onbon *仰邦科技*

OVP-H4XL USER MANUAL

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Statement

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Directory

INSTRUCTION

Safety Notice

There are high voltages in this product, so non-maintenance personnel must not open the case or repair the equipment by yourself to avoid danger.

The input voltage range of this product's AC power supply is 100 ~ 240V, 50 / 60Hz, please use the correct power supply.

This product is grounded through the power cord. In order to avoid current impact, please plug the power cord before connecting the product input or output port

Connect to a grounded socket.

Protective grounding of ground conductors in power cords is essential in safe operation. Before proceeding with any hardware operation, please turn off the power of the LED video processor and release your body by touching the grounded surface On the static electricity.

you want to disconnect or unplug any signal line or control line, please make sure that all power cords have been unplugged in advance. Please use it in a clean, dry and ventilated environment. Do not put this product in a high temperature and humidity environment.

This product is an electronic product. Please keep away from fire, water and flammable and explosive dangerous goods. If you receive unusual noises such as strange noises, smoke or odors, you should unplug the power plug immediately without contacting the dealer.

About software

Do not alter, decompile, disassemble, decrypt, or reverse engineer the software installed on this product, all of which are far away.

FUNCTION

Description

OVP-H4XL dual-picture video controller is a mid-to-high-end video processing equipment developed and produced by our company for the LED large screen display, application in showing and rental, conference room, studio and other markets. This product adopts 4K image processing technology specially designed for small-pitch LED display. It can realize point-to-point input and output for ultra-high resolution LED large screen, so it can effectively eliminate the edge aliasing introduced by the image and reduce the image Zoom out of focus blur.
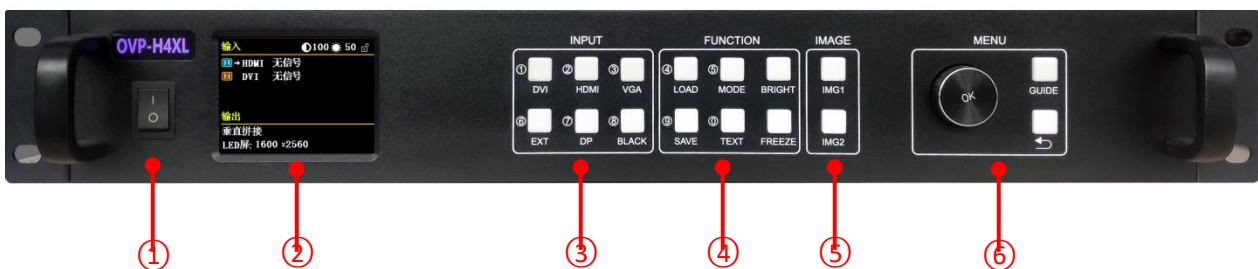
Features

- Single machine can carry 5.2 million pixels, horizontal maximum 8000 pixels, vertical maximum 3840 pixels;
- Integrated 8 Gigabit Ethernet port output, not only improves reliability, but also brings great convenience for remote maintenance of LED display;

- All input signal sources and output modes can be quickly and seamlessly switched;

- With 5 ultra high definition (UHD) digital and analog input interfaces;

- Support open double pictures and arbitrary layout;

- Support 3 digital input ports DVI \ HDMI \ DP custom input resolution setting

- Support input signal source hot backup;

- 8 user modes can be pre-stored for users to quickly call;

- With "intelligent navigation" setting function, convenient for users to set up quickly;

- The device can be controlled by panel keys, LAN, USB, WIFI

Panel instruction

Front panel

Interfaces	
1	Power supply
2	2.8" full color LCD screen （320×240）
Operate	screen area and display the system status information through the LCD.
3	**INPUT area** The input Selection key area has [DVI] ~ [DP] 6 buttons, 5 input source port selection buttons, and correspond to the input interface logo of the back panel. When BLACK is pressed, the LED indicator of BALCK is on, and the screen

	output is black.
4	**FUNCTION 区** [LOAD]：fast switch to user mode [SAVE]：fast switch to user save mode [BRIGHT]：fast switch to brightness adjust hot key. [MODE] ：fast switch to system fixed mode menu. [TEXT]：keep the function button [FREEZE]：image freeze hot key
5	**IMAGE area** [IMG1]-[IMG2]：You can select the opened screen 1 ~ screen 2 window, and the LED light indicates the currently selected window.
6	**MENU area** Short press [OK]：means turn into menu or confirm [GUIDE] ： fast switch to" smart guiding" interface [⮌]： means exit the current operation

