

V-One 4K Video processor User Manual

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1. Product Features



- Support DP1.2, HDMI1.4, HDMI2.0, 4K@60Hz input
- Support EDID Management, standard 2K or 4K@60Hz, pixel to pixel mapping
- Support any customized resolution with any ultra-wide and ultra-high
- Support standard 2K and 4K signals seamless switching with preview
- Support standard 2K video input
- Support 4 backup outputs
- Support optional module
- Support central control with open protocol

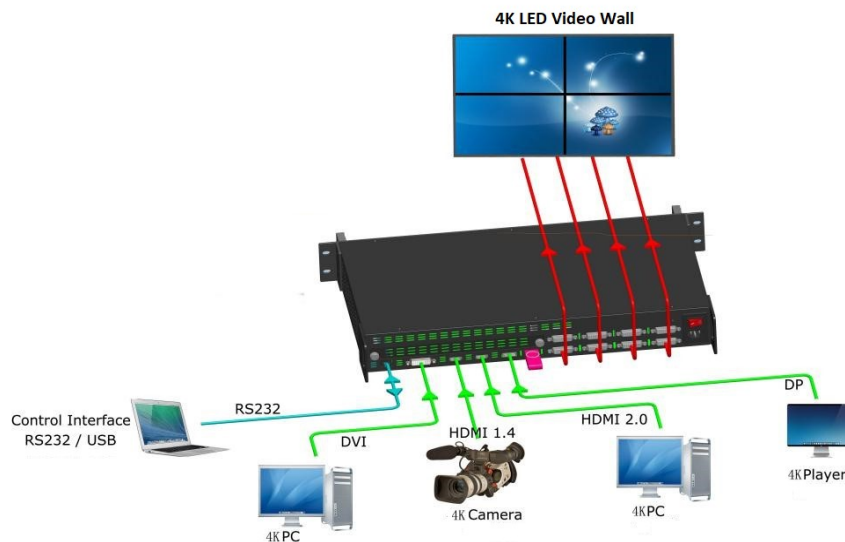
2. Product Introduction

With the popularization of 4K@30Hz video processor, 4K@60Hz becomes new requirements in the market. 4K Video processor is a new professional video switcher and video splicer according to customer new requirements.

4K Video processor not only supports common standard 2K input, HDMI1.4 (4K*2K@30Hz) input, but also support DP1.2 (4K*2K@60Hz) and HDMI2.0 (4K*2K@60Hz) . At the same time, it supports optional inputs. It can realize seamless switching between 4K and 2K, also with all signals preview mode.

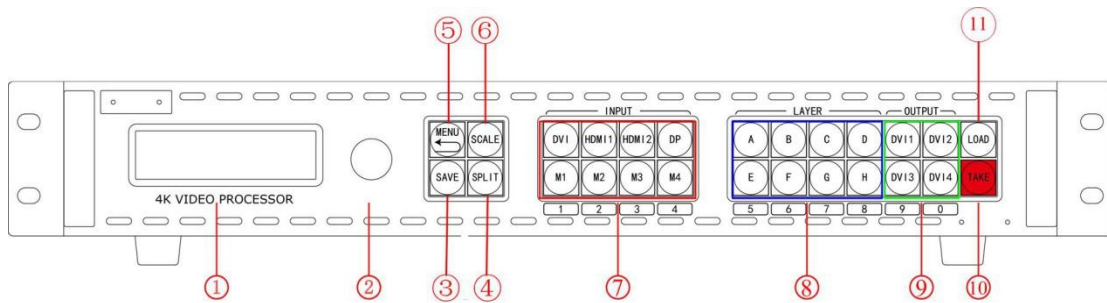
The device has 4 DVI main output and 4 DVI backup output. It supports any customized pixel and pixel split at most 1000W. Meanwhile, it supports multiple in and multiple out high-definition split, which can load 150 square of P3.91 LED screen at max.

