Full Color LED Video Processor KS600

User Manual

Cautions

⚡ Dangerous

● There is high voltage in the device .Non professionals please do not dismantle the device in case of danger.

⚠ Warning

● Pay attention to water proof and moisture proof work

● Keep away from fire or hot environment

● Strange noise,smoking or odd smell appears,unplug the power plug and contact dealer

● **Forbid to plug/unplug VGA and DVI signal cables**

⚠ Attention

1、Read the user manual carefully and keep it for further use.

2、Unplug the power plug when there is thunder and lightning or long time disuse;

3. The device is not suitable for nonprofessionals,please use   under professionals instructions;

3、Do not slip anything into the blowhole of the device in case of any damage or incident;

4、Keep the device away from water or moisture environment.

5、Keep the device away from cooling fin or other hot environment；

6、Tidy up and place the power cable properly in case of damage；

7、Unplug the power plug of the device and contact us for repair when blow situation happens

  ● Liquid splashed into the device

  ● Device falling or case damage

  ● Obvious dysfunction or performance difference

Catalogue

I. Product overview

With the rapid development of LED industry and the continuous expansion of application needs, a variety of control requirements intended for large-screen control system come into being. However, due to the limitations of large-screen control system in image processing, screen control and signal format conversion, the control system of LED large screen has some weaknesses in the following aspects:

1. The signal source access format of LED large screen control system is limited. Currently, only digital DVI signal is used, and many signal sources (e.g. VGA) can't be displayed on the LED large screen directly through the control system;

2. The traditional signal acquisition card is poor in image processing, and the image resolution will be reduced significantly when the signal format is converted;

3. The control system of LED large screen can only capture and display the images of corresponding points on the LED large screen; however, in some sites, the customer may need to display any size or the full computer desktop;

4. With the shrinking of LED screen pitch and increasing of screen points, the era that single picture displays on single screen no longer exists. More application requirements and display requirements are prominent, and the control system of LED big screen can better meet customer needs in coordination with other peripherals.

To solve these problems, the company has developed a variety of video processing products. With advanced control and image processing technology, the products can not only switch between signals fast and stably, but also process the images in multiple levels. In addition, the product can be controlled by the equipment keyboard and PC, which are easy to operate.

II. Product features

1.Operate by front panel independently,knob and numbering key bring more convenience for the operation.

2.PC software control,achieve prompt operation visually.

3.Fade in/out,perfect switch

4.Brightness and contrast control,enhance image display effect.

5.Picture zoom in/out freely(adjust picture pixel by pixel ,the minimum size can be 1 pixel)

6.Motion compensation,avoid trailing of pictures；

7.Noise reduction(reduce noise stain)

8.6-channel HD video signal inputs,2-channel video outputs

9.Max input resolution is 1920*1080, max output user-defined resolution is 1920*1200

10.Key lock function,prevent misoperation after debug

11.5 modes save and call

12.Wizard setting

13.Standard 1.5U,convenient for carry and installation

III.Technical parameters

Video processor adapts latest patent video processing technology and has AIAO (any format input ,corresponding format output)video conversion ability.CVBS,HDMI,VGA（RGB） and DVI-D can be processed and enhanced to meet practical applications.Below is the detailed specification:

