



# OVP-M2

User Manual

OVP-M2 user manual

## Statement

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# CATALOG

Instruction.....	2
Characteristics.....	2
Hardware instruction.....	3
Front panel picture.....	3
Backside panel picture.....	4
Connect the device.....	5
Port connection picture.....	6
MENU INSTRUCTION.....	6
Output menu.....	9
image effect menu.....	10
Image crop menu.....	11
Image layout menu.....	12
Mode save menu.....	13
Advanced setting menu.....	14
Guide mode.....	16
User setting.....	17
Part display.....	17
Switch ,review mode.....	18
FAQ.....	19

## Brief instructions

### Safety Notes

- ◆ Input voltage is 220V, voltage range is from 100V-240V, please make sure the quality of the power supply of OVP series.
- ◆ Please make sure that all the power supply cables are plugged off when you want to connect or plug off any signal or controlling cables.
- ◆ Please make sure that all the power supply cables and signal cables are plugged off when you need to put in or take off the hardware equipment.
- ◆ Please take off the power supply of LED video processor before you do any hardware operations, and ESD by touching the ground.
- ◆ Please make sure the environment is clean, dry and ventilated when you use this product, also, do not put this product to a high temperature and wet environment.
- ◆ This product is electronic products, please keep away from fire, water source and flammable&combustible products.
- ◆ There's high pressure components in this products, please do not open the box and repair it by yourself.
- ◆ Turn off the power supply immediately when you find smoking, peculiar smell or something unusual. And contact with us soon.

## Function Introduction

## **Instruction**

OVP-M2 is a type of high performance video processor .it is specially developed for controlling large full color led display screen ,Using professional video image processing chip, internal 12-bit digital processing, the image is clearer and more colorful. It can be configured with LedshowTV software, convenient to configure multiple format video input parameters. Satisfy you by it's best image quality and flexible image controlling. And better to use in projects, smaller advertising screen, smaller meeting room, etc.

Advanced interlacing image self-adopt processing technique (DCDI), as to get a more smooth display. It's more clear and smooth for interlacing PAL/NTSC video; It's more abundant for 1080i signal.

Automatic identical engine of input signal source, users can edit DVI input resolution format, as to make it the same with LED screen resolution. The output image will be perfect, without compression and stretch.

Zoom in and out technique, and support 8 output resolutions, users can also customize the output resolution. The maximum output width pixels is 3840 and the maximum output height pixels is 1920. Also, you can use the fixed standard output resolution, then, zoom in or out according to your requirements.

Support seamless switch and fade in/fade out switch ,dual image display between different signage source.

Many kinds of video image input ports: 2×CV、 1×VGA、 1×DVI、 1×HDMI,1×SDI support full high definition signal input, and can connect with many audio, video equipment.

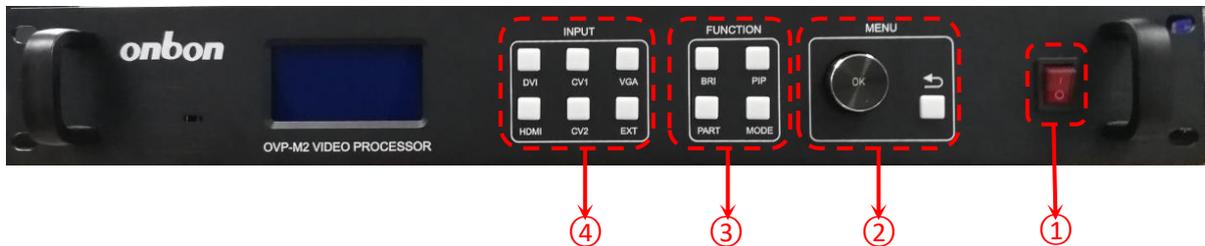
## **Characteristics**

- ◆ Support intelligent guidance for quick setup
- ◆ Support 8 kinds of mode ,switch by one button
- ◆ Adopt 10+ Bit Faroudja® DCDI video processing
- ◆ Adopt Faroudja® Real Color® processing
- ◆ Support frame synchronous technique, there will be no delay and dislocation
- ◆ Support brightness,contrast ratio ,enhance the image display effect
- ◆ Users can do PIP or PBP in any position