Back panel

Video output interface	
LED1~LED8	8 nos of Gigabit network output ,connect with screen receiving card
MONITOR	Simultaneous monitoring of DVI output interface, external LCD display

Video input source	
EXT	Extended input port, default is DVI, HDMI or SDI or wireless screen input is optional
DVI	DVI interface
HDMI	HDMI
DP	DP
VGA	VGA

Audio input/out put port	
HDMI audio	HDMI video input port built-in
AUDIO_IN	Analog audio input port
AUDIO_OUT	Analog audio output port

Control interface	
LAN	Network control port
COM	USB input port
WIFI	WIFI wireless control
RS232	RS232C control DB9 port

Power supply	
Input voltage	100-240V~50/60Hz

Basic steps

Click [OK] to enter the main menu interface, and then follow the steps below :

Step 1: import or set the LED screen parameters;

Step 2: select the corresponding signal source according to the user's needs;

Step 3: Enter the "LED screen parameter \ display window adjustment" menu, adjust the picture appropriately (change the aspect ratio or start bit);

Step 4: Turn to the panel "SAVE" button to enter the "user   save mode " to save the current display mode for the next call.

Note: For detailed instructions on the above four steps, please refer to the next chapter "Introduction to Main Menu".

Menu

1.1 Menu key operation

The key operation area which includes a knob, a confirmation key [OK], a return key [↩] and a [GUIDE] key.

In the initial state of the system, short press [OK] to enter the main menu setting interface. When pressing the return key, the menu system will return to the previous menu   until it returns to the initial state.

In the browsing state, turn [Knob] counterclockwise to move the cursor upward or left; turn [Knob] clockwise to move the cursor downward or right. When moving the cursor to the item to be adjusted, press the [OK] key to enter the corresponding setting submenu. At this time, turn the [knob] counterclockwise to decrease the current parameter value; turn the [knob] clockwise The current parameter value can be increased. AdjustWhen finished, short press 【OK】 key to write data to save. To return to the previous menu, use the return key; until you return to the initial state. press[GUIDE] key can quickly switch out the "intelligent navigation" setting interface.

Note: The [knob] cannot be turned too fast, otherwise the value adjustment will change very little and should be rotated at a constant speed.

1.2 Initial menu status

During the system startup, the LCD screen will display the startup interface. After the startup is complete, the current machine status will be displayed on the screen. The initial menu of the system startup is shown in the following figure:

Initial menu status

During the system startup, the LCD screen will display the startup interface. After the startup is complete, the current machine status will be displayed on the screen. The initial menu of the system startup is shown in the following figure:
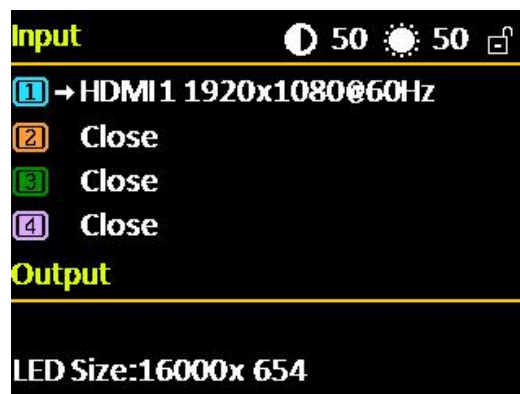

Above three area display content instruction：

- **Input：**

    It displays the input source selection information, including the input source signal format detected by the system.

- **output：**

    The first line: display the actual LED screen size set by the user

    The second line: display the prompt information

- **Upper right corner：**

    The current contrast, brightness value and key lock status are displayed.

