compatible. DP1.2 Compliant Resolution
HDMI	HDMI×1	1920× 1080/60HZ and backward compatible, compatible with HDMI 1.3 and below
SDI	SDI×1	Supports SD-SDI, HD-SDI, and 3G-SDI
输出端口		
1-A, 1-B 2-A, 2-B 3-A, 3-B 4-A, 4-B	DVI×8  (4 groups of two backups)	Support common output resolutions such as: 2048 × 1152 @ 60Hz, 1920 × 1080 @ 60Hz, 1536 × 1536 @ 60HZ; Support custom output resolution, up to 4000 wide, up to
SDI-LOOP	SDI×1	3G-SDI, maximum support 1080P / 1080I
DP-OUT	DP×1	Support reverse look at any signal
DVI-	DVI×1	1920 × 1080 / 60HZ (fixed) surveillance port.
控制端口		
COM	RS232×1	Serial control
ETH	100M×1	Network port control
音频口		
USB	AUDIO×1	Audio output

## 2.3 Touch screen interface introduction



Serial number	Function introduction
①	Menu bar for debugging device stitching and other common functions
②	Layer area, you can turn the layer on and off here
③	PVW display area, where the display content can be edited
④	PGM display area, where you can monitor the actual display content
⑤	Switching area, where you can switch the display content of PVW and PGM
⑥	Signal source / plan management area, you can monitor and switch the signal source or plan
⑦	Signal source / layer parameter viewing area, where you can view and modify the relevant parameters of the signal source or layer

## 3 Equipment Use

### 3.1 Main menu introduction

#### splicing mode

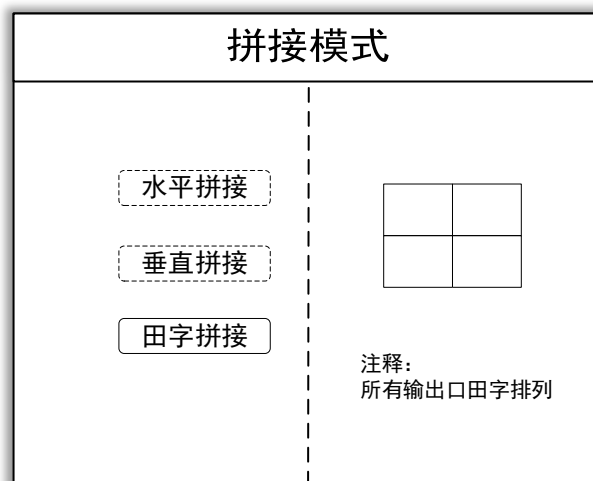
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The splicing mode function module contains 3 options: horizontal splicing, vertical splicing, and field splicing. Select the appropriate mode according to the distribution of the loading area of the sending card behind the LED screen.

Horizontal splicing: The 4 output ports of the stitcher are arranged horizontally and stitched into a complete image.

Vertical splicing: The 4 output ports of the splicer are arranged vertically to stitch a complete image.

Cross splicing splicing: The 4 output ports of the splicer are cross splicing into a complete image.



## Screen parameters

The screen parameter function module adjusts the load parameters of each of the 4 output ports on the back of the splicer according to the load of the sending card. The four parameters OUT1, OUT2, OUT3, OUT4 correspond to the four output ports respectively. For the number of the output port, see the silk screen on the back of the splicer.

屏幕参数	
OUT1	水平位置: 0
OUT2	垂直位置: 0
OUT3	水平大小: 1920
OUT4	垂直大小: 1080
	<input type="radio"/> ×1 <input type="radio"/> ×10 <input type="radio"/> ×100
	点击LOCK调节幅度

## Screen layout

The screen layout function module contains four fixed layout templates. The layers opened through the screen layout are fixed.

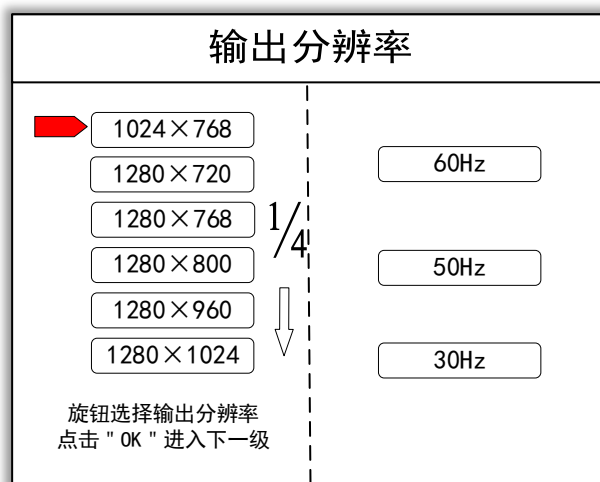
Layout one: Turn on a single layer, and one layer fills the entire screen.

Layout two: Turn on two layers. The layout of the layers is shown below. Layout three and layout four are in analogy.