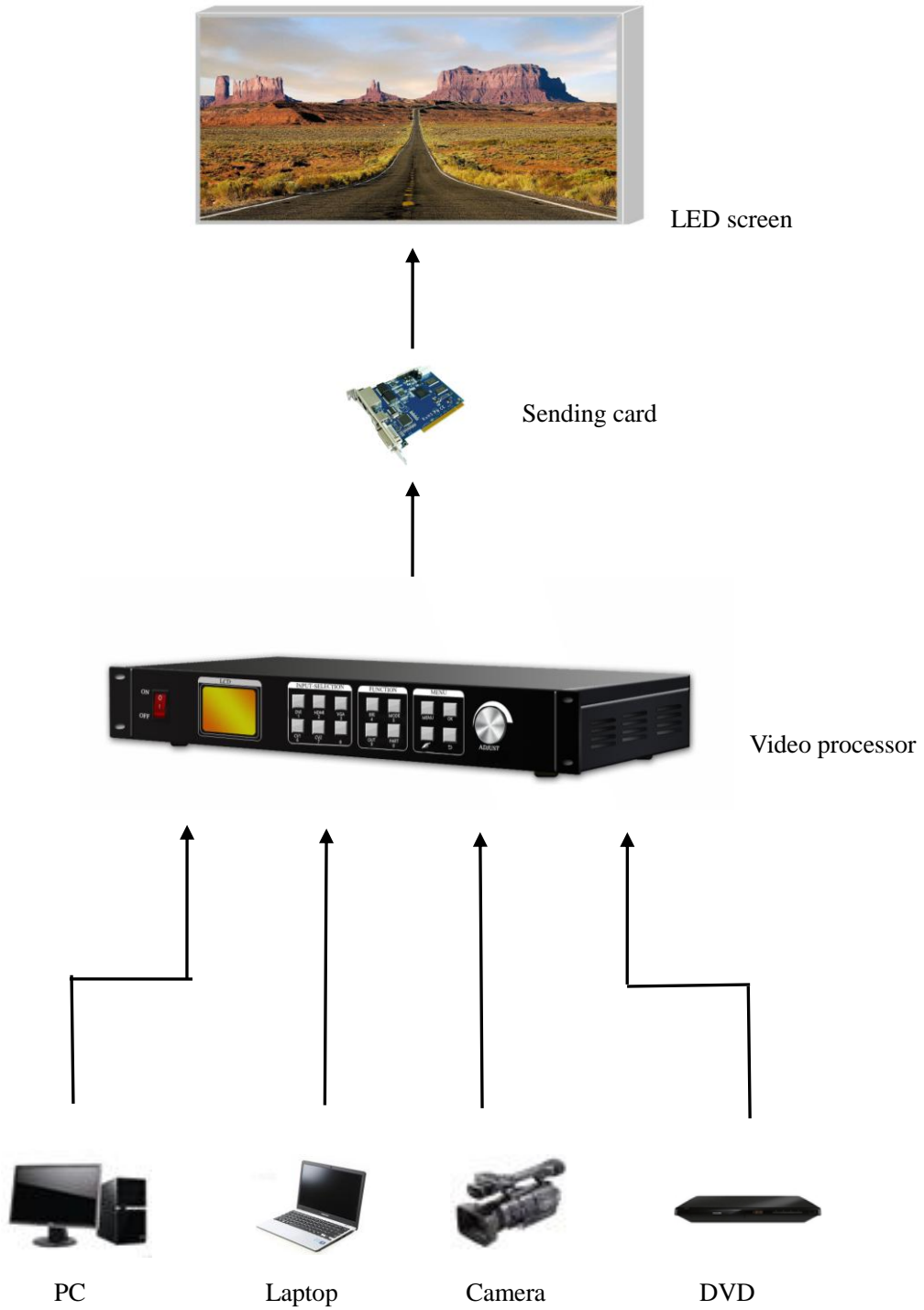| CVBS(BNC input)	
Number of Inputs	2
Supported Standards	PAL/NTSC
Signal Level	1Vpp±3db (0.7V Video+0.3v Sync) 75Ω
HDMI Input	
Number of Inputs	1
Supported Standards	EDID/DDC2B
Signal Level	1Vpp±3dB　(0.7V Video+0.3v Sync) 75Ω
VGA(DB15 Input)	
Number of Inputs	1
Interface type	Standard DB15 socket
Supported Standards	VGA-UXGA
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB　(0.7V Video+0.3v Sync)75Ω black level: 300mV Sync-tip: 0V