Main menu

The device uses a 2.8-inch LCD display software menu, the LCD display pixel is 320 * 240, and the font 24 * 24 can display 10 lines. The user operation menu is divided into six categories. Click [OK] in the non-menu state to pop up the main menu:
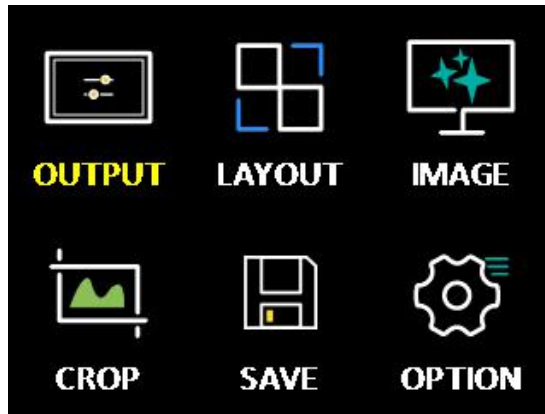
Main menu	Level 2 and Level 3 sub-menus
Output setup	LED screen size (horizontal width, vertical height) Network port output settings (network port LED1-LED4 horizontal width, vertical height, horizontal start, vertical start)
Window layout	Window 1 (horizontal width, vertical height, horizontal start, vertical start) is always on. Window 2 (picture switch, horizontal width, vertical height, horizontal start, vertical start)
Image effect	Brightness, contrast, saturation, sharpness, color temperature, dynamic contrast
Image capture	Intercept switch, intercept width, intercept height, horizontal start, vertical start
Mode save	Mode1- mode16

Advance	Input resolution (horizontal width, vertical height, refresh rate)
	Input hot backup VGA settings (automatic adjustment, horizontal start, vertical start)
	Timed switching (task 1, task 2, ...)
	Other settings (image rotation, sound settings, screen projection equipment)
	Test chart (closed, Figure 1 to Figure 8) Key lock (open, closed)
	Factory setting (VGA ADC calibration, VGA DDC programming, comment, factory reset, firmware version)

Output configuration

In the non-menu state, click the [OK] button to enter the main menu, and then select "Output Settings", the following menu will pop up:

1. LED screen size

In the non-menu state, click [OK] to enter the main menu, then select "Output Settings", and then select "LED Screen Size" to enter the LED screen size menu:

Note：

After the PC screen control software is used to complete the settings of the "connect receiving card" of each network port of the LED screen, the size of the LED screen is automatically calculated and updated to the controller synchronously, so it is generally not necessary to set the LED screen parameters (including LED The screen size and the network port parameters);

If you have previously set up an archive, you can complete the "LED screen parameter" data synchronization through the PC control software "import \ export configuration";

The width and height of each network port must be the same as the local size of the LED screen covered by the interface card actually carried by each network port. By changing the starting position of each network port, the LED screen can be arbitrarily spliced (each Gigabit of the network port can display any part of the screen or repeat it);

Pay attention to the size range of the LED screen and the total load points of the LED screen:

LED screen horizontal width <= 8000

Vertical height of LED screen <= 3840

LED screen horizontal width x LED screen vertical height <=5200000 (when width> height)

2. LAN output setup

In the non-menu state, click [OK] to enter the main menu, then select "Output Settings", and then select "Network Port Output Settings" to enter the network port output settings menu:

```
              LAN SETTING
 ┌──────────┬─────────────────────┐
 │ LAN LED1 ➡│                     │
 │ LAN LED2 │  Width       1280   │
 │ LAN LED3 │                     │
 │ LAN LED4 │  Height       512   │
 │ LAN LED5 │  X             0    │
 │ LAN LED6 │                     │
 │ LAN LED7 │  Y             0    │
 │ LAN LED8 │                     │
 ├──────────┴─────────────────────┤
 │    OK:Enter      <-Back         │
 └─────────────────────────────────┘
```

```
              LAN SETTING
 ┌──────────┬─────────────────────┐
 │ LAN LED9 ➡│                     │
 │ LAN LED10│  Width       1280   │
 │ LAN LED11│                     │
 │ LAN LED12│  Height       512   │
 │ LAN LED13│  X             0    │
 │ LAN LED14│                     │
 │ LAN LED15│  Y             0    │
 │ LAN LED16│                     │
 ├──────────┴─────────────────────┤
 │    OK:Enter      <-Back         │
 └─────────────────────────────────┘
```

Note:

(1)As mentioned above, when the PC screen control software completes the settings of the "connect card access" of each network port of the LED screen, it will automatically calculate the LED screen size and update it to the controller synchronously. Parameters (including LED screen size and network port parameters);

(2)When you need to "arbitrarily splice" or set for each network port, please pay attention to the range and load points of a single network port:

Horizontal width: 256 ~ 4000 Vertical height: 128 ~ 3840Horizontal width x vertical height <= 655360 (when width> height)

Horizontal width x vertical height <= 652738 (when width <height)

Image effect menu

In the non-menu state, click the [OK] button to enter the main menu, and then select "Image Effect" to enter the image effect menu.

