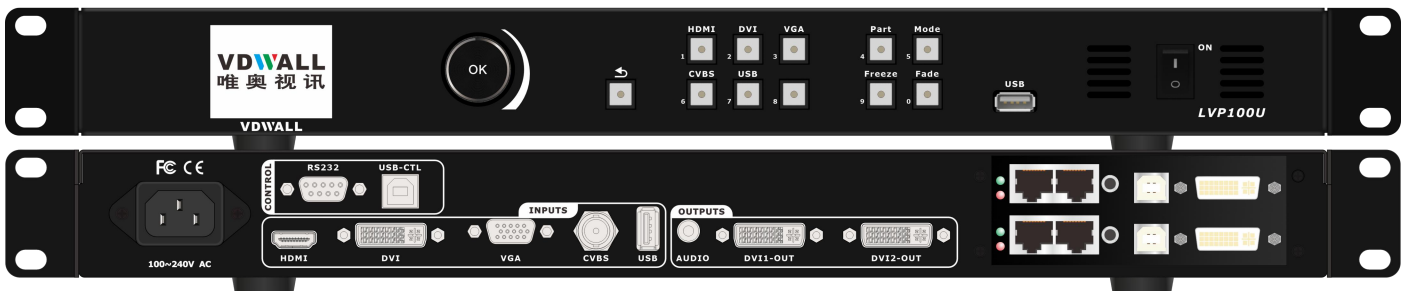


# LED Video Processor --- LVP 100U

## User Manual V1.0



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# Safety Precaution



## **Danger !**

There is high voltage in the processor, to prevent any unexpected hazard, please do not open the cover of the device, unless you are a maintenance personnel.



## **Warning !**

- 1) This device shall not encounter water sprinkle or splash, please do not place anything containing water on this device.
- 2) To prevent fire, keep this device far from any fire source.
- 3) If this device gives out any strange noise, smoke or smell, please immediately unplug the power cord from receptacle, and contact local dealer.
- 4) Please do not plug or unplug DVI signal cable if the device is powered on.



## **Caution !**

- 1) Please thoroughly read this manual before using this device, and keep it safe.
- 2) In the event of lighting or when you are not going to use the device for a long time, please pull the power plug out of receptacle.
- 3) Nobody other than professional technicians can operate the device, unless they have been appropriately trained or under guidance of technicians.
- 4) To prevent equipment damage or electric shock, please don't fill anything in the vent of the device.
- 5) Do not place the device near any water source or anywhere damp.
- 6) Do not place the device near any radiator or anywhere under high temperature.
- 7) To prevent rupture or damage of power cords, please handle and keep them properly.
- 8) Please immediately unplug power cord and have the device repaired, when
  1. Liquid splashes to the device.
  2. The device is dropped down or cabinet is damaged.
  3. Obvious malpractice is found or performance degrades.






# Accessory Package

Please unpack the product with care, and then check whether all the following items are included in the package. If anything is found missing, please contact the dealer.

## Standard Accessories

The accessories supplied with this product may differ from the following pictures, but they are applicable for the regions where you live

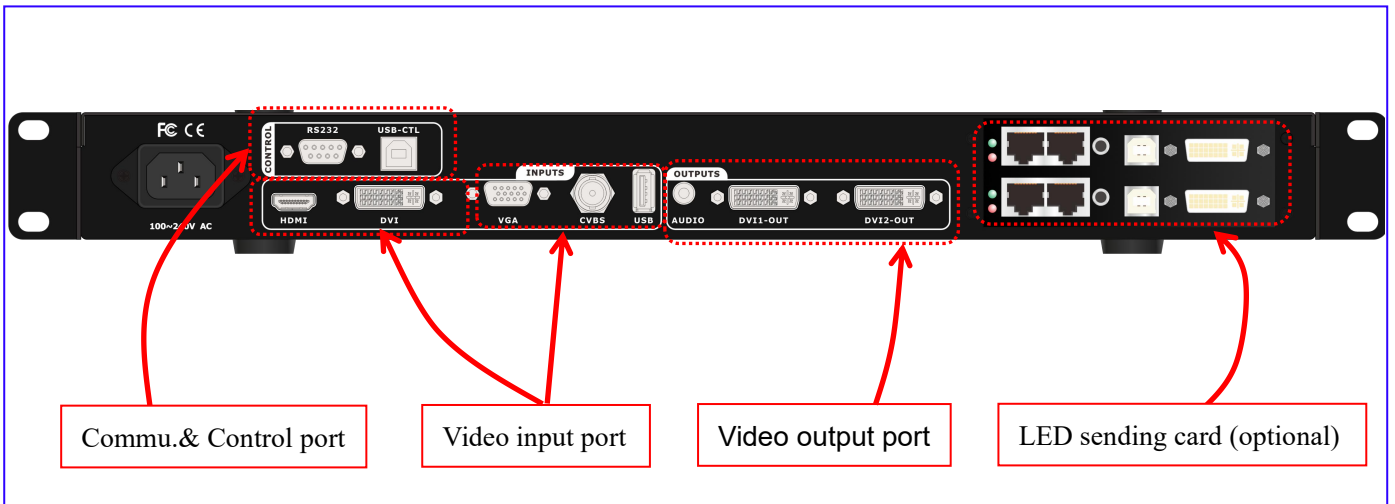
### Spare List:

		
1.5m Power Cable x 1	0.5m DVI cable x 1	1.5m HDMI cable x 1
		
Product USB disk x 1	User manual x 1	

# Hardware And Connection

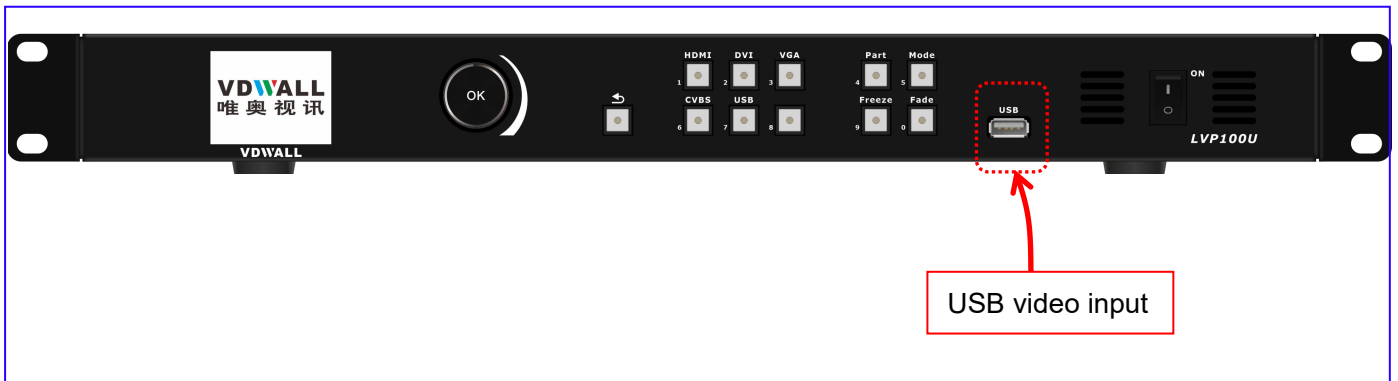
## C-1) Signal Port

Rear panel signal port



Picture 1

Frontal panel control port



Picture 2

## C-2) Port Description

**LVP100U** is equipped with 1 video input card which can access in 6 channels of video source, includes HDMI, DVI, VGA, CVBS, USB(Front) and USB(Rear), if both front and rear USB ports have valid signal, front USB port secure higher priority.

**C-2-1) Video Input Port**

Port	Description
<b>HDMI</b>	HDMI1.4 digital video input (compatible with 2K60Hz and below format)
<b>DVI</b>	DVI digital video input (compatible with 2K60Hz and below format)
<b>VGA</b>	VGA analogue video input (compatible with 2K60Hz and below format)
<b>CVBS</b>	CVBS analogue video input (compatible with PAL, PAL-M/N, NTSC, SECAM)
<b>USB(Front)</b>	USB2.0 digital video input
<b>USB(Rear)</b>	USB2.0 digital video input

**C-2-2) Video Output Port**

**LVP100U** maximum driving capability is 2.65 million pixels, support dual DVI outputs with mirrored image, one channel stereo audio output.