- ◆ Cut and Fade function of input signal source
- ◆ Support customized DVI input resolution, as to be the same with LED screen resolution, and to display point to point
- ◆ Support customized output resolution, the maximum width pixel is 3840 and the maximum height pixel is 1920 for single device
- ◆ 24 hours high and low temperature ON/OFF, burn-in test, high performance and stable

## Hardware instruction

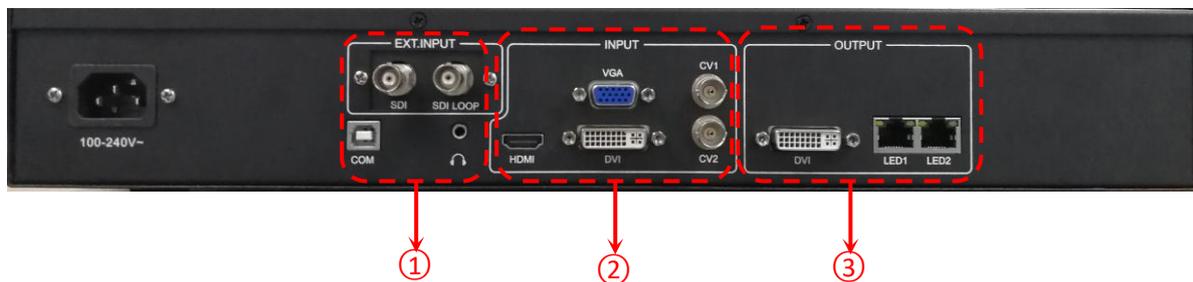
### Front panel picture



Interface instruction		
1	power	Power on/off
2	<b>MENU area</b>	<p>There are one knob, one button[OK]and one butt  ]</p> <p>knob: For menu operation, rotate clockwise or counterclockwise, select menu items or adjust parameters.</p> <p>Light press [OK]button: indicates that the main menu appears in the initial state, and the menu state is to confirm button.</p> <p>[  ] return button: to return to the previous menu, and return to the initial state of the menu directly.</p>

3	<b>FUNCTION area</b>	<p>There are total 4 buttons: [BRI]button、[PIP]button、[PART]button、[MODE]button</p> <p>[BRI]button: brightness adjustment button for output image, change the value by turning the knob clockwise or counterclockwise.short press the [OK]button to save</p> <p>[PIP]button: PIP menu shortcut button.</p> <p>[PART]button: Interception input image full screen or local display, initial for full screen display, switch local display., [PART]button light on.</p> <p>[MODE]button: image mode or save the menu shortcut button</p>
4	<b>INPUT area</b>	<p>6 buttons in total: [DVI] button、[HDMI] button、[CV1] button、[CV2] button、[VGA] button、[EXT] button</p> <p>[DVI] button: computer digital signal input port selection button</p> <p>[HDMI]button: digital HD signal input port selection button</p> <p>[CV1]button: compound video input port 1 selection button.</p> <p>[CV2] button: compound video input port 2 selection button.</p> <p>[VGA]button: Computer analog signal input port selection button.</p> <p>[EXT]button: extend module input port selection button.</p>

**Backside panel picture**



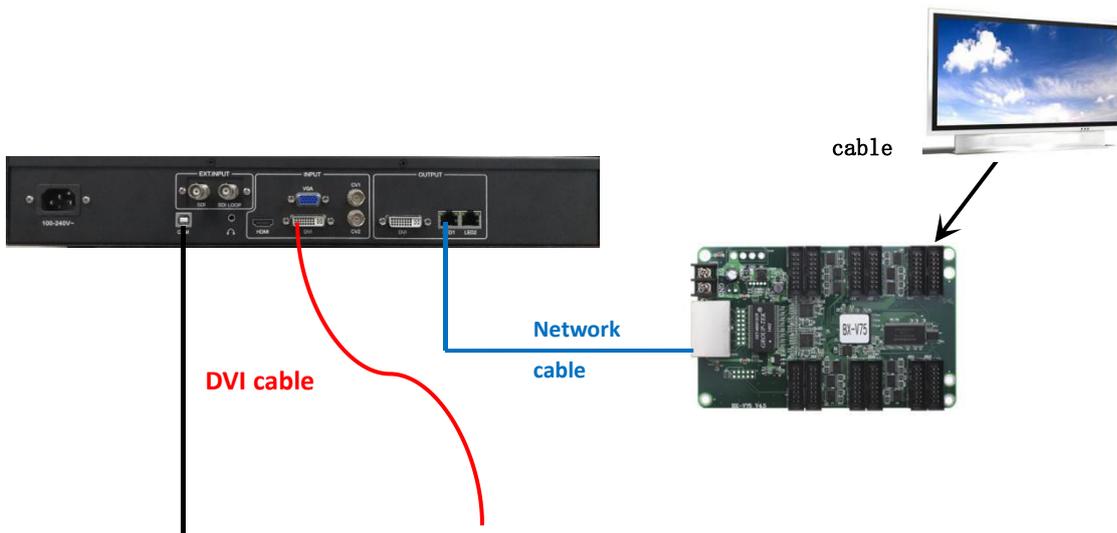
<b>Power</b>	
Input voltage	100-240V~ 50/60Hz