- Brightness: The adjustment range is 0-100, and the default value is 50.
- Contrast: the adjusting range is 0-100, and the default value is 50.
- Saturation: the adjustment range is 0-100, and the default value is 50.
- Sharpness: the adjustment range is 0-10, and the default value is 5.
- Dynamic contrast: the adjustment range is 0-4, and the default value is 1. 0 is off, which is not applicable to the input VGA signal source.
- Color temperature type: "Warm", "Natural", "Poor" and "Custom" are divided into four options.
- Customized color temperature: red adjustment range 0-100.
- The blue adjustment range is 0-100.
- The green adjustment range is 0-100.

Note: The "BRIGHT" shortcut key on the panel can also immediately switch out the above menu to perform "Brightness" adjustment.

Image crop menu

In the non-menu state, click the [OK] button to enter the main menu, then select "Image Crop" to enter the image capture menu:

- Capture switch: The input image intercept function is on or off, and the default is off.
- Capture width: the minimum value is 128, and the maximum value is "the width of the input signal".
- Capture height: The minimum value is 128, and the maximum value is "the height of the input signal".
- Horizontal start: The minimum value is 0, and the maximum value is the difference between "input signal width" minus "capture width".
- Vertical start: The minimum value is 0, and the maximum value is the difference between "the height of the input signal" minus the " capture height".

Note:

(1) The image interception is for the input source, so the width and height of the interception can not exceed the resolution of the currently intercepted source, and the interception will not work if it exceeds it.

(2) Through the panel input source selection shortcut keys, different input sources can be selected to perform image interception.

Advance

In the non-menu state, click the [OK] button to enter the main menu, and then select "Advanced " to enter the advanced options menu:


1. **Input resolution**

The input resolution setting provides users with DVI / HDMI input signal source EDID editing function, and sets the recommended resolution of the input signal source. The WIN7 computer graphics card can automatically read the recommended EDID resolution of the input DVI / HDMI port of the device. Output recommended resolution; after WIN10 input resolution setting is completed, you must manually select "Recommended Resolution" on the computer.

By setting the input resolution, users can realize the input and output point-to-point display of the ultra-high-resolution LED large screen within the range of 3840x2160. The point-to-point display does not scale the input image, so the display image on the LED large screen can reach the highest definition degree.

Select the input resolution in the "Advanced Options" to enter the input resolution menu:
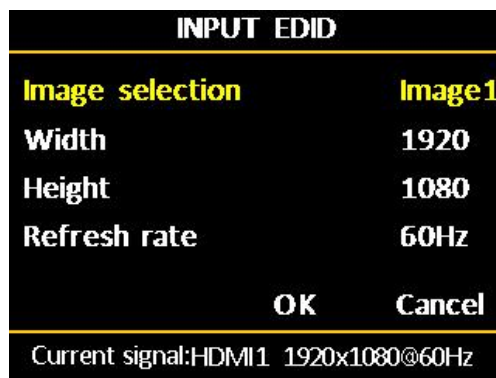
- Horizontal width: adjustment range 640-3840
- Vertical height: adjustment range 480-2160
- Refresh rate: adjustment range 30 or 60

Note:

The actual adjustment range is not related to the interface type and the input bandwidth limitation. For this device, because the standard used by the system's input source DP is DP1.2, it can reach the highest 4K level input resolution: 3840x2160 @ 60Hz; HDMI uses the standard It is HDMI1.4, so it can reach the highest 4K input resolution: 3840x2160 @ 30Hz.

2. Input hot backup

Different hot backup sources can be selected for the four display screens. Once the current playback source of a certain screen is lost, the system will automatically switch to the backup source.