画面布局	
布局一	画面一 S1
布局二	
布局三	
布局四	

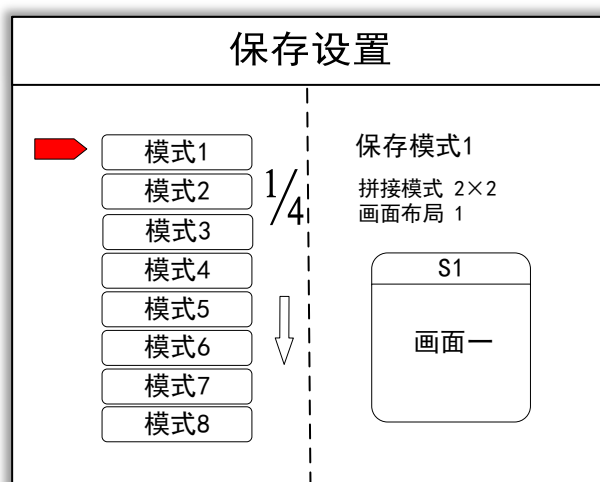
## Output resolution

The output resolution function module can define the load and output frequency of the splicer output port. The output resolution is divided into regular resolution and custom resolution. The custom resolution is the output port size that can be defined according to specific needs when the conventional resolution does not meet the conditions.



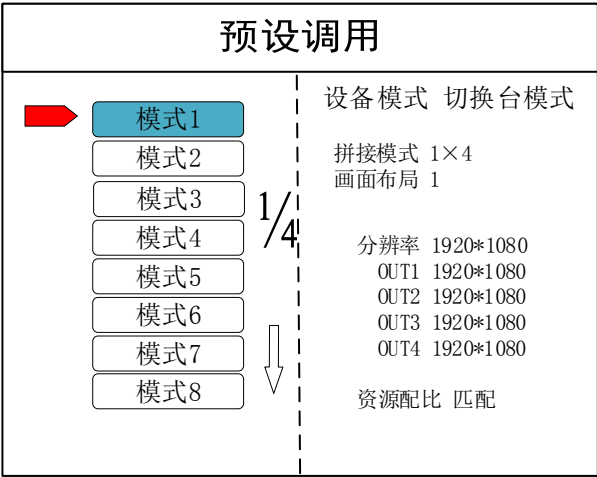
## Save preset

You can save the currently set parameters in the device mode for easy recall later. A total of 32 modes can be saved.



## Recall preset

You can call the previously set parameters directly. A total of 32 modes can be called.



## Technical Support

The technical support function module contains the basic information of the splicer and the 400 after-sales service hotline.

技术支持
北京凯视达科技有限公司 网址: <a href="http://www.kystar.net">www.kystar.net</a> 热线: 400-0000-267 型号: K1 IP: 192.168.0.100 版本: ARM:180928v1.0 FPGA:18092720

## Advanced menu

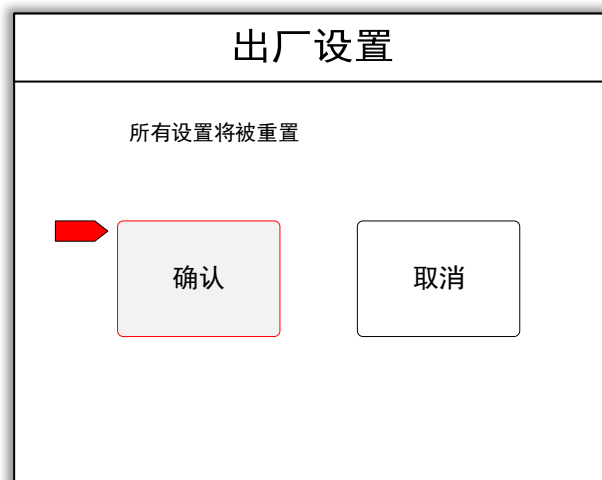
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The advanced menu module contains the following submenus:

1.Chinese / EN: Set the display language of the menu interface to Chinese / English.



2.Factory setting: All settings saved in the preset will be reset.



3.Special effects setting: Set the switching effects and transition time when TAKE switches between PGM and PVW.

特效设置	切换特效
<div><div>特效类型</div><div>特效时间</div></div>	<div>淡入淡出</div> <div>直接切换</div> <div>椭圆入</div> <div>椭圆出</div> <div>菱形入</div> <div>菱形出</div> <div>向上划幕</div> <div>右上划幕</div>