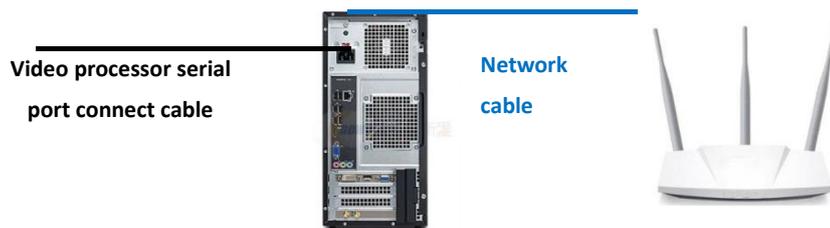
Interface instruction
-----------------------

1	<p>SDI port : SDI Video input port embedded.</p> <p>SDI LOOP port: extend module SDI input loop out.</p> <p>COM port: serial port communication port ,connected with computer</p> <p>🎧 port : Analog audio input/output port, when the output is selected input signal source audio.The input can be external audio, via the sending card to the LED screen.</p>
2	<p>HDMI port: digital HD signal input port, input video and audio signal.</p> <p>VGA port: computer analog signal input port, connected to the computer.</p> <p>DVI port: computer digital signal input port, input video signal.</p> <p>CV1 port: compound video input signal source 1.</p> <p>CV2 port: composite video input signal source 2.</p>
3	<p>DVI port : digital HD DVI output port, output video signal, connected with monitor</p> <p>LED1/LED2: Gigabit network data transmission, connected with LED screen receiving card.</p>