3. VGA setup

Select VGA setting in "Advanced Options", then enter the VGA setting menu:

- Horizontal start: adjustment range 0-300.
- Vertical start: the adjustment range is 0-300.

Note:

(1)The actual adjustable range of horizontal start and vertical start is determined by the internal calculation of the system.

(2) Under normal circumstances, when the VGA input image screen is shifted, the screen position can be corrected by several automatic adjustments. If the automatic adjustment is invalid, then use the manual adjustment of the "horizontal start" and "vertical start" positions on the screen.

(3) The VGA screen is dark, just execute the "ADC correction". Generally, it will be corrected before leaving the factory.

4. Timing switch

In the "Advanced Options", select the timer switch, then enter the timer switch setting menu:

Notice:

(1) The user must first calibrate the internal clock of the system before using the timing switch function. Calibration is done by the PC software.

(2)When the timing switch is turned on, several tasks can be set, and different user modes can be called in different time periods (this user mode must be saved in advance), and the

task settings are also completed by the PC software;(

(3) When the timing switch is turned on and the task is valid, the timing switch can be turned

off or on at any time through the LCD menu.

5. **Other setup**

There are three adjustment items in "Other Settings":

● Image rotation: contains three special effects of "HV mirror", "horizontal mirror" and "vertical mirror", the default is "off".

● Sound setting: including audio switch and volume setting.

● Screen projection device: Use electronic devices that support Android system or Apple system to perform screen projection display.

6. **Test picture**
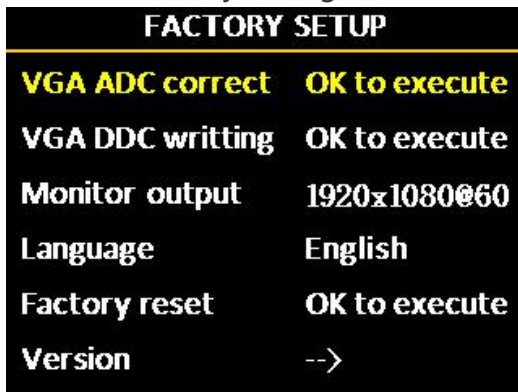
It can provide 8 kinds of test images in the system: Figure 1 ~ Figure 8, the default is "off".

7. **Key lock**

The default is "off". When the "key lock" is in the on state, except the [OK] key, pressing other keys will not work.

8. **Factory setup**

Select the factory settings in the "Advanced Options" to enter the factory settings menu:

● **VGA ADC calibration: It is used to calibrate the VGA input source. It is usually performed before leaving the factory.**

● **VGA DDC programming: When the input source is VGA, if the output resolution of the computer cannot be changed, you need to do the programming action here.**

● **Language: Provide two choices of "Chinese" and "ENG", the default is Chinese.**

- **Factory reset: Reset to factory default.**
- **Firmware version: Used to query the current software and hardware version number, and the factory date.**

User mode save and recall

User mode save

Press the front panel shortcut "SAVE" to quickly switch out the user mode save menu:

```
             MODE SAVE
 ○Mode1  Image1 OPEN HDMI1
 ○Mode2  16000 x 654 ( 0 , 0 )
 ○Mode3  Image2 CLOSE EXT
 ○Mode4   240 x 136 ( 100 , 100 )
 ○Mode5  Image3 CLOSE HDMI1
 ○Mode6   240 x 136 ( 200 , 200 )
 ○Mode7  Image4 CLOSE HDMI2
 ○Mode8   240 x 136 ( 300 , 300 )
```

After selecting the save mode, press [OK] to save.

Note:

(1)The solid circle before the mode indicates that the currently selected mode data already exists, and the open circle indicates that the currently selected mode data does not exist.

(2)Up to 16 user modes can be saved. In addition to the size, position and status of the screen, the parameters saved in the user mode include brightness and contrast.

(3) When the splicing method is changed, the saved user mode will be cleared.

User mode recall

Press the front panel shortcut "LOAD" to quickly switch out the user mode to call the menu:

```
          USER MODE SWITCH
 ○Mode1  None.
 ○Mode2
 ○Mode3
 ○Mode4
 ○Mode5
 ○Mode6
 ○Mode7
 ○Mode8
```

**Note：**

Only user modes that have been previously saved can be called;

(2) For the saved user mode, you can also press "MODE" first, then directly press numeric

keys 1 ~ 9 to directly view, and then press "OK" key to directly call.

