Shenzhen Great Video Technology Co., Ltd.

Great Video

L1 User Manual

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L1

1. Product Features

- **Supports seamless switching between all the signals**

- **Supports Customizable resolution within 250W pixels**

- **PIP combination of any two signals**

- **Supports EDID management, to realize pixel to pixel**

- **Multiple units could be cascaded**

- **With built-in slot for 2 sending cards**

- **Support thirty party control system with open protocol**

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2 Product Introduction

Thank you for using the Great Video 2K device.   We hope you can enjoy the excellent performance of this product.

L1 is a smart and easy-to-use 2K video prdocessor wihtout any limit.

L1 supports inputs of HDMI\DVI\VGA\CVBS\SDI, with broadcast-quality Motion Adaptive DeInterlacing Technique, True Color Restoration and Dynamic Range Adjustment, seamless switching, Anti- aliased function, Customizable output width and height, it provides you high quality images,   easy-to-operate experience.
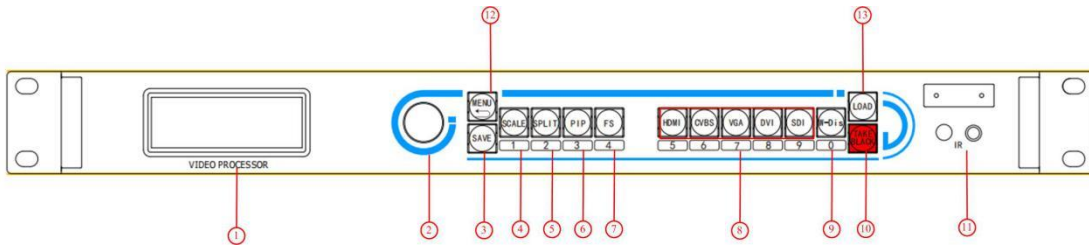
L1 System Connection Diagram

Great Video offers you the most professional video solutios with the

best price, for any inquiry, welcome to contact us:

Tel: +86 0755-86709019   Email: bill@szgreatvideo.com
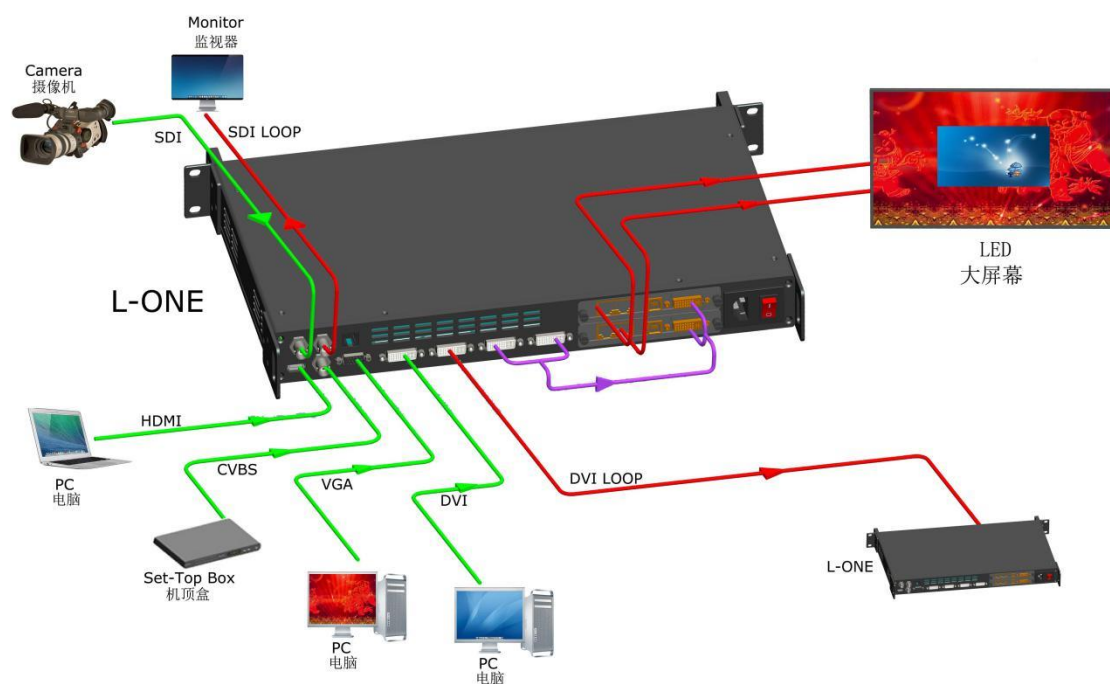
3 Hardware Overview