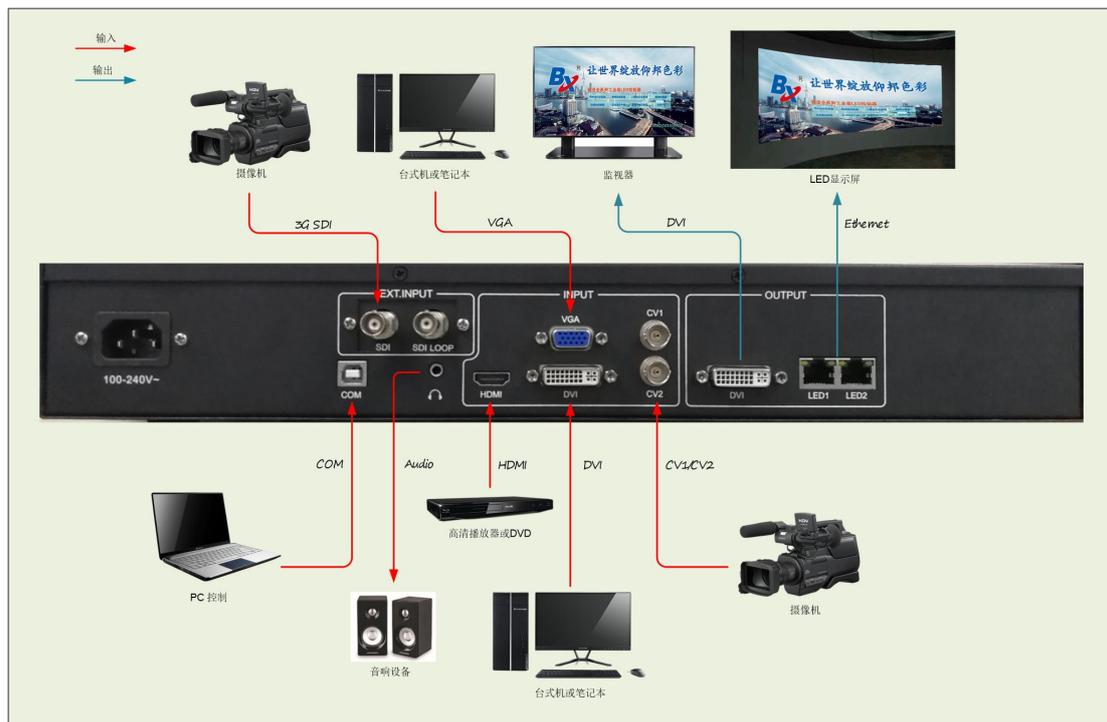
## Connect the device

Here take the DVI signage as an example :





## Port connection picture



## MENU INSTRUCTION

OVP-M2 uses a LCD screen to display menu system,users can use the Rotating button and panel buttons to adjust the parameters.

The flowing will introduce the menu system of OVP-M2 in details according to the button function and the display content of LCD screen

### Button instruction

OVP-M2 have three areas: INPUT、FUNCION、MENU.

#### INPUT AREA

There are six buttons in this area: [DVI]button、[HDMI]button、[CV1]button、[CV2]button、[VGA]button、[EXT]button。 Users can switch the input signal source by press these buttons, In the initial status of the menu system, short press button in the area, the main screen input signal source can be switched, if the

PIP screen is opened, the PIP screen input signal source can be switched.

The system will automatically check the input signal format, if format of the current input signal source is right ,the button lamp always bright, if there is no signal or the format is not supported, button lamp light will flicker.

Under the VGA signal input source, continuously press the[VGA] button for three times ,the system will adjust the white balance to input analog signal automatically and the image that the input image is full screen and with a brighter edge should be ensured.

## FUNCTION AREA

There are four buttons in this area: [BRI]button、 [PIP]button、 [SIZE]button、 [MODE]button.

BRI	Export the brightness menu, and adjust it by rotating the button, save it by pressing [OK]
PIP	Turn on or turn off the PIP function, and it will be lighting if the PIP function is ON
SIZE	Display the full image or part of it. The initiated is full, you can switch to part (size button will be lighting).
MODE	Export the image mode, use or save. Users need to save the image more, then, can use.

## MENU AREA

This main menu area includes a Rotating button,and a OK button,and a return button, in the system initial states use the [OK] button enter into the sub menu.press [↩] to return or exit the main menu.

In the In browse mode, counterclockwise the rotating button, the cursor will move up or left , clockwise the rotating button, the cursor will move down or right . When the cursor is moved to a project that needs to be adjusted, press the [OK] button, it will move into the setting mode, then counterclockwise the rotating button to reduce the current parameter value;clockwise the rotating button to increase the current parameter value. If the adjustment is completed, press [OK] button to save data. If users need to return to the last menu, use the return button until it return to the initial state.

Rotation [knob] can not force too fast, otherwise the numerical adjustment is very small, should rotate at a constant speed.

## System initial states

When starting the system, the LCD screen will display the Boot interface. After the start of the system, the status of the current machine will be displayed on the screen. In the initial state of the system shows the information in two pages, and the timing transformation is displayed. The starting menu of the system starts as shown in the following figure:

The detail meaning of above image



A	Title	
B	Name of input signal source	LED screen
C	Resolution format of input signal source	Resolution format of input signal source, corresponding to the physical resolution of LED screen
D	<p>Status area, to show you the status of this machine by many icons.</p> <p>There are 4 icon areas from left to right, and it shows only 3 in original status</p> <p>Status of "PART" ;</p> <p>2. Status of PIP ;</p> <p>3.Unlocking the keys on board ;</p> <p>4. Brightness of output image</p>	

In initial status, the fourth line of the LCD screen will show current machine status ,the means of the icon please refer to the following:

Icon	Area	Name	Explanation of all icons:
	1	Part off	"PART" is OFF, it will show the whole image in LED screen
	1	Part on	"PART" is ON, it will show the part of the image
	2	PIP off	"PIP" is OFF
	2	PIP ON	"PIP" is ON
	3	Lock off	Button lock is OFF, users can set system parameters according to the key, and you can turn ON the button lock in "advanced" of main menu
	3	Lock on	Button lock is ON, users cannot do any settings by key, and you can turn OFF the button lock in "advanced" of main menu
	4	Brightness	Image brightness (BRI)

## Main menu

In the initial status,press [OK]button to enter into main screen.the main screen as the follows



The main menu includes the following functions:

- Output setting---output resolution ratio of system,LED screen display size,LED screen starting position
- Image effect---Brightness,contrast,saturation and dynamic contrast
- Crop image---Open or close Crop、 Crop size、 Crop Starting position
- Graphic layout---main graphic,PIP ,graphic& text overlay
- Mode save--- save the current system parameters to the application scene mode
- Advanced setting---language selection ,go to the guidance ,input the resolution ,hot backup, VGA setting ,Seamless switching、 ADC correction、 key button,OSD menu setting , voice setting ,factory reset

## Output menu

There are four parameters: LED screen parameters、 sending card parameters、 output resolution、 test picture.

Image output	
LED screen parameters	→
sending card parameters	→
Output resolution	customized
Test picture	→

LED screen parameters can adjust the LED screen width、 LED screen height、 Refresh rate.

LED screen parameters	
LED screen width	1920
LED screen height	1080
Refresh rate	60

**LED screen parameters:** set the system output resolution format, in real application, we suggest select the same resolution with the LED screen.

- ✧ **LED screen width:** range from 320-3840, set the LED screen horizontal width
- ✧ **LED screen height:** range from 240-1920, set the LED screen vertical height.
- ✧ **Refresh rate:** range from 24-60Hz, set the LED screen Refresh rate, we suggest 60Hz.

**Mark :** restart the device after modify the LED screen parameters ,the system reserved mode will be cleaned up.

Sending card parameters interface can adjust the network port 1 parameters、 Network port 2 parameters、 Refresh rate, used for set Network port display image size and starting position.

sending card parameters	
Network port 1 parameters	→
Network port 2 parameters	→
Refresh rate	60

Network port 1 parameter:

- ✧ **Network port 1 width:** range from 0-2048, set LED1 port image horizontal width.
- ✧ **Network port 1 height:** range from 0-1024, set LED1 port image vertical height.
- ✧ **Network port 1 starting X:** range from 0-2048, set LED1 port image horizontal starting position.
- ✧ **Network port 1 starting Y:** range from 0-1024, set LED1 port image vertical starting position.

Network port 2 parameters:

- ✧ **Network port 2 width:** range from 0-2048, set LED2 port image horizontal width.
- ✧ **Network port 2 height:** range from 0-1024, set LED2 port image vertical height.
- ✧ **Network port 2 starting X:** range from 0-2048, set LED2 port image horizontal starting position.
- ✧ **Network port 2 starting Y:** range from 0-1024, set LED2 port image vertical starting position.

Refresh rate: range from 24-60Hz, set LED screen refresh rate, we suggest 60Hz.

Output resolution: contain 15 kinds of fixed resolution format and 1 "user customized" customized" option parameters and "LED screen parameters" setting .

**Test diagrams:** there are 6 test diagrams for LED screen testing. The test diagram requires an out-of-sync clock, so it is only valid for the DVI/HDMI/VGA input source. When the "normal display" is selected, the test diagram is closed. In the current signal source, a valid input signal must be received, and the test diagram has output. Otherwise, there is no output. If the current signal source is DVI, the DVI port input output is connected, and this function can be realized without external input signal.

## image effect menu

image effect interface can adjust the brightness、 contrast、 saturation、 dynamic contrast and color temperature

Image effect	
Brightness	50
Contrast	50
Saturation	48
Dynamic contrast	1
Color temperature	→

**Brightness:** range from 0-100。

**contrast:** range from 0-100。

**saturation:** range from 0-100。

**Dynamic contrast:** range from 0-4, 0 is close ,1 is default value,not valid to the input VGA signage source.

Color temperature parameters:

Color temperature	
Customized	→
Type	warm

◇ **Color temperature customized:** red color adjust range from 0-100。

◇ Blue color adjust range from 0-100。

◇ Green color adjust range from 0-100。

◇ **Color temperature type:** warm ", "natural" and "cold", "custom" four kinds of options.