DVI Input	
Number of Inputs	1
Interface type	Standard DVI-D socket
Resolution supported	SMPTE: 625/25 PAL, 525/29.97 NTSC, 625/50p PAL, 525/59.94p NTSC, 1080P60,1080i50, 1080i59.94/60, 720p50 and 720p59.94/60 VESA: 800×600@60Hz，1024×768@60Hz，1280×768@60Hz，1280×1024@60Hz，1600×1200@60Hz
Signal level	TMDS signal level，165MHz bandwidth
Standard	DVI 1.1
DVI Output	
Number	2
Interface type	Standard DVI-D
Resolution supported	1024×768@60Hz,1280×1024@60Hz 1366×768@60Hz,1440×900@60Hz 1600×1200@60Hz，1680×1050@60Hz 1920×1080@60Hz,1920x1200@60Hz
Signal level	TMDS electrical level，165MHz bandwidth
Others	
CE standard	BS EN 55013:2001+A1:2003+A2:2006 BS EN 61000-3-2:2006+A2:2009 BS EN 6100-3-3:2008 BS EN 55020:2007 BS EN 6006:2002+A1:2006+A11:2008
PC or central control system control	RS232
Power	85-264V 2A IEC-3 power interface
Work environment	0°C~45°C
Humidity	10% to 90%
Product guarantee period	3 years

IV.Work diagram

LED screen

Sending card

Video processor

PC   Laptop   Camera   DVD

V.Panel

Front Panel
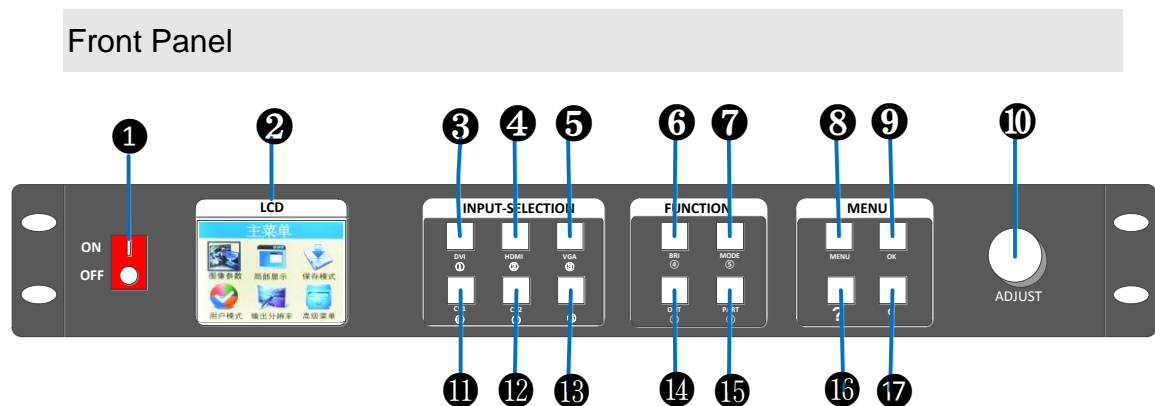
(1) POWER:device switch,OFF—power off，ON—power on

(2) LCD:text display screen,display menu,parameters etc.

(3) DVI:digital signal key

(4) HDMI:HD multi-media key

(5) VGA:analog signal key

(6) BRI:Brightness setting

(7) MODE:User mode call

(8) MENU:Menu key

(9) OK:Confirm key，press it and enter next profile under navigation mode

(10) ADJUST:Increase or decrease key,press down to confirm

(11)/(12) CV1~2:CVBS key

(13) Reserved key:Number 8

(14)OUT:make switch between blank and normal screen output(For blue screen ,please use know)