Front Panel

OLED display panel

1	Display the current working status and menu for buttons control

Knob

2	Use for menu selection: rotating knob to find the option, and press the knob to confirm

Buttons

3	**SAVE button** To save the paratmeters after setting, by using "LOAD" to load the saved datas. Press SAVE, the buttons "SCALE…..BLACK" are representing saving modes of 1\2\3\4\5\6\7\8\9\0 separately, press any button to save the current parameters to the specified saving mode.
4	**Scale** To adjust the size and position of the picture, input numbers by the "1-0" buttons under M1-DVI4, or using the knob.
5	**SPILT** To make multiple units cascaded, and setting split parameters.
6	**PIP** Turn on two dual-signal-display and adjust pictures' layout between layer A and i layer B
7	**FS**

	Press FS button to show in the full-screen display mode
8	**INPUT** To select source signal, the button lights up while ued as input. When there are more than 2 buttons lighting up, the one flashing is the one just be chosed, and the steady lighting one is the source signal displayed, M1 represents SDI input.
9	**Balck** Press to show blackscreen
10	**TAKE** In the working mode of TAKE, choose the pre-set picture, and press TAKE to switch into the main output Press TAKE for 5 seconds to enter into TAKE working mode, press 5 seconds to turn off it.
11	Infrared interface: used to receive the remote signal (optional)
12	**MENU** Press to enter into the menu, by using knob to find the specified menu, press MENU again to return to the previous menu.
13	**LOAD** To load the pre-set saving modes.。 Press LOAD, buttons of "SCALE---BLACK" are representing saving modes of 1\2\3\4\5\6\7\8\9\0, press any of the key to load the corresponding saving mode.

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Rear Panel
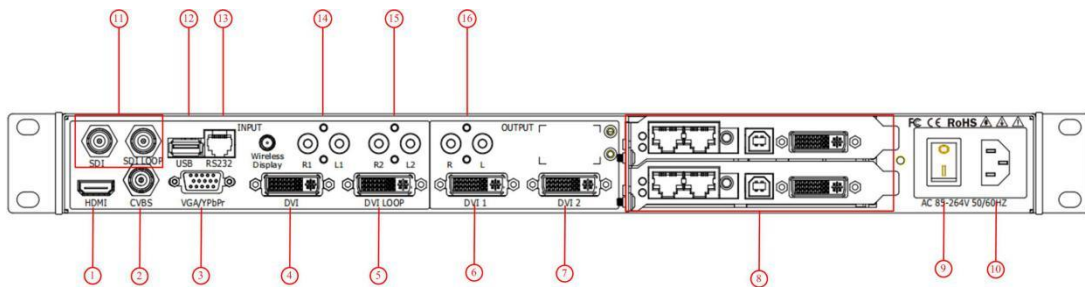
Input connectors

1	**HDMI1.3 input connector**
	Supports 2560*816*60 and 2k input
2	**CVBS input connector**
	Supports input of 576i and 480i
3	**VGA\Ypbpr input connector**
	Supports 2k input, this could be set as VGA or Ypbpr input In the advanced menu.
4	**DVI input connector**
	Supports 2k input and user defined EDID
11	**SDI input connector and SDI LOOP output connector**
	Optional module, suppots 3G SDI\HD SDI\SD SDI
14	**LR1 audio input interface**
	Support the L + R audio input can choose corresponding DVI, VGA \ CVBS video signal (the default CVBS)
15	**LR2 audio input interface**
	Support the L + R audio input can choose corresponding DVI, VGA \ CVBS video signal (the default CVBS)

Output connectors

5	**DVI LOOP output connector**
	Output the original DVI signal to another device, usually used in cascading to another device
6	**DVI1 output connector**
	Output to the monitor or sending card display screen.