## Image crop menu

Image crop interface can adjust the crop window、 crop width、 crop height、 horizontal starting and vertical starting

Image crop	
Crop window	close
Crop width	1024
Crop height	768
Horizontal starting	0
Vertical starting	0

**Crop window:** Crop window is opened or closed ,default is closed, Choose the corresponding input source by INPUT button ,and it is limited to open Crop,check from the below list for details.

**Crop width:** minimum is 128, maximum is “the width of present output resolution ratio”.

**Crop height :** minimum is 128, maximum is “the height of present output resolution ratio”.

**Crop horizontal start:** minimum is 0, maximum is the difference of “width of present output resolution ratio” and “Crop width”

**Crop vertical start:** minimum is 0, maximum is the difference of “height of present output resolution ratio” and “Crop height”

## **Image layout menu**

There are two interface :main image mode and PIP mode

Main image parameters:

<b>Main image</b>	
Main image width	1024
Main image height	768
Horizontal starting	0
Vertical starting	0

**Main image width: the minimum value is 62,** maximum value is the width of LED screen (example: 1024 in the 1024x768@60Hz )

**Main image height:** the minimum value is 48, the maximum value is “LED screen height” (example: 768 in the 1024x768@60Hz) .

**horizontal starting :** the minimum value is 0, the maximum value is “LED screen width” and “image width” difference value

**vertical starting :** the minimum value is 0, the maximum value is “LED screen height” and “main image height” difference value

PIP mode type: PIP mode and graphic overlay mode

PIP mode parameters:

<b>PIP MODE</b>	
PIP window	close
PIP width	320
PIP height	240
PIP horizontal start	0
PIP vertical start	0

PIP window: PIP window is opened or closed ,default is closed, Choose the corresponding input source by INPUT button ,and it is limited to open PIP,check from the below list for details.

PIP width: minimum is 128, maximum is “the width of present output resolution ratio”.

PIP height : minimum is 128, maximum is “the height of present output resolution ratio”.

PIP horizontal start: minimum is 0, maximum is the difference of “width of present output resolution ratio” and “PIP width”

PIP vertical start: minimum is 0, maximum is the difference of “height of present output resolution ratio” and “PIP height”

**Graphic & text overlay parameters:**

Graphic&text overlay	close
text input source	HDMI
Text background color	blue

**Graphic & text overlay:** Optional turn on or off, default to close. After opening, press the front panel button of input area to select the corresponding text input source. There are three types of text background colors: black, white, and blue.

**M2 Double image input conflict limit**

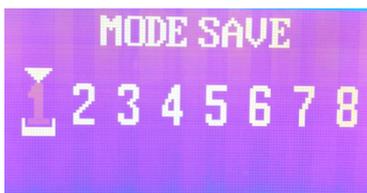
Chan1 2 / Chan1 1	CV1	CV2	VGA	DVI	HDMI	EXT.
CV1	√	X	√	√	√	√
CV2	X	√	√	√	√	√
VGA	√	√	√	√	√	√
DVI	√	√	√	√	X	√
HDMI	√	√	√	X	√	√
EXT.	√	√	√	√	√	√

Screen 1 is the main screen, Screen 2 is the sub-screen, if users did not handle interfaced, you can exchange the input source 1 of screen 2

- ✧ When select the input source, if the screen 1 and screen 2 conflict for the port, then can't select the screen 2 port, and prompt the “signage source conflict”

**Mode save menu**

As shown in the picture :



**Mode save :** the system provide 8 kinds of save modes, users can save the current system setting to 1 to 8.

**8 kinds of save mode:** main screen input signal source, led screen width and height, and start location, PIP signal source, PIP width and height, start location, Image brightness, image contrast, image saturation

## Advanced setting menu

Advanced set menu options is shown as below:

Advanced options	
1. Language	Chinese
2. Into navigation	→
3. Input resolution	→
4. Hot backup	→
5. VGA Automatic adjustment	→
6. ADC Correction	→
7. seamless switching	gradual change
8. key lock	Close
9. OSD menu setting	→
10. Set volume	15
11. Reset to factory setting	→