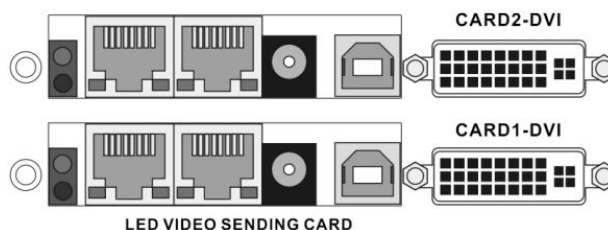
DVI output and Audio output:

Port	Description
DVI1-OUT	Channel 1 DVI output
DVI2-OUT	Channel 2 DVI output
AUDIO	Stereo output

**C-2-3) LED Sending Card (Optional)**

**LVP100U** is optional of dual sending card built in, support 4 RJ45 Ethernet ports output, each port can drive 0.65 million pixels. Before sending card installation, dismantle the top cover and slot baffle first, then screw fix the sending card inside. 4 x 5V DC power connector and 2 x 4 PIN power provided.

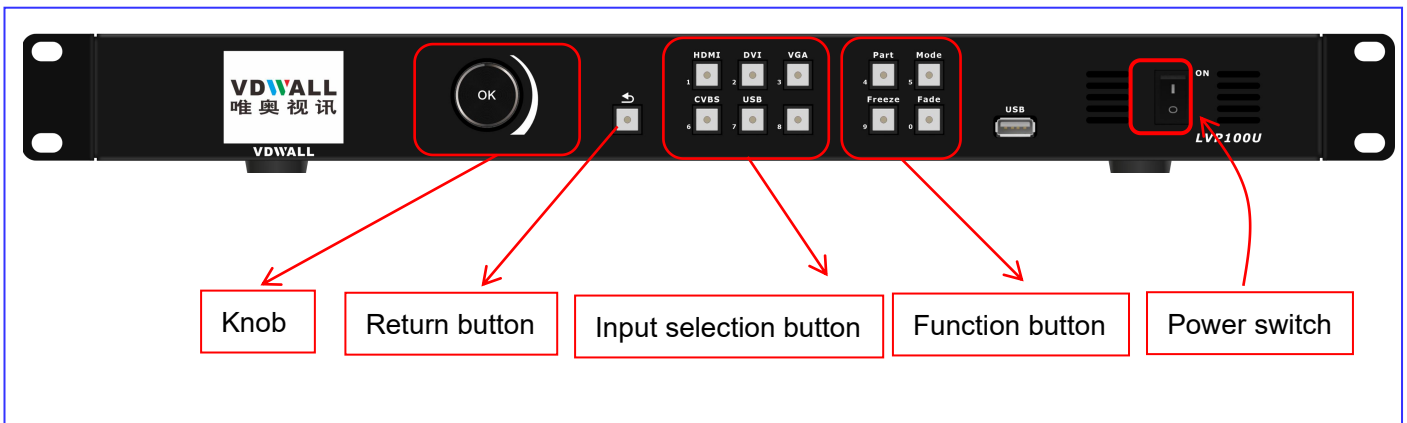
LED Sending Card



### C-2-4) Communication And Firmware Update Port




Position	Port	Description
Rear Panel	USB-CTL	Establish communication between control PC and processor, put firmware file into target disk, then reboot processor, firmware update will automatically start up
	RS232	Establish serial communication between control terminal and <b>LVP100U</b>