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7	**DVI2 output connector** Output to the monitor or sending card display screen, the same picture as DVI 1
8	**Card slot**：Built-in card slot for 2 sending cards(04 RJ45) **Operation Control:** Button，RS232, Type-B USB port for connecting to PC
16	**LR audio output interface** **Support the L + R audio output**

Swiching and power supply

9	IEC-Power connector：AC 85-264V，50/60HZ，maximum power 45W
10	Power switch

Control Connector

12	**USB** Type-B USB port for connecting to PC
13	Connection used by RS 232, controlled by

4 Operations

➤ **Menu structure**

➤ **Output resolution**

➤ **Screen parameters**

➤ **PIP**

➤ **AUDIO**

➤ **Cascading**

➤ **EDID management**

➤ **System settings**

➤ **Language**

Menu structure

OUTOUT FORMAT	SCREEN PARAMETERS	PIP	AUDIO	SPILT	EDID MANAGEMENT	ADVANCE	LANG/语言
1280*720@60	H SIZE	ON/OFF	MUTE	ON/OFF	INPUT	INPUT	ENGLISH
1536*1536@60	V SIZE	LAYOUT	VOLUME	H TOTAL	SOURCE	OUTPUT	中文
1600*1200@60	H POS	SELECT	AUDIO IN	V TOTAL		TRANSITION	
1920*1080@60	V POS	ALPHA	HDMI AUDIO	H POS		IMAGE QUALITY	
1920*1200@60	MODE	TEXT OVERLAY	DVI AUDIO	V POS		SYSTEM	
2048*1152@60	SCREEN FOLLOW SCALE		CVBS AUDIO	H SIZE		FACTORY RESET	
2560*960@60	RESET		VGA AUDIO	V SIZE			
3840*540@60				SAVE TO			
1080*1920@60							
3840*1080*30							
CUSTOM							

Output Resolution
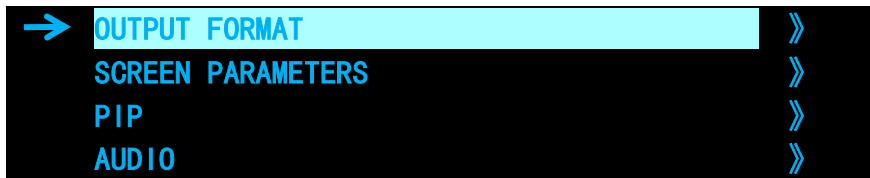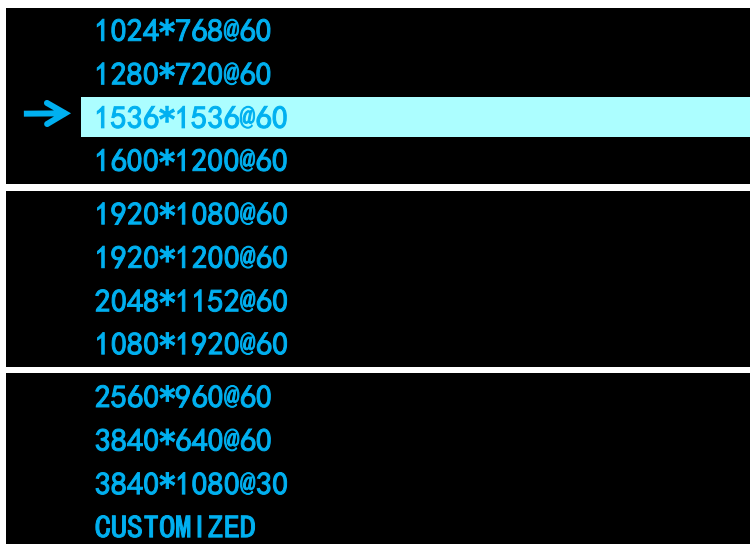
L1 default output resolution is 1920*1080*60, scale to adjust the picture when the screen is

smaller than 1920*1080, set the output resolution as below

Pree MENU to find the resolution option and press knob to confirm.