**Language:** The system support Chinese and English

**Navigation mode:** guide the user to the navigation mode, fast light the LED screen, finish system parameters setting.

**Input resolution: provide the DVI/HDMI input signage source EDID edit function**

There are two kind of EDID: fixed EDID and custom EDID. That is: set the recommended resolution of the input DVI signal source, graphics card of computer automatically read the EDID of the input DVI port of the device, and output the recommended

Fixed EDID	800×600@60Hz、 1024×768@60Hz、 1280×1024@60Hz、 1366×768@60Hz、 1440×900@60Hz、 1600×1200@60Hz、 1920×1080p@60Hz、 1920×1200@60Hz、 2048×1152@60Hz、 2304×1024@60Hz、 2560×816@60Hz、 3840×630@60Hz、 1080×1920@60Hz、 1200×1600@60Hz、 1536×1536@60Hz
Custom EDID	Input width: customized resolution of horizontal pixels
	Input height: customized resolution of vertical pixels

Input frequency: refresh rate of custom resolution
----------------------------------------------------

In order to make the resolution of input image and output image consistent and the user can manually input DVI resolution format. The parameters (input width, input height) are set according to the resolution.physical resolution of LED screen. The input width range is 320-3840, the input height range is 240-1920, the output field frequency range is 24-60 Hz, and the total control area is not more than 2.6 million pixels.

**Hot backup:** The input signal hot backup function, that is, after the current input signal is lost, the processor automatically switches to the backup input signal to avoid the output image interruption caused by the source failure.CV1/CV2 is a group, DVI/HDMI is a group.

**VGA automatically correction:** automatic to correct the VGA input image position and phase position.

**ADC calibration:**Analog signal white balance correction,click [OK]button to correct the white balance to input analog signal automatically(CV1,CV2 VGA )input signal source need to be calibrated individually for each port.)

**Note: the processor has done white balance correction for standard signal source before leaving the factory. Please use this setting carefully.**

**Seamless switching:** used to set the switching effect between signal sources. Includes :fade in and fade out.

**Key lock:** panel lock function,when open the key lock function,then the device panel key will be not valid to work no matter press any key.

**OSD menu setting :** adjust the display starting position on the the controller remote menu

**Voice volume setting:** only input signage source to HDMI when the voice open or close ,Adjust range

0-30, adjust HDMI or SDI audio volume

**Factory reset:** System initialization settings, The system parameters will be reset to factory value.Usually we do not suggest users to do it.

## Device user guiding

Before to use the guiding mode ,please set the system output resolution first.if there is no saved mode , the system will lead the users to the guiding mode in order to use the device quickly.There are 3 steps for the guiding mode

Step 1: Power on,start the machine

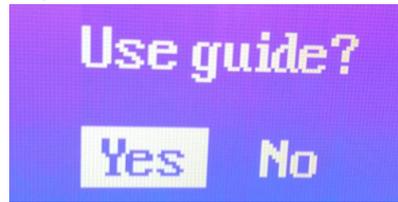
Step 2: Choice input signal source

Step 3: set the screen width and height

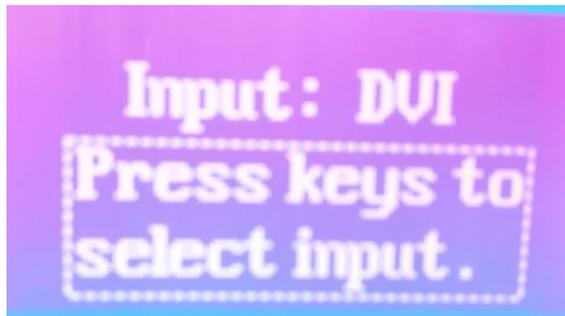
In guide setting status,press[  ] to return to the previous step to modify the parameter

## Guide mode

When the machine is power on,it will show the following interface



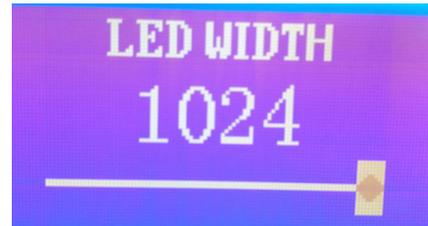
Press [OK] button to run into the "input" interface, as shown in picture



Switch the signage source by press the front panel signage selection key ,short press the [OK] button to save the data and enter the "LED screen parameters setting" interface,as shown in picture



Rotate the[OK]button to modify parameters short press [OK]button to set the“LED screen width” or“LED screen height”



Adjust the parameters by rotate the OK button ,make the value bigger or smaller ,then return to the current menu and select" effective"to save data then restart the device.