### C-3) Control Button Description

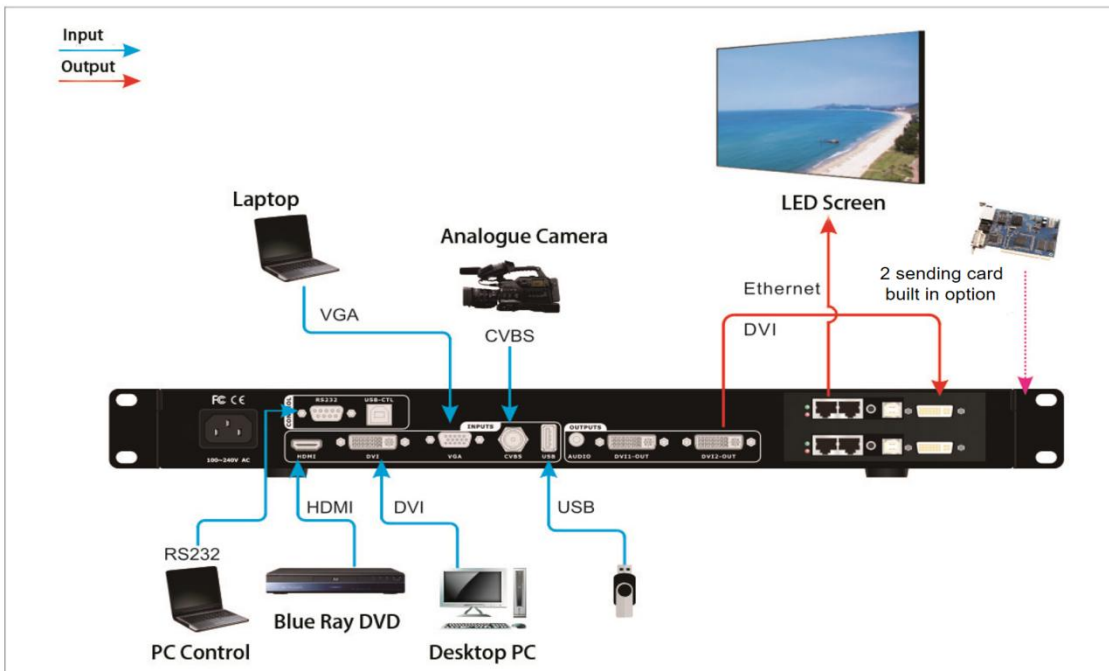


Picture 3

Button	Description
	Return button. In menu setup, return to upper menu till exit menu setup
	<b>Knob</b> 【OK】 button. In menu setup, rotate to select menu or adjust parameter value, press to confirm and apply adjustment
	HDMI, DVI, VGA, CVBS, USB input selection button. If selected channel have valid signal, indicator light on, or else flicker
	Partial image display button, after user complete image cropping configuration in setup menu, press this button to apply
	Press this button to save current display mode, Max 10 preset modes provided, preset[1]~[10] free selection

	Image freeze button
	Fade switching effect, 5 image transition interval options, 0.5s/1s/2s/3s and seamless switch
	AC power button

### C-4) Connection Diagram



Picture 4

### C-5) Specification

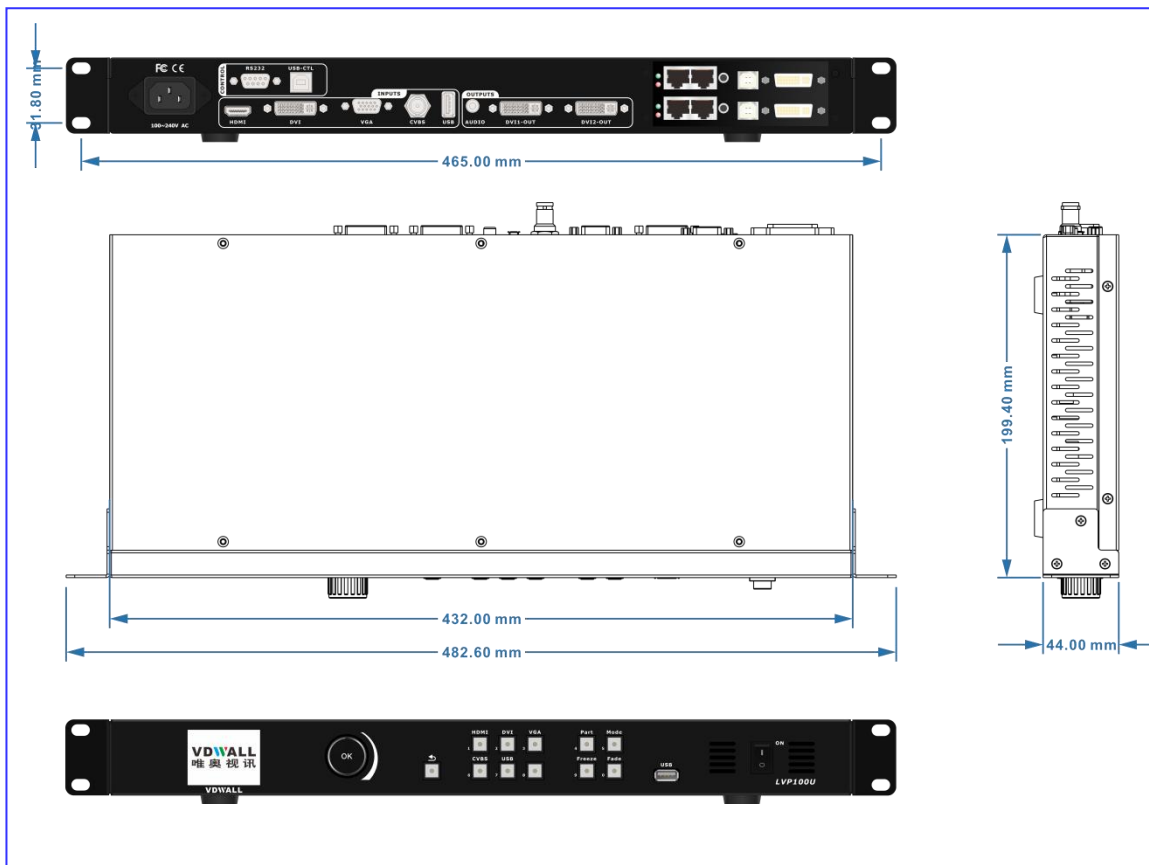
Input Signal		
Amount / Type	1×CVBS 1×VGA (RGBHV) 1×DVI (VESA / CEA-861) 1×HDMI (VESA / CEA-861) 2×USB (USB2.0)	
Composite Video	PAL / NTSC	
Video Amplitude/ Impedance	1V (p_p) / 75Ω	
HDMI	PC (VESA Standard)	≤1920x1280@60Hz
	HDMI1.3 (CEA-861)	