➡ OUTPUT FORMAT	》
SCREEN PARAMETERS	》
PIP	》
AUDIO	》

Turning the knob to find the correct resolution, or choose "Custom Resolution", press knob to

confirm

```
      1024*768@60
      1280*720@60
  ➡   1536*1536@60
      1600*1200@60
      1920*1080@60
      1920*1200@60
      2048*1152@60
      1080*1920@60
      2560*960@60
      3840*640@60
      3840*1080@30
      CUSTOMIZED
```

Enter into "Customized" press knob to confirm

```
      CUSTOMIZED：
      *2880x768@60
```

Input resolution you want such as: 2880x768@60HZ

Input 2880 by the number buttons, press knob and then input 768, press knob than input 60,

press knob again, resolution changed after the icon * changed into ->

```
      CUSTOMIZED：
      2880x768@60
```

Press MENU, return to the previous menu to check if it was changed successfully

```
IN HDMI：1920 X 1080 @ 60


OUTPUT : 2880 X 768 @ 60
```
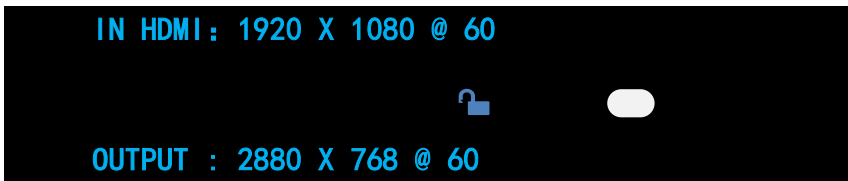
Screen Parameters Adjustment

After resolution set, scale to draw your image full screen, for example, how to make picture full-fill the screen size of 1536*1080

1、press SCALE, turning the knob to find the width, press knob to revise it, when the ico changed from -> into *, 10 buttons "scale----black" light up, they are representing numbers of 1-2-3-4-5-6-7-8-9-0

SCALE	SPLIT	PIP	FS		HDMI	CVBS	VGA	DVI	M1	BLACK
1	2	3	4		5	6	7	8	9	0

input 1536，press knob to confirm

Find the height in the same way, revise it into 1080

```
➡  H SIZE                    1536
   V SIZE                    1080
   H/V SIZE                  1536
   H POS                        0
```
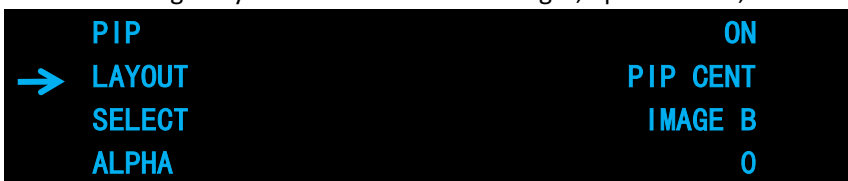
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PIP Setting

Dual pictures display: how to make PIP-one picture in the centre of the other one on a screen

of 1920*736

Turn on PIP: PIP could be active by PIP button or PIP in MENU

➡ OUTPUT FORMAT	》
SCREEN PARAMETERS	》
PIP	》
AUDIO	》

Choose the right layout-"centered": left and right, up and down, centered

|	
PIP	ON
➡ LAYOUT	PIP CENT
SELECT	IMAGE B
ALPHA	0

Select AB layers to adjust, A represents the bottom bigger picture, and B represents the smaller
one (as long as PIP is available, SPILT button could also be used to select layer A or layer B)

PIP	ON
LAYOUT	PIP CENT
➡ SELECT	IMAGE B
ALPHA	0
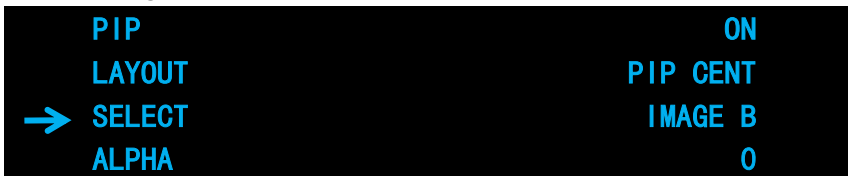
Start with layer A, Firstly press DVI to switch source signal into DVI
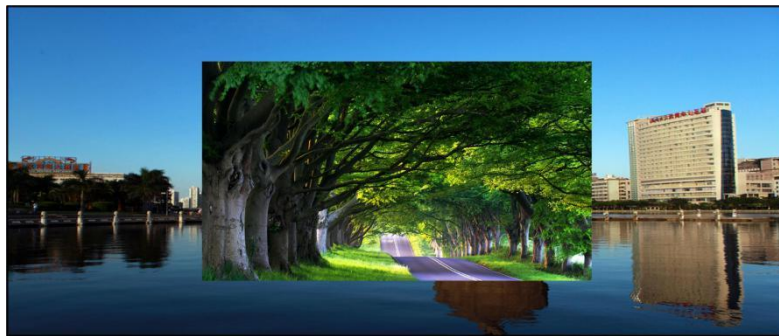