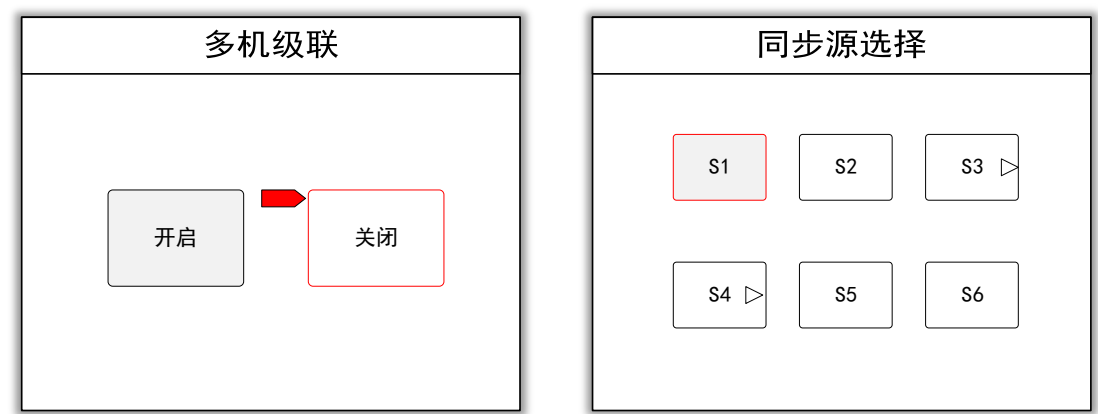
切换特效	特效时间
<div>向右划幕</div> <div>右下划幕</div> <div>向下划幕</div> <div>左下划幕</div> <div>向左划幕</div> <div>左上划幕</div> <div>水平梳理</div> <div>垂直梳理</div>	<div>0.2S</div> <div>0.4S</div> <div>0.6S</div> <div>0.8S</div> <div>1.0S</div> <div>1.5S</div> <div>2.0S</div> <div>3.0S</div> <div>画面切换所使用的时间</div>

4.Mode delete: Delete the saved preset, you can choose single delete and continuous delete. The operation of individual deletion is to select the preset number to be deleted and confirm the deletion. The operation of continuous deletion is to select the start number and end number of the preset to be deleted, and confirm the deletion.

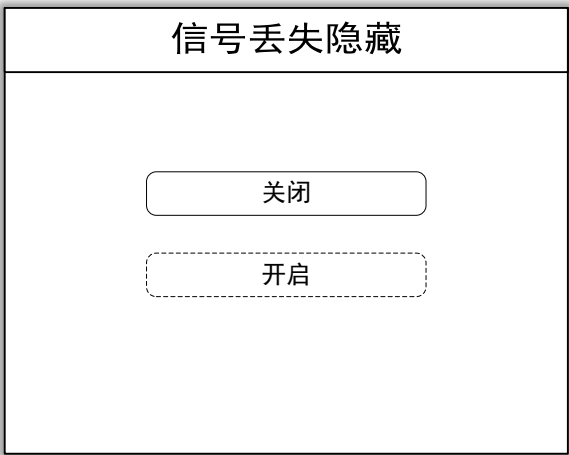
模式删除	
请选择删除模式和模式编号！	
<div>单个模式</div>	<div>多个连续模式</div>
编号	<div></div>
<div>确认</div>	<div>取消</div>



5.Multi-machine cascading: In the case of single-machine splicing, this option is off by default; when multi-machine cascading is required to be loaded, turn on this option to achieve multi-machine synchronization. The connection diagram of the device during multi-machine synchronization is shown below:



6.Signal Loss and Hide: The default is off. When turned on, when a layer's signal is lost, the layer will be hidden automatically. After the signal is normal, the layer will automatically recover.




7.Communication setting: The communication setting function module includes two items of serial port setting and IP setting. Adjusting parameters can be done through the cooperation of knobs and keys.

串口设置		IP设置	
串口	COM	IP地址	192. 168. 0. 100
波特率	115200	子网掩码	255. 255. 255. 0
校验位	NONE	网关	192. 168. 0. 254
数据位	8		
停止位	1		

Note: After the communication settings are completed, the splicer must be restarted for the settings to take effect.

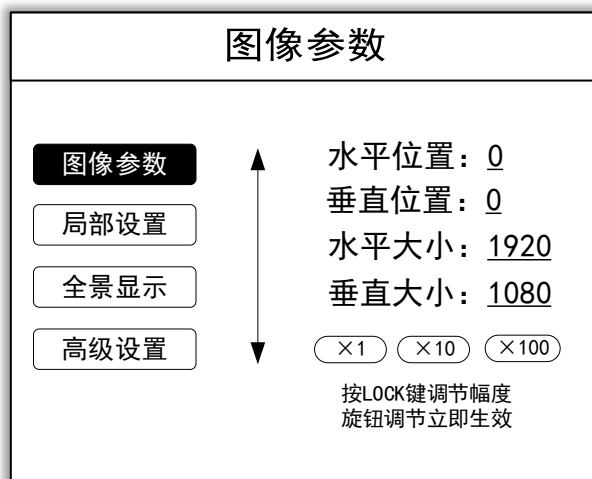
3.2 Layer information

There are two operations for turning on the layer: one is to press and hold the layer button for 3 seconds to turn on the corresponding layer. Another is to select the screen layout of the main menu interface and turn on the layer by selecting the corresponding layout. The device turns on the MAIN layer by default in the initial state. The layer setting interface contains all operations specific to the layer.