## User setting

Guiding the users to quickly use the machine,the following will show you the common functions of the video processor:Partly display ,mode save, mode cover,clear mode,switch mode,check saved mode parameter etc.

### Part display

Part display is to show the full led display window, users can switch to display the full desktop of the computer at any time

If use crop to display the image ,the default crop width and height is the same as the Led screen.the Crop horizontal and vertical start from (0,0)



**Part display**

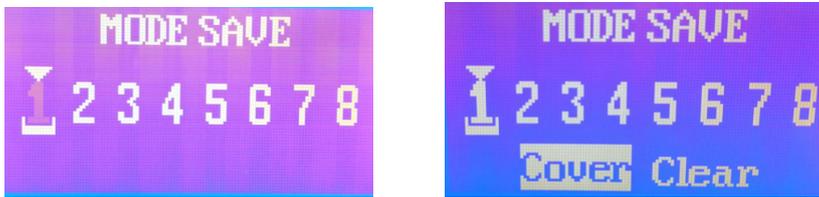


**full screen display**

To use the part function ,the input signal should be HDMI and DVI, If the current signal input source is HDMI, when open part, the part display will be banded to HDMI,if the current signal input source is not HDMI, the part display will be banded to DVI.

## Mode save, cover ,clear

In initial status ,short press [OK] button to main menu, use the rotating button to enter save menu,press [OK] button for twice to save it to mode 1,if mode 1 has already used ,press [OK] button to clear or overwrite mode,then press [OK] to confirm it.



## Switch ,review mode

To switch the users saved modes. The front panel provides the shortcut button[MODE] button, presses the [MODE] button to enter the mode switch interface, presses the [OK] button confirmation to complete the mode switch. The numbers with bottom line means the user mode that can be called.



Select the view mode to review the parameters saved in the current mode.

<b>Mode 1</b>	
Main signal source	HDMI
LED Screen width	1024
LED Screen height	768
Led screen horizontal start	0
Led screen vertical start	0
Screen Crop	Close
Crop width	1024
Crop height	768
Crop horizontal start	0
screen vertical start	0
Screen PIP	Close
PIP Signal source	HDMI
PIP width	320
PIP height	240
PIP horizontal start	0
PIP vertical start	0
Brightness	50
Contrast	50
Saturation	48

## FAQ

The Video processor is a professional equipment, users should have professional knowledge when use some of functions. When users encounters problems, please try to adjust the machine yourself. If the steps listed below can't help, please contact local dealer or contact our after-sales service team directly. For your own safety, Please do not attempt to repair it on your own.

Phenomenon	Check, adjust item detail
No image on LCD and LED screen	<ul style="list-style-type: none"><li>● Check if the power line loose contact</li><li>● Check if the power switch is on</li></ul>
LCD show No image on the LED screen	<ul style="list-style-type: none"><li>● Check if connect and choice the right signal input</li><li>● Check if the screen support the machine output resolution and refresh rate</li><li>● Check if the brightness and contract setting is too low</li><li>● Use the factory set in advance menu,to return the machine to factory setting</li></ul>
Image can't show fully	<ul style="list-style-type: none"><li>● Check if the led screen width and height setting the same as the screen physical pixels,enter into image output interface to set the parameter</li></ul>
VGA Input image offset , not in the	<ul style="list-style-type: none"><li>● Press [VGA]button for three times , Automatically adjust the</li></ul>

middle	position and phase position of the input image (Please use full screen and no black edge signal source while doing this)
The image on the LED screen showing in the middle ,with black edge on the corner	<ul style="list-style-type: none"> <li>● This Phenomenon usually happens when using computer's VGA、 DVI、 HDMI signal source , please check the graphics card setting of the computer,choice "keep the display zoom ratio " function</li> </ul>
The buttons on the panel unresponsive	<ul style="list-style-type: none"> <li>● Check if the button lock on the LCD screen is open (Button lock open icon  ) .if so enter advance setting menu to close it (Button lock close icon  )</li> </ul>

## CONTACT US

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