(15) PART:part and full switch

(16) Wizard key:user navigation mode,work as step key when set data

(17) **Arrow:**return key

Back Panel
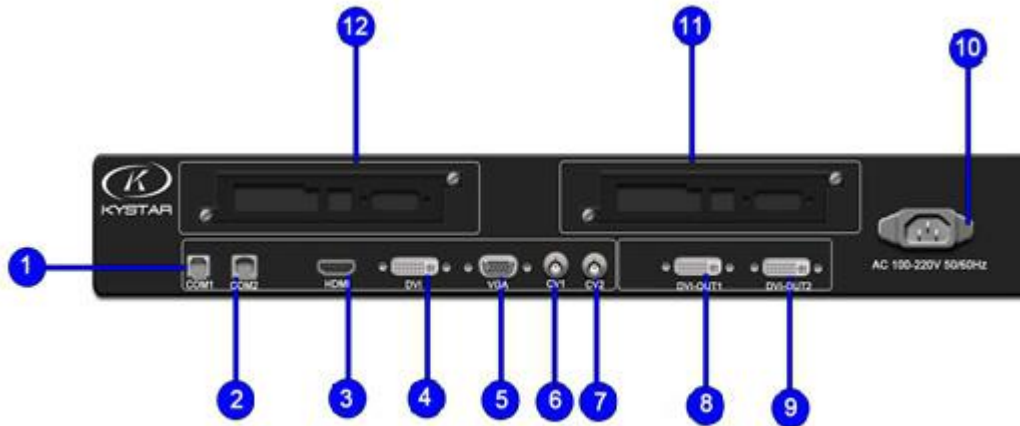
(1) COM -1:Connect PC software

(2) COM-2-:For multi-device cascade

(3) HDMI:HDMI signal input port for laptop etc.

(4) DVI:DVI signal input port for   PC etc.

(5) VGA: VGA signal input port for Laptop etc.

(6) (7) CV-1/2:CVBS interface for cameras etc.

(8)(9) DVI-OUT1/2:DVI output port for sending card etc.

(10) Power port: 220V power port

(11)(12) CARD-1/2--sending card slots,provide 5V power

VI.Connection and installation

Connection Diagram

installation

Network cable

DVI cable

Signal source
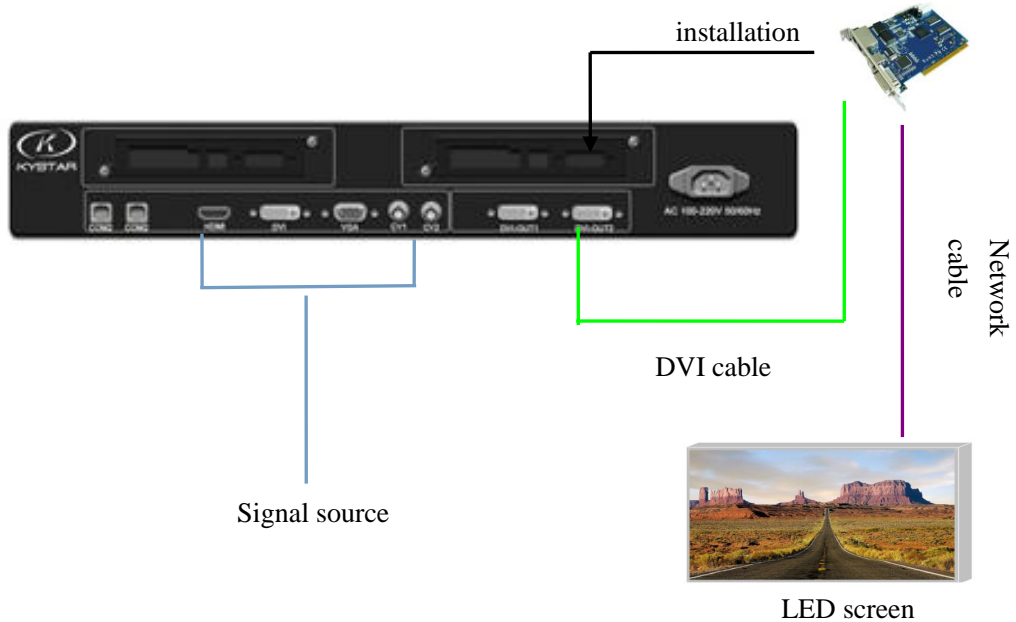
LED screen

Installation Procedure

1.Make sure the led screen displays image normally when the graphics card controls sending card directly and the video processor is absent.

2.Make connection as above chart, connect DVI port of graphics card to the DVI-IN of the processor,then connect DVI-OUT of the processor to sending card.

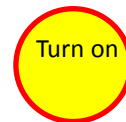3.Power on the video processor after cables are connected accurately.