4K Video processor System diagram



3. Hardware Overview

Front Panel



OSD Display

1	It displays current status of the device, and provides interactive choices in conjunction with buttons on the front panel.
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Rotary Button

2	This button uses for menu selections and confirmation.
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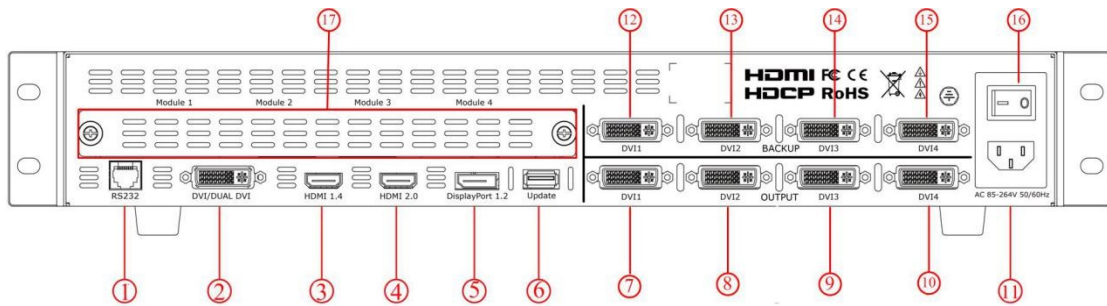
Button

3	<p>SAVE Button:</p> <p>It uses for saving the setting into mode, use LOAD Button to cooperate.</p> <p>Press SAVE button, then M1\M2\M3\M4\E\F\G\H\DV13\DV14 Button changes into silk-screen 1\2\3\4\5\6\7\8\9\0 SAVE channels. Press any one to save current setting into that channel.</p>
4	Split button: Split function button

	It uses for selecting split mode and split parameter setting.
5	<p>MENU Button: Menu and return previous page button</p> <p>It uses for entering into MENU and corresponding Menu function. Repress the MENU will come back to previous Menu.</p>
6	<p>Scale Button:</p> <p>It uses for size and position adjusting, working in with M1\M2\M3\M4\E\F\G\H\DVI3\DVI4 Button Silk-screen 1\2\3\4\5\6\7\8\9\0, or change the size and position by knob.</p>
7	<p>Input Area: Input signals choice button</p> <p>It uses for input signals, the user can choose the signals lights. When there are more than two signal inputs, the flashing red light means that the signal is in output.</p> <p>When setting output resolution or scaling, M1\M2\M3\M4 changes to number 1\2\3\4.</p>
8	<p>Layer area: Layer choice button</p> <p>This device has 8 layers at most, which uses for adjusting scaling of layer and signal. When choosing one of the layer, scaling the layer using SCALE button; press the signal at this time, which means the layer choose the signal. When setting resolution or scaling, E\F\G\H changes to number 5\6\7\8.</p>
9	<p>OUTPUT Area: Output port choice button</p> <p>It uses for adjusting the scaling and layer of each output. When choosing the layer with layer, the user can add the layer image into the output, at the meanwhile, the user can add more than one layer in one output to realize multiple pictures.</p>
10	<p>TAKE Button: Effect taking button</p> <p>It uses for taking the previewed image to main output when in preview mode.</p>
11	<p>LOAD button:</p> <p>Load the templates in SAVE button.</p>

When pressing LOAD button, M1\M2\M3\M4\E\F\G\H\DVI3\DVI4 button changes into 1\2\3\4\5\6\7\8\9\0 SAVE channels. Press any button among them, will take the saved image effect into the output channel.