Set picture size of layer A: press Scale to set the layer A size into 1920*736, layer A size was set

successfully

➡ H SIZE	1920
V SIZE	736
H/V SIZE	1920
H POS	0
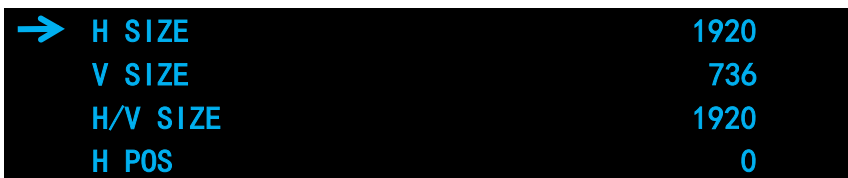
Press SPILT to layer B, use HDMI as the source for the smaller picture

Revise picture size of layer B: press Scale to revise size and position of layer B

Press SAVE to save all above parameters into a saving mode, it could be easily used by press

"LOAD" in the future applications.

AUDIO

Adjust the audio input and output equipment

Mute: select device volume closed or opened

Volume: sound equipment size can be adjusted

AUDIO IN: PIP can choose A sound or image B image noise

HDMI audio: can choose embedded audio or external audio 1 \ external audio 2

DVI audio: can choose embedded audio or external audio 1 \ external audio 2

VGA audio: optional external audio 1 \ external audio 2

CVBS audio: optional external audio 1 \ external audio 2

Cascading

Multiple controllers can be cascaded for uniform control

For example, there is a screen 3328*960, 1792*960 on the left, 1536*960 on the right, adjust the picture to full fill the screen, 2 sending cards and two units of L1 used here.
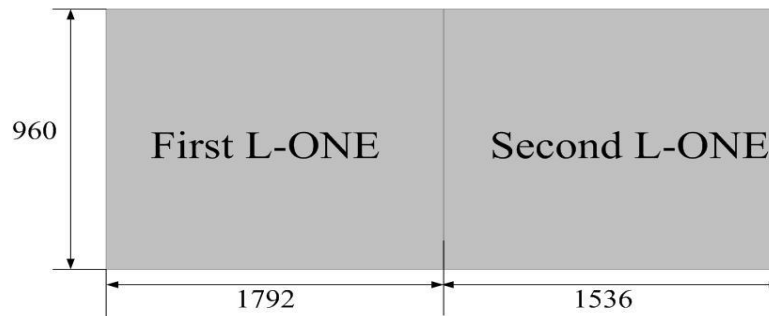
Setting as below