DVI	PC (VESA Standard)	≤1920x 1280@60Hz
	DVI1.4 (CEA-861)	
VGA	VGA (RGBHV Standard)	≤1920×1080@60Hz
CVBS	Support PAL, PAL-M/N, NTSC, SECAM format	
USB	USB2.0 standard	≤1920 x 1080@60Hz
Input Terminal	CVBS: BNC VGA: 15pin D_Sub ( Female ) DVI: 24+1 DVI_D HDMI: HDMI Type A	
Output Signal		
Amount / Type	2x DVI 1x AUDIO	
DVI Format	1024×768@60Hz 1280×720@60Hz 1280×1024@60Hz 1600×1200@60Hz 1920×1080@60Hz 1920×1200@60Hz 1920×1280@60Hz	
Customized Output Resolution	@60Hz: (2.65 million pixels) 4096*640@60Hz 3840*720@60Hz 2560*1080@60Hz 1340*2018@60Hz  @30Hz: 530 (5.3 million pixels) 4096*640@30Hz 3840*720@30Hz 2560*1080@30Hz 1340*2018@30Hz	
AUDIO Format	Stereo Output	
Output Terminal	DVI OUT: 24+1 DVI_D AUDIO OUT: AUDIO	
Others		
Control Port	RS232	
Control& Update	USB-CTL	
Input AC Power	100-240VAC 50/60Hz	

Power Consumption	22W
Ambient Temperature	0-50℃
Ambient Humidity	15-90%
Device Dimension	482.6(L) x 200(W) x 44(H) mm
Packaging Dimension	535 (L) x315 (W) x145 (H) mm
Weight	GW: <b>4Kg</b> , NW: <b>2.5Kg</b>
Standard Accessory	1.2M Power Cable×1    0.5M DVI Cable×1 1.5M HDMI Cable×1    User Manual × 1    USB Disk×1
Optional Accessory	Sending Card×2

### C-6) Installation Dimension

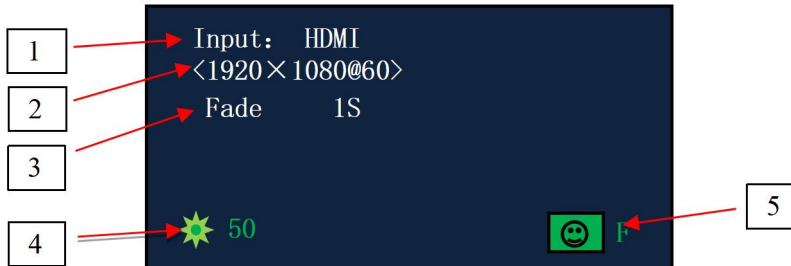


Picture 5

## Menu Setup

When **LVP100U** power on, system will automatically detect hardware state and software configuration.