Rear Panel



Control and Update Ports

1	<p>Port used by RS 232, controlled by</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>RS232</p> <table border="1"> <thead> <tr> <th>port</th> <th>RS-232</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>TX</td> </tr> <tr> <td>3</td> <td>RX</td> </tr> <tr> <td>5</td> <td>GND</td> </tr> <tr> <td>7</td> <td>---</td> </tr> </tbody> </table> </div> <div style="text-align: center;"> <p>RJ11</p> <table border="1"> <thead> <tr> <th>port</th> <th>RJ-11</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>---</td> </tr> <tr> <td>2</td> <td>RX</td> </tr> <tr> <td>3</td> <td>TX</td> </tr> <tr> <td>4</td> <td>GND</td> </tr> </tbody> </table> </div> </div>	port	RS-232	2	TX	3	RX	5	GND	7	---	port	RJ-11	1	---	2	RX	3	TX	4	GND
port	RS-232																				
2	TX																				
3	RX																				
5	GND																				
7	---																				
port	RJ-11																				
1	---																				
2	RX																				
3	TX																				
4	GND																				
6	<p>Connector for product firmware upgrades.</p>																				

Input Connector

2	<p><u>DUAL DVI Input Port</u></p> <p>Support 3840*2160@30Hz and 4K*1K\2K*1K input; support customize input</p>
3	<p><u>HDMI1.4 Input Port</u></p> <p>Support 3840*2160@30Hz and 4K*1K\2K*1K input; support customize input</p>
4	<p><u>HDMI2.0 Input Port</u></p> <p>Support 3840*2160@60Hz 3840*2160@30Hz and 4K*1K\2K*1K input; support customize input</p>
5	<p><u>DP1.2 Input Port</u></p> <p>Support 3840*2160@60Hz 3840*2160@30Hz and 4K*1K\2K*1K input;</p>
17	<p><u>Optional input ports</u></p> <p>Support DVI\HDMI\CVBS\SDI\VGA\USB etc Input port option.</p>

Output Connectors

7	<p><u>DVI output port</u></p> <p>Different Split mode: When facing the display, Horizontal 1/4 split (The leftmost display), Vertical 1/4 split (The uppermost display) and the field split (the left top display).</p>
8	<p><u>DVI2 Output port</u></p> <p>Different Split mode: When facing the display, Horizontal 1/4 split (The second display from left), Vertical 1/4 split (The second display from top) and the field split (the right top display).</p>
9	<p><u>DVI3 Output Port</u></p> <p>Different Split mode: When facing the display, Horizontal 1/4 split (The third display from left), Vertical 1/4 split (The third display from top) and the field split (the left bottom display).</p>
10	<p><u>DVI4 Output Port</u></p>

	Different Split mode: When facing the display, Horizontal 1/4 split (The fourth display from left), Vertical 1/4 split (The fourth display from top) and the field split (the right bottom display).
12	DVI1 Output backup port is same as DVI1 Output, which uses for sending card backup in general.
13	DVI2 Output backup port is same as DVI2 Output, which uses for sending card backup in general.
14	DVI3 Output backup port is same as DVI3 Output, which uses for sending card backup in general
15	DVI4 Output backup port is same as DVI4 Output, which uses for sending card backup in general