主画面		
DVI 	↑ 图像参数 局部设置 全景显示 高级设置 ↓	
<hr/>		
信号状态: 输入正常 输入分辨率: 1920×1080 热备份通道: NONE		

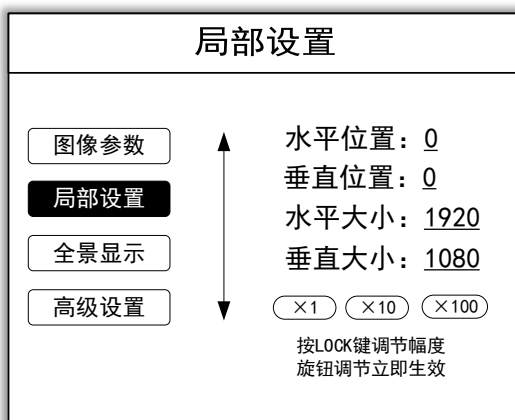
## Image parameter

Image parameters are adjusted by adjusting the horizontal position, vertical position, horizontal size, and vertical size.



## Local settings

The local setting option is to intercept the input signal by adjusting the four parameters of horizontal position, vertical position, horizontal size, and vertical size to meet the demand.



## Panoramic & partial display

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Panoramic & Partial display is to switch between partial display and panoramic display after the local setting is completed.

## advanced settings

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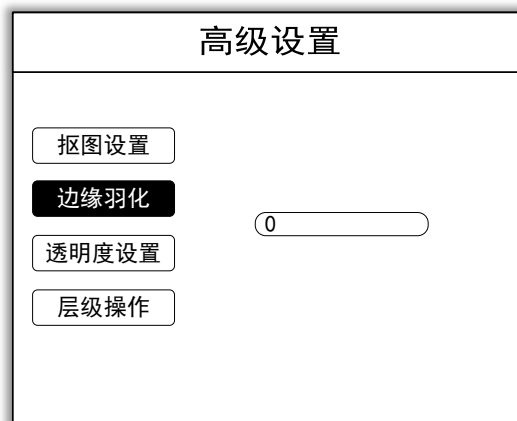
Advanced settings include four options: matting settings, edge feathering, transparency settings, and level operations.

Cutout setting: The device can subtract the background below the specified brightness value and merge it into the new background.

Edge feathering: You can feather the edges of a layer to make the overlay layer better blend with the background layer.

Transparency setting: The transparency of each layer can be adjusted individually, 0 ~ 100% adjustable.

Hierarchical operation: You can set the hierarchical relationship between layers.



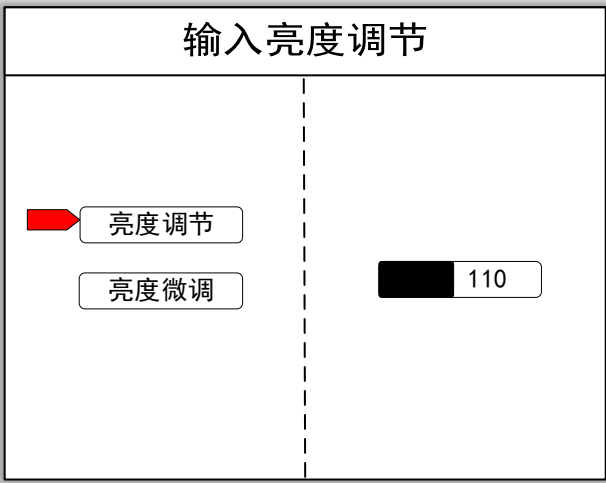
3.3 Source information

List of input interface functions:

Interface name	Input brightness	Input contrast	Intelligent hot backup	Signal active mode	EDID settings
DVI1	√	√	√	√	√
DVI1	√	√	√	√	√
HDMI1	√	√	√	√	√
HDMI2	√	√	√	√	√
HDMI3	√	√	√	√	√
DP-1	√	√	√	√	√
DP-2	√	√	√	√	√
SDI	√	√	√	√	√

Input brightness

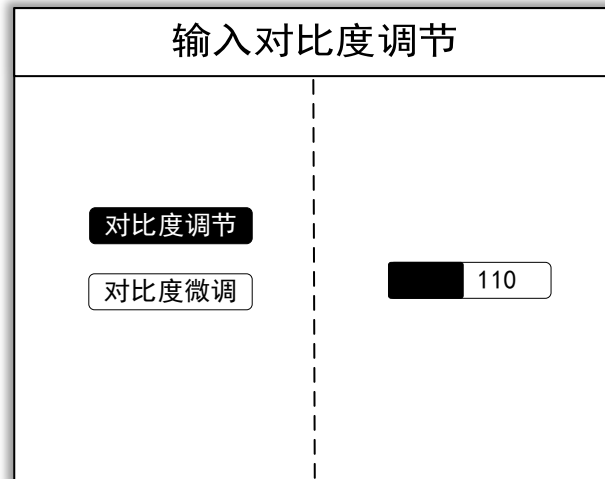
Brightness adjustment and brightness adjustment for a single input source.