Note: For the convenience of customers, the sending card can be loaded or unloaded in the processor, i.e. the sending card can be installed in the processor and powered by the processor, which can get rid of the shackles of desktop power supply. The installation method is as follows:

① Remove the fixing corner of the sending card;

② Loosen the knob on the rear panel, pull it out and remove the temporary baffle;

③ A small four-wire plug is reserved in the processor. It corresponds to the wire groove in the sending card. Connect it and fix the sending card on the video processor;

④ Reinstall and fix the drawer box, and connect the superimposed DVI interfaces.

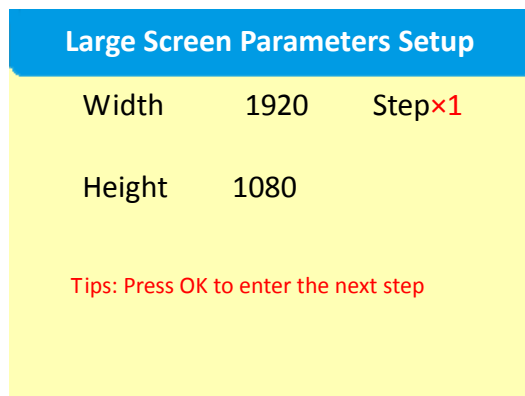# VII. Equipment Debugging

Navigation mode -- finish setting in 4 steps

The navigation is applicable to most cases. It is simple to set up. Follow the prompts to debug in steps and achieve the desired display effect. When the power is connected, the processor automatically enters navigation mode (or click [icon] to enter navigation mode). Point the remote control to IR part and then click the switch to take effect (subsequence is the same as button):

Navigation mode

Welcome to use the navigation!
★ [OK]
Cancel

Tips: Press OK to enter the next step
Press ESC to return to the previous step
Turn the knob to change

Turn on
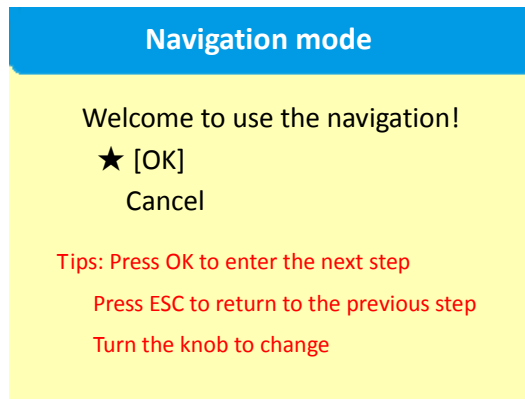
Click "OK" to enter "Large Screen Parameters Setup":

Large Screen Parameters Setup

Width   1920   Step×1

Height   1080

Tips: Press OK to enter the next step

Step 1

"Large Screen Parameters" are the actual pixels of the LED screen, which are 1920*1080 by default.

Ps- to modify the value: 1) Adjust with the knob (CCW: -; CW: +), use [☞] to change the step length;

| DVI 1 | HDMI 2 | VGA 3 | BRI 4 | MODE 5 |

2) Enter with number keys

| CV1 6 | CV2 7 | 8 | OUT 9 | PART 0 |

directly to change.

Select Input

Input source: DVI

Tips: Press OK to enter the next step

Step 2
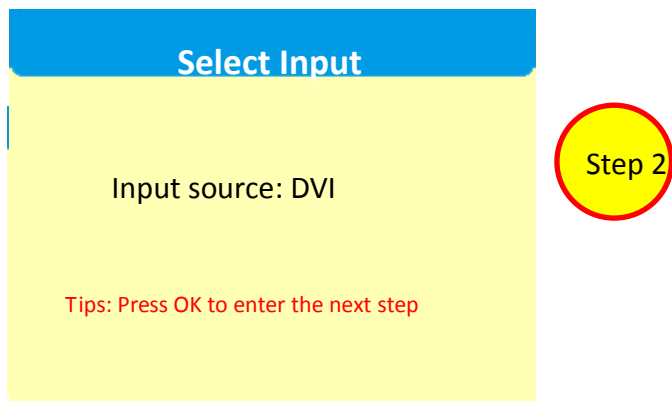
To select input source, press the Source button on the front panel directly.