Supply DVI input for the first unit of L1, the same signal wrere give to the second L1 by DVI LOOP out. The fisrt L1 DVI1 output to the sending card for the left screen and the second DVI1 output to the sending card for the right screen.
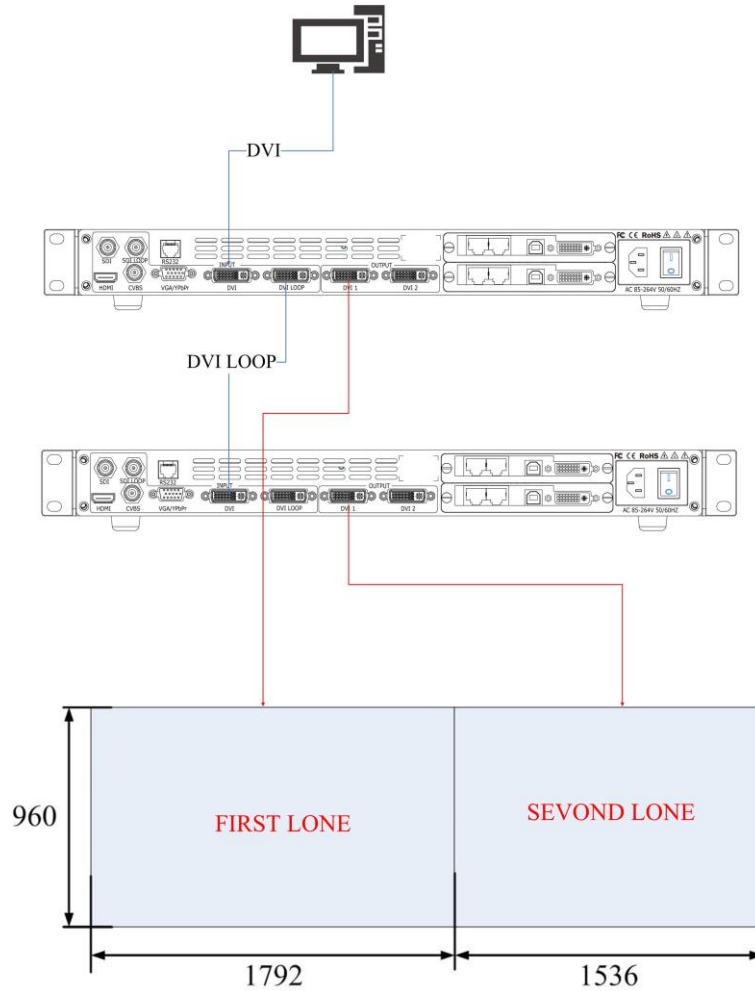
Parameters setting of the first L1

Press SPILT to enable button control

→	SPILT	ON
	H TOTAL	3328
	V TOTAL	960
	H POS	0

Input height and width of the whole screen 3328*960

	SPILT	ON
	H TOTAL	3328
→	V TOTAL	960
	H POS	0

Input the position of the current device covers, the default position is 0,0 (0 in horizontal and 0 vertical)

	SPILT	ON
	H TOTAL	3328
	V TOTAL	960
→	H POS	0

→	V POS	0

H SIZE	1792
V SIZE	960
SAVE TO	》

Input the width and height covered by this device 1792*960

V POS	0
H SIZE	1792
➔ V SIZE	960
SAVE TO	》

Save all aboe settings into saving mode 2

Parameters setting of the second L1

The second L1 is for the screen on the right, so the position is behind the first screen, the total width and height is the same as the first L1

➔ SPILT	ON
H TOTAL	3328
V TOTAL	960
H POS	1792

Set the current screen width and height 1536*960。

V POS	0
H SIZE	1536
V SIZE	960
SAVE TO	》

Save all aboe settings into saving mode 2as well

All the settings were finished, tiny adjustments could be done if there is any problem else.

EDID management

PC output resolution is 1920*1080, how to make a screen 1536*1536 pixel to pixel, EDID management of L1 could make it!

Steps:
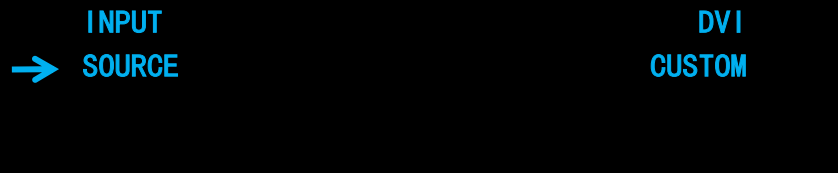
1. Press MENU, turning knob to EDID Management

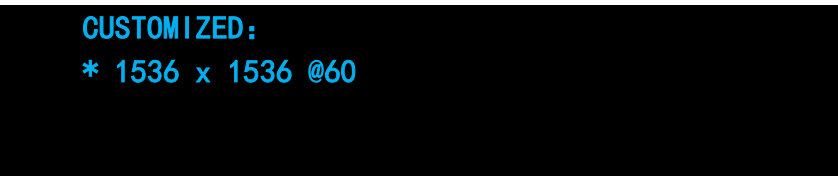| ➔ EDID MANAGEMENT	》
ADVANCE	》
语言/LANG	ENG

2. Press knob to enter EDID editing, choose DVI

➔ INPUT	DVI
SOURCE	YDSDVI

3. Find EDID source, choose user-defined

```
   INPUT                           DVI
➡  SOURCE                       CUSTOM
```