Power Connection

11	IEC- Power interface: AC 85-264V, 50/60Hz, max 45W.
16	Power Switch

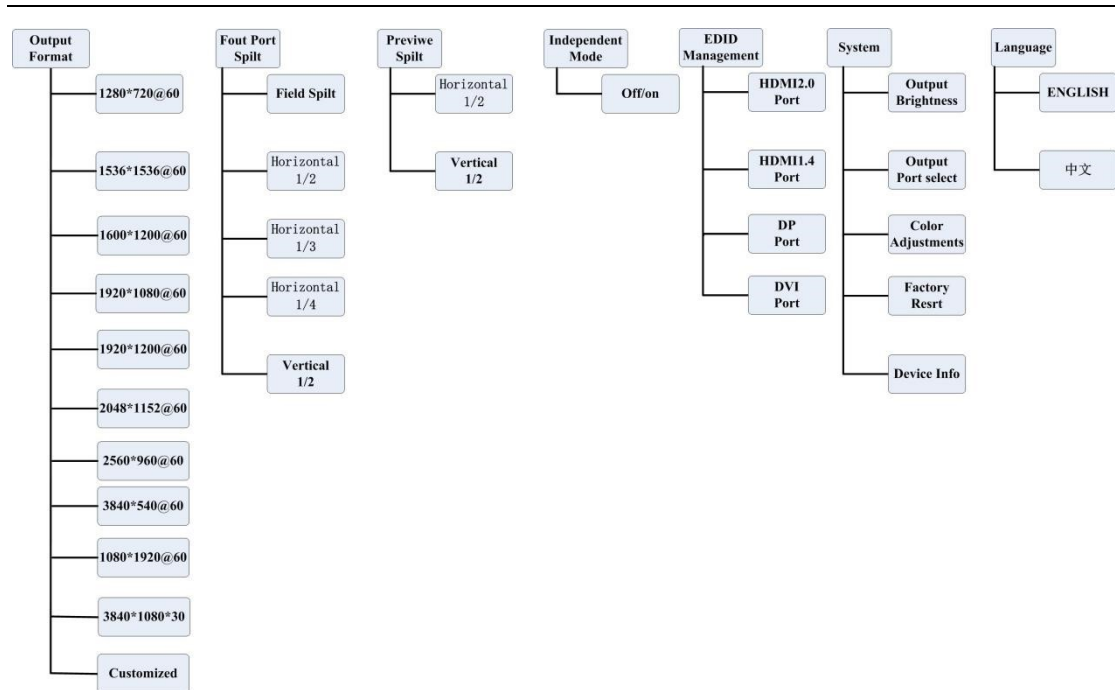
Shortcut keys

1	<p><u>TAKE</u></p> <p>In the four-port splicing mode, press the TAKE button to quickly enter the PIP menu.</p>
2	<p><u>MENU</u></p> <p>Lock the all button: Press the MENU 5 seconds ;</p>

4. Operations

- Menu Structure
- Standard Output
- Four Port Output
- Preview Split
- Multiple In Multiple Out
- System Setting
- Language

Menu Structure



Output Resolution

The default output resolution is 1920*1080*60. If one sending card width is no more than 1920, height is not more than 1080, there is no need to do resolution setting. If the sending card resolution is more than 1920*1080, please set the resolution which is higher than sending card.

For example: If the user has 4 displays, which use 4 sending card, the resolutions are as below:

1728*768, 2432*864, 2432*864, 1728*768

The device resolution should be higher than the sending card. Please note when choosing the resolution.

The width should choose the widest display, while above display is 2432;

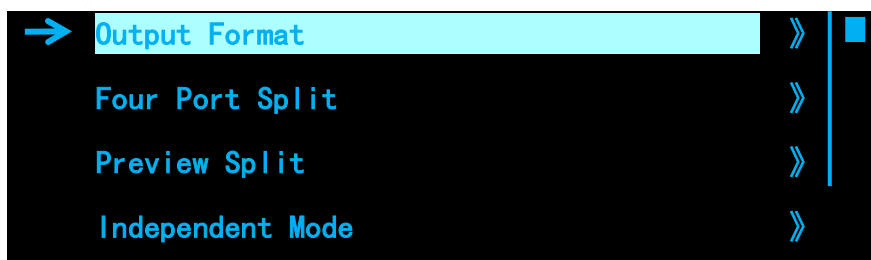
The height should choose the highest display, while above display is 864.

So we choose the resolution 2560*960, as the width should be more than 2432 and the height should be more than 864.

Operation Steps:

Step 1:

Press MENU button, select the OUPUT and enter.



Step 2:

Please find the 2560*960 output resolution.



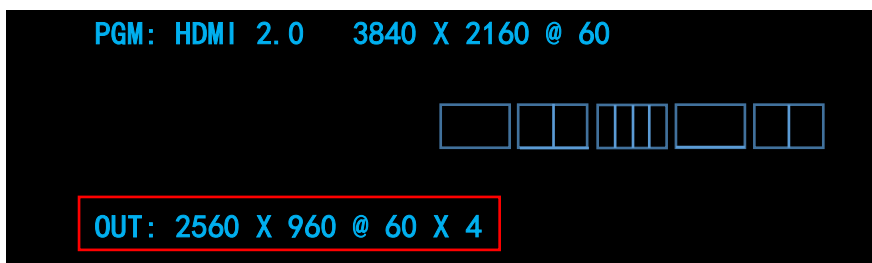
Step 3:

Select the resolution and revise, which needs around 10 seconds.