## Input contrast

---

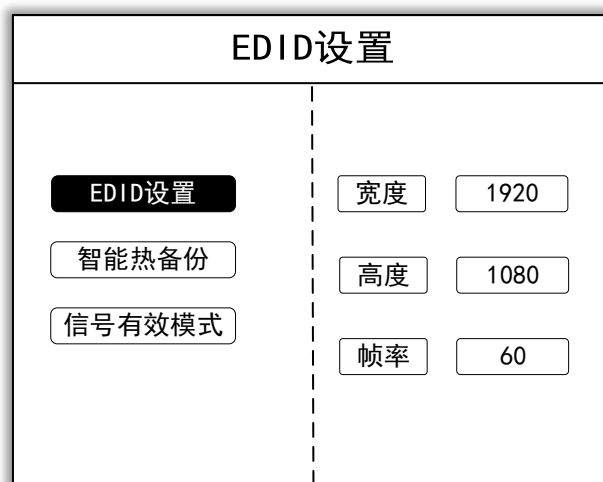
Contrast adjustment and contrast fine-tuning for a single input source.



## EDID settings

---

There are EDID settings for digital signals in the input advanced settings. There are two types of EDID settings: default and custom.



# Intelligent hot backup and input signal active mode

Intelligent hot backup is to backup the current signal source to other signal sources. When the current signal source is lost, the device automatically jumps to the backup signal source, and automatically jumps back when the signal returns to normal.

智能热备份

EDID设置

智能热备份

信号有效模式

输入

备份源

DVI

NONE

VGA

NONE

DP1

NONE

DP2

NONE

HDMI

NONE

SDI

NONE

信号有效模式

EDID设置

智能热备份

信号有效模式

自动模式

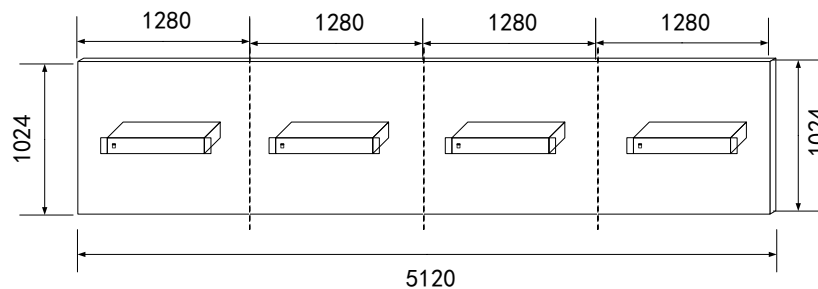
指定模式

Kommander 模式

## 4 Case explanation

### 4.1 Horizontal splicing

**For example:** P3 display, the resolution of the large screen is 5120 wide and 1024 high. It is required that the large screen can display one screen or four screens, and each screen is a different signal source. The client requires a point-to-point display in order to show the effect.



**Preparation:** 4K dual graphics card with a custom resolution of  $2560 \times 1024$  graphics card for horizontal splicing. Desktop computer with DVI output port, laptop computer with HDMI output port, laptop computer with VGA output port, high-definition camera with SDI output port. Input all communication input signals to the corresponding input ports of the splicer.

#### Quick commissioning:

1. Device mode: Select real-time mode.
2. splicing mode: Select horizontal splicing.
3. Output resolution: select  $1280 \times 1024$ .
4. Screen parameters: 4 output ports are horizontal size 1280 vertical size 1024.
5. Screen layout: Select layout two. MAIN screen and PIP-1 screen select the corresponding signal source DP-1 / DP-2.

Note: The operation of selecting a signal source for a layer is to first click the corresponding layer button, and then click the signal source button to be switched.

6. Single screen point-to-point display debugging is completed. Select the "MENU" menu key to return to the main menu, select "Shift" + "Preset Save" button, Enter the save preset interface and confirm the save to mode 1.

7. Select the "MENU" menu key to return to the main menu and select screen layout layout 4. Enter the corresponding layer setting interface to adjust the image size and position corresponding

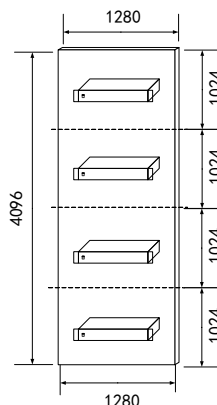
to each layer. Select the "Shift" + "Preset Save" button to save to Mode 2.

8. Equipment debugging is complete



## 4.2 Vertical splicing

**For example:** P3 display, the large screen resolution is 1280 wide and 4096 high. It is required that the large screen can display one screen or four screens, and each screen is a different signal source. The client requires a point-to-point display in order to show the effect.



**Preliminary preparation:** 4K dual graphics card with a custom resolution of  $1280 \times 2048$  graphics card for vertical splicing. Desktop computer with DVI output port, laptop computer with HDMI output port, laptop computer with VGA output port, high-definition camera with SDI output port. Input all communication input signals to the corresponding input ports of the splicer.