Navigation

Whether need part display?

★ [No]

Yes

Tips: Turn the knob to change

Press OK to enter the next step

Step 3
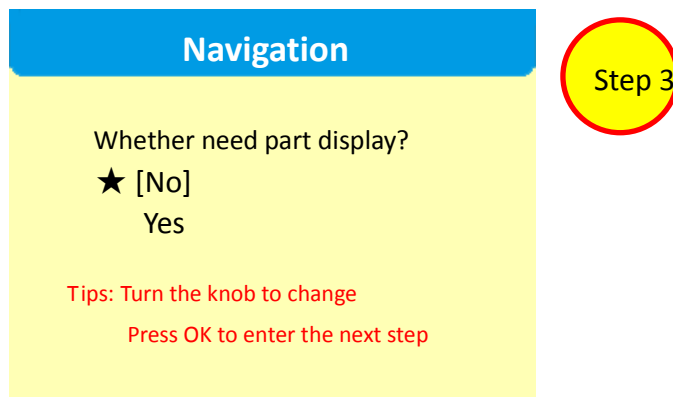
In this interface, you can select whether to capture part image of the input source and display on the large LED screen.

Ps- "part display" usually displays the LED studio in full screen, and can switch to desktop panoramic display at any time.

Panorama Mode

Part Mode

"Position" - the position starting capture; "size" - the capture size; the interface is as follows:
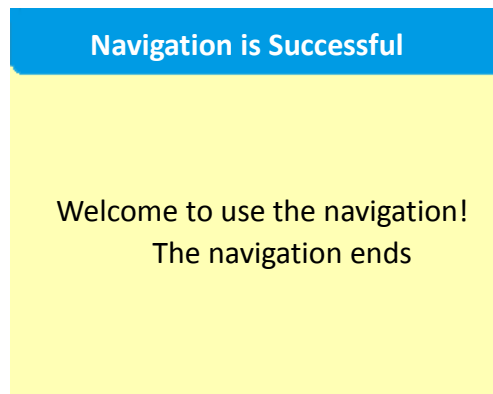
Part Display

Horizontal position   0
Vertical position   0   Step×1
Screen width   0
Screen height   0

Select Save

★ [Mode 1]   Tip
Mode 2
Mode 3
Mode 4
Mode 5

Step 4

The last step is to save the settings, of which "Mode 1" is the mode called automatically after starting.

Navigation is Successful

Welcome to use the navigation!
The navigation ends

The processor setup completes. In the process of use, use the front panel to switch

the signal directly. If "part display" is needed, click [PART 0] to switch the current signal

source between part and panorama. If more than one mode is saved, use [MODE 5] to

call different modes.

Thank you again for using our video processor. For other details, please refer to the following section

VIII.Control Menu

Main Menu	Option			Defaulted value
parameter（一）whole image	Horizontal start			0
	Vertical start			0
	Horizontal width			1920
	Vertical height			1080
（二）Part	Horizontal star			0
	Vertical start			0
	Horizontal width			0
	Vertical height			0
（三）Save mode	Save mode 1			
	Save mode 2			
	Save mode 3			
	Save mode 4			
	Save mode 5			
（四）user mode	Mode 1			
	Mode 2			
	Mode 3			
	Mode 4			
	Mode 5			
（五）output resolution	1024×768@60Hz,1280×1024@60Hz 1366×768@60Hz,1440×900@60Hz 1600×1200@60Hz，1680×1050@60Hz 1920×1080@60Hz，1920x1200@60Hz，user-defined			
（六）Advanced	（一）Language	English	Chinese	
		Chinese		
	（二）Factory setting	Confirm		
		Cancel		
	（三）Technical support	Contact sales :400-0000-267		
	（四）Scheduled task	Open		
		Close		
	（五）Transition effects	Straight cut		
		Special effects		
	（六）VGA setting	Horizontal start	default	
		Vertical start	default	
		Horizontal width	default	
		Vertical height	default	
	（七）Contrast setting	Contrast ratio	128	