After boot up, default LCD display is as following



### Description:

Item	Description
1	Input signal format and connection status
2	Output resolution
3	Switch effect
4	Brightness
5	P represents pixel to pixel partial display, F means full screen display

### Operations allowed in default menu state:

- 1) Input signal switch
- 2) Function button
- 3) Enter menu setup

### D-1) Main Menu

**LVP100U** provides default menu and main menu dual modes, press **OK** and **↩** button to switch different menu mode. In main menu mode, if there is no operation in 1 minute, system will automatically return to default menu; in default menu mode, if there is no operation in 1 minute, processor LCD display logo image.

Main menu interface is as following:



Menu description:

Main Menu		Menu Item	
1	Language	1	<b>Language/语言</b>
2	Output Image Setup	2	<b>Resolution</b>
		3	<b>DVI EDID</b>
		4	<b>Out_Hori_Width</b>
		5	<b>Out_Hori_Start</b>
		6	<b>Out_Vert_Height</b>
		7	<b>Out_Vert_Start</b>
3	Brightness / Color / CVBS Clearness	8	<b>Brightness</b>
		9	<b>Saturation</b>
		10	<b>CVBS Sharp</b>
4	Device Initialization	11	<b>Device Reset</b>
5	Device Info	12	<b>Device Info</b>

### D-1-1) Language

#### D-1-1-1) Language

**LVP100U** provides dual language option, select menu 1) Language/语言, rotate **OK** button to change language, press **OK** button to apply.



**D-1-2) Output Image Setup****D-1-2-1) Output Resolution****D-1-2-1-1) Change Output Resolution**

**LVP100U** is built with 2 DVI OUT ports , provides 7 preset output resolution. Under main menu, press **OK** button to enter **2) Resolution** , rotate **OK** button to select target resolution, press **OK** button to apply. The selected output resolution should be larger than LED screen resolution.

7 preset output resolution is described as following:

No.	Option
1	1024×768_60Hz
2	1280×720_60Hz
3	1280×1024_60Hz
4	1600×1200_60Hz
5	1920×1080_60Hz
6	1920×1200_60Hz
7	1920×1280_60Hz

Menu interface is as following:



**D-1-2-1-2) Customized Output Resolution**

**LVP100U** support customized output resolution, the Max width reach to 4095 pixels and Max height up to 2018 pixels, frequency 15~60Hz adjustable. Under main menu, press **OK** button to **2) Resolution**, rotate **OK** button to select **Custom Resolution**, configure **Horizontal Width**, **Vertical Height** and **Frequency** parameters, select **OK** to confirm and apply. The customized output resolution should be larger than LED screen resolution.

```

===== Customer =====
Horizontal Width          1920
Vertical Height           1080
Frequency                 60
Change
Advance                   >>>
Tips: <Change> to apply.

```

Advance setup is described as following

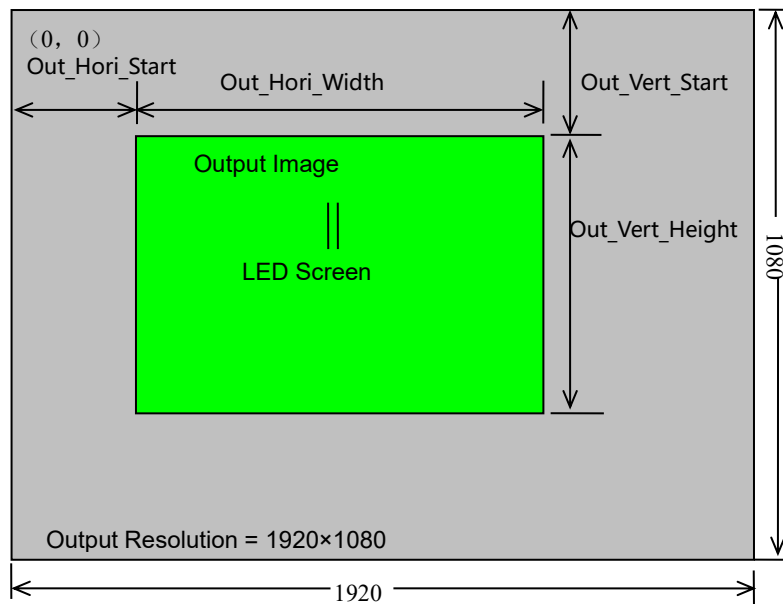
```

===== Customer =====
H Front Porch             40
H Sync Width              40
H Back Porch              40
V Front Porch             16
V Sync Width              14
V Back Porch              8