Quick commissioning:

1. Device mode: Select real-time mode.
2. splicing blur: Select vertical splicing.
3. Output resolution: select  $1280 \times 1024$ .
4. Screen parameters: 4 output ports are horizontal size 1280 vertical size 1024.
5. Screen layout: Select layout two. MAIN screen and PIP-1 screen select the corresponding signal sources DP-1 and DP-2. Enter the corresponding layer setting interface to adjust the image size and position corresponding to each layer
6. Single screen point-to-point display debugging is completed. Select the "MENU" menu key to return to the main menu, select the "Shift"+"Preset" key to enter the save preset interface and  
Save  
confirm the save to mode one.
7. Select the "MENU" menu key to return to the main menu and select screen layout layout 4. Enter the corresponding layer setting interface to adjust the image size and position corresponding to each layer. Select the "Shift"+"Preset" button to save to Mode 2.  
Save

8. Equipment debugging is completed.

**Quick commissioning:**

1. Device mode: Select real-time mode.
2. splicing blur: Select vertical splicing.
3. Output resolution: select  $1280 \times 1024$ .
4. Screen parameters: 4 output ports are horizontal size 1280 vertical size 1024.
5. Screen layout: Select layout two. MAIN screen and PIP-1 screen select the corresponding signal sources DP-1 and DP-2. Enter the corresponding layer setting interface to adjust the image

size and position corresponding to each layer

6. Single screen point-to-point display debugging is completed. Select the "MENU" menu key to return to the main menu, select the "Shift"+"Preset" key to enter the save preset interface and  
Save

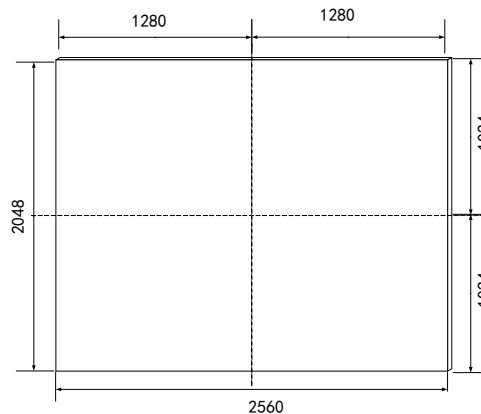
confirm the save to mode one.

7. Select the "MENU" menu key to return to the main menu and select screen layout layout 4. Enter the corresponding layer setting interface to adjust the image size and position corresponding to each layer. Select the "Shift"+"Preset" button to save to Mode 2.  
Save

8. Equipment debugging is completed.


### 4.3 Cross splicing

**For example:** P3 display, the large screen resolution is 2560 wide and 2048 high. It is required that the large screen can display one screen or four screens, and each screen is a different signal source. The client requires a point-to-point display in order to show the effect.



**Preliminary preparation:** 4K graphics card with a custom resolution of  $2560 \times 1024$ . Desktop computer with DVI output port, laptop computer with HDMI output port, laptop computer with VGA output port, high-definition camera with SDI output port. Input all communication input signals to the corresponding input ports of the splicer.

Quick commissioning:

1. Device mode: Select pre-edit mode.
2. Device mode:  shape splicing.
3. Output resolution: select  $1280 \times 1024$ .
4. Screen parameters: 4 output ports are horizontal size 1280 vertical size 1024.
5. Screen layout: Select layout one. On the MAIN screen, select the corresponding signal source DP-1. Enter the MAIN layer setting interface to adjust the image size and position corresponding to the layer.
6. Single screen point-to-point display debugging is completed. Select the "MENU" menu key

to return to the main menu, select the “Shift” + “Preset”key to enter the save preset interface and confirm the save to mode one.

7. Select the "MENU" menu key to return to the main menu and select screen layout layout 4. Enter the corresponding layer setting interface to adjust the image size and position corresponding to each layer. Select the “Shift” + “Preset”button to save to Mode 2.

8. Equipment debugging is completed.

## 5 Other functions

### 5.1 USB Play

K2 supports offline playback function, which can read videos and pictures in U disk; K2 also has a large storage space, you can copy material files in U disk to K2's internal storage. The

playback interface of the USB flash drive is as follows:



Click on the USB signal source, the current status of the USB signal source is displayed on the right side, which is divided into three parts:

The bottom part is used to view the material list in K2's internal storage or U disk, as well as the edited playlist. Click the material with the mouse to add the material to the pre-playlist interface;

The middle part is the pre-playlist. If the current PGM has a USB signal source being played, the changed material will be added here first, and clicking the push button on the right side will complete the switching of the material. You can also click the delete button to clear the current pre-play content;

The top part is the current playlist. The displayed content is the material played by the current USB signal source, as well as the playback progress. You can drag the playback progress with the mouse to achieve fast forward and rewind of the playback. On the right side of this area, you can control the pause, stop and volume of USB material playback.

K2 supports mutual copy of U disk and internal storage materials. After inserting the USB disk, click the "Media Library" button in the menu bar and select "File Management", and the interface as shown in the figure below will pop up. On the left is internal storage (built-in 5G-SSD storage), and on the right is a list of U disks. Select the file and click the two buttons in the middle to complete

the copy of the material. You can also delete the material through the "Delete" button in the lower left corner.