		Red	128
		Green	128
		Blue	128
	（八）image statics	Image statics	
		Image active	
	（九）Sound setting	mute	
		output	
		Volume	50
	（十）Expert setting	（一）Mode short key	Open
			Close
		（二）keyboard lockout	Open
			Close
		（三）Play type	Play Video
			Browse pictures
		（四）Play memory	Open
			Close
		（五）Upgrade online	Confirm
			Cancel

The features of the first four options have been described. The output resolution will change automatically when you set screen parameters and can also be selected manually. The meaning of each option in the "Advanced Menu" is explained below:
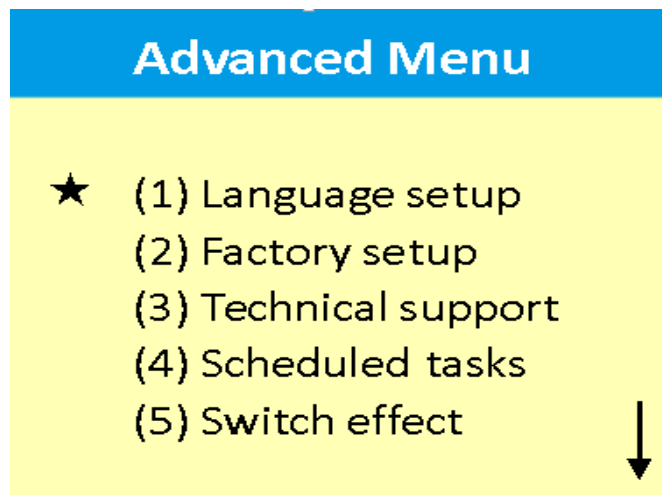
(1) Language selection

The default language of the video processor is Chinese. You can switch the language between Chinese and English through the Advanced menu.

(2) Factory setup

If the video processor has too many data or the settings are confused, you can restore the factory settings.
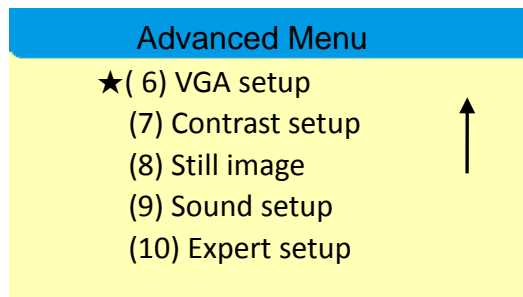
(3) Technical support

To get better customer service, please call 400-0000-267.

(4) Scheduled tasks

Turn on scheduled tasks and start playback automatically at specified time.

(5) Switch effect

Include straight cutting and special effects (fade). When there are special effects, the image looks novel

<div style="background:yellow;">

Advanced Menu

★(6) VGA setup
(7) Contrast setup   ↑
(8) Still image
(9) Sound setup
(10) Expert setup

</div>

(6) VGA setup

Due to VGA signal shift, solve the problem through VGA setting.

(7) Contrast setup

The video processor integrates contrast setting function, which can directly control the brightness and contrast of the LED screen, as described in the control menu table.

(8) Still image

This function includes active images and still images, equivalent to the start and pause function of player.

(9) Sound setup

The video processor integrates audio output. The AUDIO of the video processor can be set to mute or output and the volume can be adjusted.

(10) Expert setup

Include five functions: mode shortcut, keypad lock, play type, playback memory and online upgrade.

①When the mode shortcut is turned on, the numbers 1-5 on the front panel only correspond to five user modes

②To prevent misuse of the equipment, the video processor provides keypad lock function; when turned on, press MENU for ten times to unlock.

③The playing types include video playback and picture browsing. The video and pictures can be put on the LED screen for viewing.

④Playback memory is the current playback progress. When you switch back to the source, it will resume the playback.

⑤Online upgrade is used to upgrade video processor software: copy the upgrade program to the USB flash drive, plug into the processor, and click on this feature to upgrade.