```

**D-1-2-1-3) Output Image Setup**

LED screen adopt flexible resolution to fit with various application occasion, requires proper output image parameter setting to achieve flawless whole image display.



As described above: **LVP100U** output image size&position are defined by following 4 parameters

Item	Menu
4	<b>Out_Hori_Width</b>
5	<b>Out_Hori_Start</b>
6	<b>Out_Vert_Height</b>
7	<b>Out_Vert_Start</b>

Operation procedure:

Rotate **OK** button to select menu or adjust parameter, press **OK** to confirm selection or apply configuration.

### D-1-2-2) DVI EDID

#### D-1-2-2-1) DVI EDID

**LVP100U** Support DVI EDID function to optimize extra wide or height display. Preset DVI EDID includes 1920x1080@60Hz, 1920x1200@60Hz, 1024x768@60Hz, 1280x720@60Hz, 1280x1024@60Hz, 1600x1200@60Hz.

Under menu 3. DVI EDID, rotate **OK** button to select proper resolution, press **OK** button to activate setting.

```

3) DVI EDID
   1920×1080 60Hz
4) Out_Hori_Width
   1920
! Turn to set, <OK>Enter

```

#### D-1-2-2-2) Customized EDID

LVP100U support user definable DVI EDID function to optimize extra wide or height display.

Under menu 3. DVI EDID, rotate **OK** button to select Custom EDID, press **OK** button to EDID Manager menu, use **OK** button to adjust Hori\_Width and Vert\_Height, select Burn menu then press **OK** button to activate EDID.

```

----- EDID Manager -----
Hori_Width           1920
Vert_Height          1080
Burn

```

#### D-1-2-3) Out\_Hori\_Width

Enter menu 4) Out\_Hori\_Width to configure output image width, adjustment range: 64~1920, press **OK** button to confirm and apply.

```

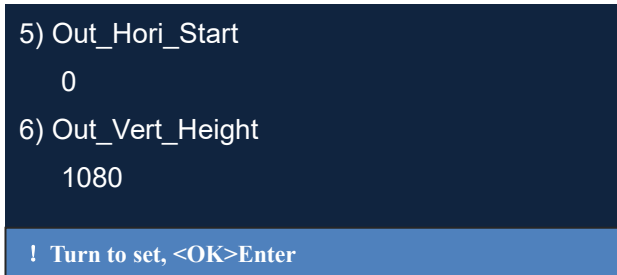
3) DVI EDID
   1920×1080 60Hz
4) Out_Hori_Width
   1920
! Turn to set, <OK>Enter

```

#### D-1-2-4) Out\_Hori\_Start

Enter menu 5) Out\_Hori\_Start to configure output image horizontal start, adjustment range: 0~1856,  $\text{Out\_Hori\_Width} + \text{Out\_Hori\_Start} \leq 1920$ , press **OK** button to confirm and apply.





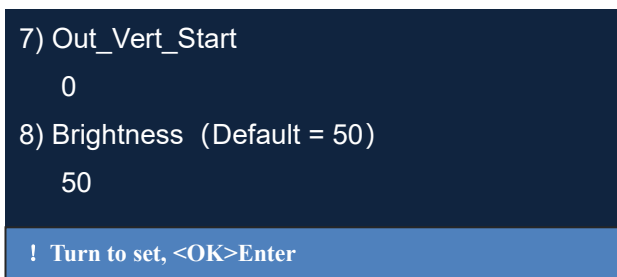
#### D-1-2-5) Out\_Vert\_Height

Enter menu 6) **Out\_Vert\_Height** to configure output image height, adjustment range: 32~1080, press **OK** button to confirm and apply.