K2 also supports the video pictures to be played into a playlist, and the materials in the list are automatically played in a loop. Can reduce mistakes caused by artificial switching materials. Click "Media Library" in the menu bar and select "Playlist" to enter the playlist interface, as shown in the figure below. After clicking "New", you can add the materials you want to play to the playlist, and you can adjust the number, time and sequence of the materials.



## 5.2 Basemap settings

K2 can capture the PGM output signal in real time as a point-to-point base map display, and the base map can be saved in the device and can be recalled at any time.

Click the "Base map" button in the menu bar. There are three options: capture base map, save base map and reload base map:

Grab base map: Take the current PGM picture completely and display it as a point-to-point base map;

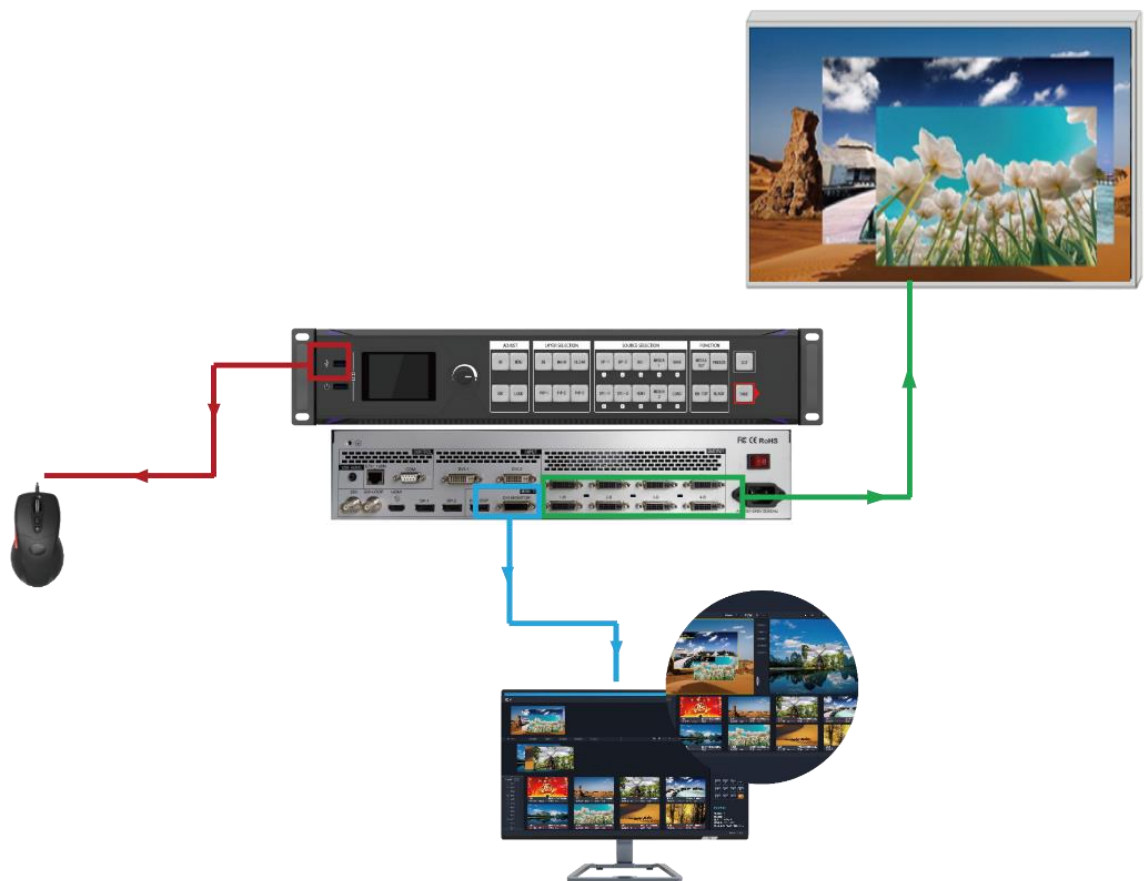
Save base map: The base map to be captured is saved in the device and can be called at any time;

Reload base map: reload the previously saved base map

### 5.3 Mouse editing operation

K2 supports an external display, real-time observation of the current playback screen and all input signals, and completes the WYSIWYG layout operation; the layout and playback content can be visually edited in preview mode, and the playback is pushed after confirmation.

K2 supports external mouse, and then operate and debug on the monitor, which is faster and more convenient.