4. Press the knob to confirm, set the resolution as abovementioned, input X through number

    buttons, press knob to confirm

```
CUSTOMIZED：
* 1536 x 1536 @60
```

5. EDID modification finished, some PC need to be plugged in and out to enable it.

Advanced settings

Input

ZOOM: crop the picture, cut off unnecessary part of the picture, enlarge picture in the following methods.

```
➡  H SIZE                       100%
   H SIZE                       100%
   H POS                         50%
   V POS                         50%
```

```
   RESET                        100%
   V UP                            0
   V DOWN                          0
   V UP/DOWN                       0
```

```
   H LEFT                          0
   H RIGHT                         0
   H LEFT/RIGHT                    0
```

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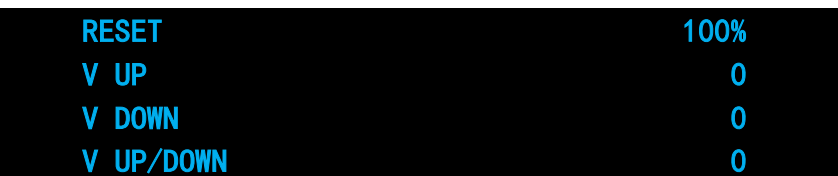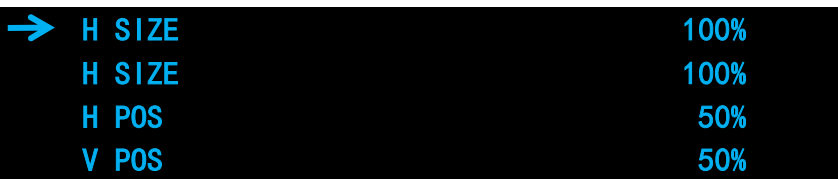
```
   CENTER                        0
→  RESET
```

SDI adjustment：adjust VGA input offset

```
→  H POS                       188
   V POS                        41
   ANTI-ALIAS               STEP_1
   RESET
```

VGA adjustment：adjust VGA input offset

```
→  AUTO ADJUST
   H POS                       800
   V POS                       800
   CLOCK                       800
```

```
→  PHASE                       800
   VGA TYPE                     VGA
```

ADC adjustment: adjust offset of signals like CVBS etc.

```
→  ADC AUTO ADJUST              》
   ADC RESET ALL                》
```

Output

Output signal selection: change output singal in DVI or HDMI format

Bit depth: adjust output bit depth

Colour range: adjust into image or video, when" black screen function "is not working, you should firstly check the colour rang here.

DE adjustment: Used to adjust the output offset

```
→  DVI                        DVI 2
   DVI MODE                     DVI
   BIT DEPTH                  8 BIT
   DATA RANGE                 IMAGE
→  DEADJUST                     》
   TESET
```

Special-effect transitions (double-click MENU)

Deinterlacing: all interlace lines would be removed after deinterlacing enabled

Image enhancement: this function is valid for main source signal defaultly, screen would be black for a few seconds when switching into the other siganal

Switching mode: Multiple switching modes like pull - curtain switching and fade in fade out,

straight cut, etc ： Multiple curtain switch and fade in and fade out, straight cut and so on

Switching Time: switching time could be set between 0~3 seconds

```
➜  DEINTERLACE                        ON
   IMAGE ENHANCE                      OFF
   MODE                          DISSOLVE
   FADETIME                          0.5s
```

Image quality adjustment：Brightness, contrast, saturation, sharpness etc could be adjusted according to your request.

```
➜  BRIGHTNESS                         51
   CONTRAST                           55
   SATURATION                         50
   SHARPNESS                          50
```

Advanced setting

Serial NO.：Serial NO.

Version NO.: Device program version NO.

Hot backup: hot backup for input,

After enable hot backup, set the first group as backup signal

input would be automatically switch to the second group when first signals disappeared

input would be automatically switch to the third group when losing the second signals

```
➜  HOT BACKUP                        OFF
   BACKUP_1                          DVI
   BACKUP_2                         HDMI
   BACKUP_3                          VGA
```

Customizable buttons: Black button could be customized

Factory reset: Settings and options will be restored to factory state.

Language: To choose language in English or in Chinese