#### D-1-2-6) Out\_Vert\_Start


Enter menu 7) **Out\_Vert\_Start** to configure output vertical start, adjustment range: 0~1048,  $\text{Out\_Vert\_Height} + \text{Output V\_Start} \leq 1080$ , press **OK** button to confirm and apply.



### D-1-3) Brightness / Saturation / CVBS Sharp

#### D-1-3-1) Brightness

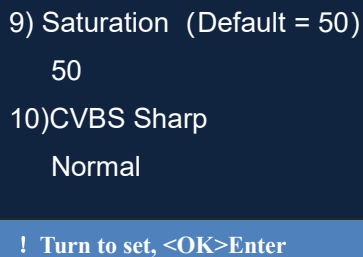
Enter menu 8) **Brightness** to adjust image brightness, adjustment range: 0~100. Default value is 50, press **OK** button to confirm and apply.



7) Out\_Vert\_Start  
0  
8) Brightness (Default = 50)  
50  
! Turn to set, <OK>Enter

#### D-1-3-2) Saturation

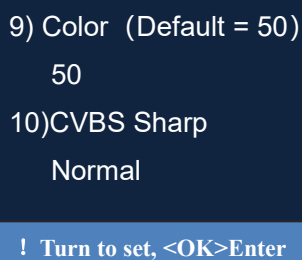
Enter menu 9) Saturation to adjust image color, adjustment range: 0~100. Default value is 50, press **OK** button to confirm and apply.



9) Saturation (Default = 50)  
50  
10) CVBS Sharp  
Normal  
! Turn to set, <OK>Enter

#### D-1-3-3) CVBS Sharp

Enter menu 10) CVBS Sharp to configure CVBS image quality, options include normal or sharp, default is normal, press **OK** button to confirm and apply.

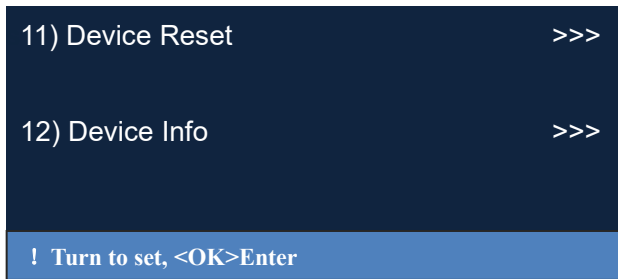


9) Color (Default = 50)  
50  
10) CVBS Sharp  
Normal  
! Turn to set, <OK>Enter

### D-1-4) Device Reset

#### D-1-4-1) Device Reset

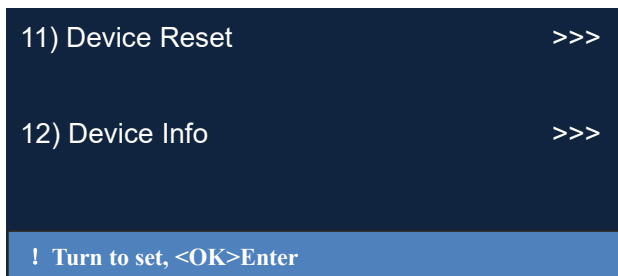
Enter menu 11) Device Reset to reset **LVP100U** to factory mode, press **OK** button to confirm and apply, rotate **OK** to confirm or cancel.



### D-1-5) Device Info

#### D-1-5-1) Device Info

Enter menu 12) Device Info to check LVP100U device info, press **OK** button to check device information, rotate **OK** button to turn page.



## D-2) Preset Mode Setup

### D-2-1) Preset Mode Setup



One key recall different display mode, simplify on site operation, liberate people from time consuming configuration, greatly enhance labor efficiency. Press **Mode** button, enter preset mode menu, each mode memorizes the input channel, display mode, image quality and other critical parameters. LVP 100U provide 10 preset modes, refer to following description of preset mode operation.

Press **Mode** button, rotate **OK** button to select "Recall", "Save", "Erase". select "Save", press **OK** button to confirm, rotate **OK** button to select preset position, press **OK** to apply.

Notice: Must delete existed preset mode before writing in new mode.

Can't recall the preset mode that haven't been written in.

Appendix: Manual Update Record

Version	Date	Description	Draft
V1.0	2023.4.21	First Release	ZJB