Intelligent navigation

Intelligent navigation provides users with a means to quickly debug the splicer when using the splicer for the first time. The LED screen is set up through three simple steps. The software is simple, convenient, and practical. In the MENU area of the front panel, press the [GUIDE] key to enter the smart navigation menu. The user only needs to select "Start" to confirm and follow the panel prompts step by step to complete the initial commissioning of the system.
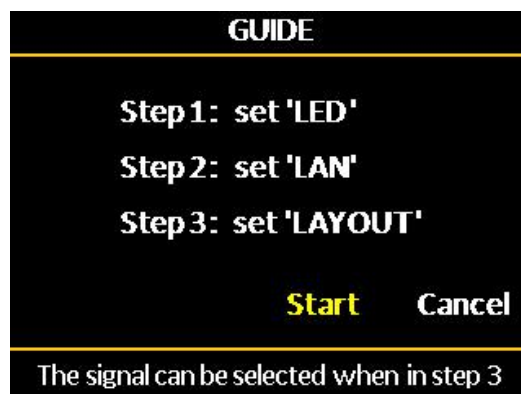
FAQ

This system is a professional device, and the use of certain functions requires the user to have considerable professional knowledge. When users encounter problems, they can try to adjust the machine by themselves. If you still can't solve the problem according to the steps listed below, please do not contact your local distributor or directly contact our after-sales service department. For your safety, do not attempt to repair the product yourself.

Question	Solution
No display on LCD screen, no image output.	• Check if the power cord is in good connection. • Check whether the power switch is turned on.
Information is displayed on the LCD screen, but no image is output.	• Check whether the input signal is correctly violated, and it has been switched to the corresponding signal source. • Check whether the display terminal supports the output resolution and refresh rate of the device. • Check whether the brightness and contrast are set too low. • Try to restore the machine to the factory value through "Factory Reset" in the "Advanced Options" sub-menu.
The image on the LED screen cannot be full screen display.	Check if the "LED screen width, LED screen height" value is not the physical resolution of the LED screen Consistent. Enter the "Image Output" menu to set the parameters.
VGA input image is offset .	press front panel button , the current input image position and phase are automatically checked.Line correction (for automatic adjustment, please use the full screen without black border signal).
The image of the LED screen is displayed in the center, with black borders on the four sides.	Only when the computer graphics card is selected and output to the video processor interface VGA, DVI, HDMISuch problems are prone to occur. The processor settings are correct, check the computer graphics card property settings, and select "Keep display zoom ratio".

There is no response to panel key function operation.	• Check whether the key lock is turned on on the LCD screen (start), Press the knob to enter the main menu, set the key lock in the "Advanced" menu to close (close)

Specification

Image input port	
VGA×1	VESA standard：1600×1200@75Hz or below compatible
HDMI×1	VESA standard ： HDMI 2.0，3840×2160@60Hz or below compatible
DVI×1	VESA standard， compatible with HDMI 1.4，1920×1080@60Hz or below compatible
EXT×1	DVI Expansion input interface (DVI or SDI or wireless projection screen), factory standard DVI
DP×1	VESA standard，DP1.2，3840×2160@60Hz or below compatible

Image output port	
4 nos network port output	Total ≤ 5.24 million pixels, horizontal maximum: 8000pixels, vertical maximum: 3840pixels Note: (1) Horizontal width x vertical height = total number of pixels, which cannot exceed 5240000 pixels; (2) Support point-to-point input and output in the range of 4K * 2K @ 60Hz; (3) Single network port output: horizontal maximum 4000 pixels, vertical maximum 3840 pixels

	Single network port: horizontal width x vertical height <= 655360 pixels

Audio input/output port	
Audio input×1	3.5mm audio port
Audio output×1	3.5mm audio port

Complete device specification	
Input voltage	100-240V~50/60Hz
Power	≤50W
Working tempearutre	-10℃~45℃
Environmental humdity	15%~85%
Operation mode	LCD menu, panel keys, LAN, USB, wifi, PC configuration software
Demension	482.6mm×300mm×66.6mm
Case	1.5U
Weight	≤3Kg

![onbon 仰邦科技 logo]

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