IX. FAQ

Q1: Definition of DVI, HDMI, VGA, CV & USB ports

A:

DVI: Digital (HD) video signal, an interface standard launched by DDWG (Digital Display Working Group), consisting of Silicon Image, Intel (Intel) and other companies, in 1999. It has been optimized in terms of speed, resolution and HDCP protocols. The signal sources are generally desktop, laptop and so on;

HDMI: High-Definition Multimedia Interface, a digital video/audio interface technology, special digital interface for video transmission; it can transmit audio and video signals simultaneously, and the maximum data transfer rate is 5Gbps. The signal sources are generally camera, laptop, and information dissemination system.

VGA: analog video signal (Video Graphics Array), a video transmission standard launched by IBM with the PS/2 machine in 1987, featuring high resolution, fast display rate and rich colors. It has been widely used in color monitor field. The signal sources are generally desktop, laptop, karaoke machine, matrix, etc.

CV: composite video signal; all signals will be packaged into a whole for transmission. The signal sources are generally camera, DVD, TV box, karaoke machine, video matrix, etc.

USB: Universal Serial Bus, an external bus standard used to regulate the connection and communication between computer and external device and an interface technology applied in the field of PC. USB was proposed by Intel, Compaq, IBM and Microsoft jointly in 1994. The signal sources are generally USB and SD card.

Q2: Please briefly describe the connection of graphics card, video processor, sending card, receiving card and LED screen.

A: The DVI (VGA) output port of the graphics card is connected to DVI-IN (VGA-IN) input of the video processor, DVI-OUT output of the video processor is connected to the sending card, the sending card is connected to the terminal receiving card in the

back of the screen through the network cable, the receiving card is connected to respective screen and the entire large screen by cascading.

Q3: How many sending cards can be installed to the video processor? Why sending cards can be installed with no PCI slot inside the processor?

A: Up to two sending cards can be installed.

PCI slots in the computer are used to supply power for the sending card rather than video signal transmission, while the video processor provides 5V power via four-pin cable, and thus it is possible to install sending card.

Q4: What is the meaning of output resolution? Does it need to be set in advance?

A: Output resolution is the maximum output range of the processor. This value should be larger than the actual pixels of the LED screen. It will change automatically when the image parameters are adjusted, and don't need to set up in advance.

Q5: How to set keypad lock of the video processor? How to unlock?

A: Menu - Advanced - Expert setup - Keypad lock; the keypad is locked when this option is turned on; press MENU for ten times to unlock.

Q6: What's the administrator password set in PC software?

A: No password. Click OK directly to enter

Q7: What're the reasons for the connection failure of serial port of the processor software? What's the mark of proper connection?

A: The command transmission cable, i.e. the serial cable, should be connected to control the video processor with the computer.

Connection failure may be caused by the following conditions.

① COM port selection error; simply click OK and then click the "Open serial port" button;

② Serial port is occupied; do not open two or more software windows at the same time;

③ Serial cable is not connected or cable is damaged;

④ COM driver of motherboard is damaged or serial port is damaged.

If the problem still isn't solved, please contact our customer service staff. We will help you to solve the problems in the first time.

Mark of proper connection: click OK in the pop-up dialog box "Synchronize software and device".

Q8: It is normal when the graphics card is connected to the sending card directly, but the screen will appear blank when it is connected to the video processor.

A: Check if the green LED of the sending card flashes normally; if yes, the processor output port has signal, and the possible reasons may be:

①Problem of signal source: The replication mode of the graphics card should be set before connecting to the computer; if not, DVI port of the graphics card doesn't have data output. Setting steps: Turn off the video processor - reconnect the cable from the graphics card to the video processor - ATI graphics cards automatically read the replication mode; for NVIDIA graphics cards, enter the control center, and set up multiple monitors + dual screen mode.

②Problem of the cable: If the signal cable is poor in contact or the wire has problems, the big screen will have color strips, blurred screen and other irregularities. Carefully check if the pins of the signal cable are squeezed or inclined and replace the signal cable;

If the problem still isn't solved, please contact our customer service staff. We will help you to solve the problems in the first time.