## 6 技术参数

Video input signal		
Types	Quantity	Explain
DVI	2	1.4A standard, maximum support 3840 × 2160 @ 30Hz
SDI ( BNC )	1+1 ( LOOP )	Support SD/HD/3G-SDI
HDMI	3	1.3A standard, maximum support 1920 × 1080 @ 60Hz
DP	2	DisplayPort 1.2 standard, maximum support 3840 × 2160 @ 60Hz
Video output signal		
Types	Quantity	Explain
DVI-D ( PGM )	4+4 ( Backup )	Custom output resolution (bandwidth optimization): Single channel horizontal resolution up to 4000 pixels, vertical resolution up to 2000 pixels
AUDIO	1	USB-AUDIO , Audio output of video in U disk
Monitoring port		
DP-Loop	1	DisplayPort 1.2 standard, maximum support 3840 × 2160 @ 60Hz
DVI Surveillance	1	1.3A standard, maximum support 1920 × 1080 @ 30Hz Compatible with HDMI 1.3 and below, EDID version 1.3
Control port		
Types	Quantity	Specification
RS-232 ( DB-9 )	1	Data transfer rate is 50、75、100、150、300、600、1200、2400、4800、9600、19200、38400 ( BT )
USB	2	U disk interface, external mouse USB interface
Special feature		
4 screen output	<ul style="list-style-type: none"> <li>· Present 4 or less pictures on the screen at the same time, these pictures can come from different or the same input signal</li> <li>· Each picture can be freely zoomed, laid out and spliced, and the pictures can be superimposed on each other</li> </ul>	
Dual 4K @ 60HZ input	K1Pro is equipped with two DP1.2 inputs, and one channel supports 4K * 2K @ 60HZ or 7680 * 1080 @ 60HZ, the industry's first 8K mini switcher	
Equipment loaded	The maximum resolution supported by a single port is 2.4 million, custom resolution is supported, the widest is 4000, the highest is 2000; the maximum machine load is 9.6 million pixels	
USB play	U disk files can be arbitrarily selected for playback, with built-in 5G-SSD storage, support for independent and U disk playback, without the need for a computer U disk plays any video file selected.	
4K basemap	Support placing 4K basemap without occupying signal source	
Hot backup	· The user can set the priority of the input signal. When the current signal fails, the	

function	system automatically outputs the next priority signal, and up to 4 groups of alternative signals can be set.		
Special effects switching	· When switching between signals and modes, users can choose different special effects, including: fade in and fade out, seamless straight cut		
Multiple monitoring modes	· User can preview 4 input signals, current output screen and edit output at the same time through the monitor		
Chroma key cutout and 4K basemap	· You can pick out the specified text or picture and blend it into the new background. Can capture 4K picture as base map.		
Backup output	· Eight output, four main and four backup, convenient to build a backup system, the picture is not limited by the output channel		
Mode save and recall	· User can store image quality parameters by channel, support preset templates, 32 scene modes can be pre-stored, and one-click recall		
One-button black screen / still	· One-click output black screen, or one-click output to freeze the output image, often used in performing arts activities		
Hardware operation and local preview / monitoring	· Embedded operating system, real-time monitoring of external display, mouse editing and control		
Other			
Software control method	RS232	Size(mm)	488×360×89mm ( L×W×H )
Weight(Kg)	6KG	Input power	100-240V AC~50/60Hz 0.6A , 功耗 55W
Working environment	Temperature 0-45 °C; humidity 0-95%	Warranty period	Free maintenance for 2 years, lifetime maintenance

## 7 Common problem

### Q1: Definition of DVI, HDMI, VGA, DP, SDI ports.

**A:** DVI: Digital (high-definition) video signal. It was an interface standard introduced by Silicon Image, Intel and other companies in DDWG (Digital Display Working Group) in 1999. It is used for speed, definition and HDCP protocol. Well optimized. The signal source is generally a desktop computer, a notebook, etc.

HDMI: High-definition multimedia interface, a digital video / audio interface technology, is a dedicated digital interface suitable for image transmission. It can simultaneously transmit audio and video signals, and the maximum data transmission speed is 5Gbps. Signal sources are generally cameras, notebooks, information distribution systems, and so on.



VGA: Analog video signal (video graphics array) is a video transmission standard introduced by IBM with the PS / 2 machine in 1987. It has the advantages of high resolution, fast display speed, and rich colors. Wide application. The signal source is generally a desktop computer, a notebook, a karaoke machine, a matrix, etc.

DP: The DP interface is a display interface released by the Video Electronics Standards Association (VESA). DP will add support for HD audio signal transmission while transmitting video signals, while supporting higher resolutions and refresh rates. It can support single-channel, unidirectional, and four-line connections. The data transmission rate is 10.8Gbps, which is sufficient to transmit uncompressed video and related audio. It also supports a 1Mbps bidirectional auxiliary channel for device control. In addition, it supports 8-bit And 10-bit color.

SDI: Digital component serial interface. The SDI interface cannot directly transmit compressed digital signals. After the compressed signals recorded by digital video recorders, hard disks and other equipment are played back, they must be decompressed and output through the SDI interface to enter the SDI system.

**Q2: What does the output resolution mean?**

**A:** The output resolution is the pixel mode of the single-port output of the splicer, which is the maximum control range of the splicer output. The conventional resolutions are 1024 \* 768, 1280 \* 1024, 1600 \* 1200, 1920 \* 1080, and the general setting is the same as the sending card. Resolution mode.

If the above suggestions do not finally solve your problem, please contact our customer service staff in time. We will assist you in solving the problem as soon as possible.



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