Step 4:

When the revised arrow disappears, press MENU to home page to check whether it succeeds.

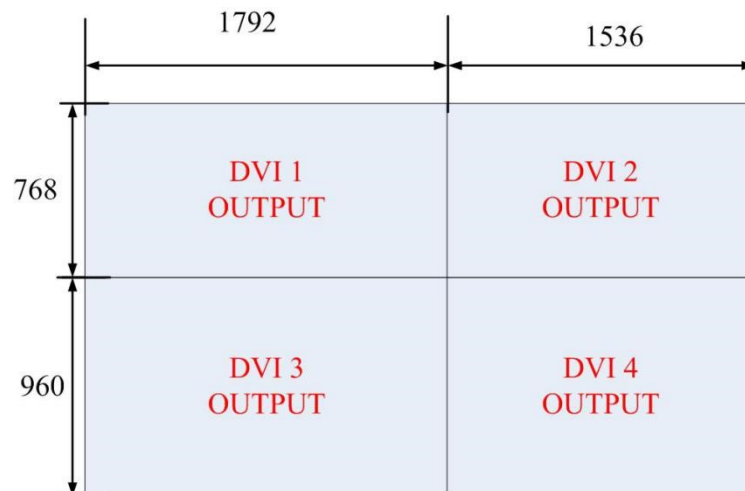


Four Port Split

Four Port Split Mode: It is the split of DVI 1, DVI2, DVI3, DVI4 output port. DVI1 Output port is the far left and uppermost screen. Horizontal 1/3 split is same as the Horizontal 1/4 parameter setting; while Vertical 1/3 split is same as the Vertical 1/3 parameter setting.

2:2 Splicing

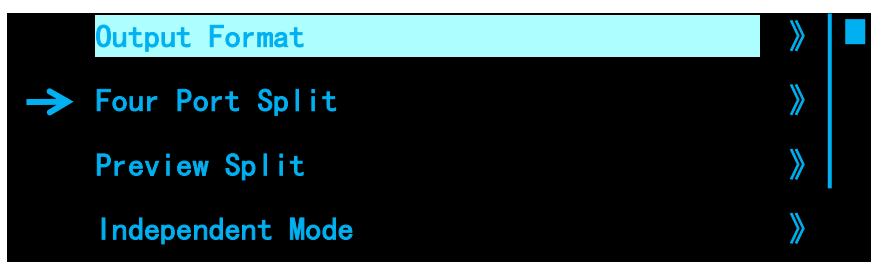
If the user has 4 LED display, whose top left display is 1792*768, top right display is 1536*768, bottom left 1792*960, bottom right 1536*960, needs to setup split to 3328*1728.



Operation steps:

Step 1:

Choose Split Mode: Press Menu button, enter into 4 port split by knob and select field split.



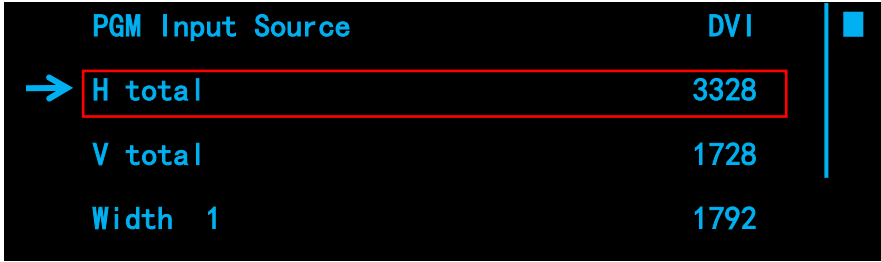


Step 2:

Choose the output resolution.(if any display is lower than 1920*1080, there is no need to operate this step). The top left display is 1792*768; the top right display is 1536*768; the bottom left display is 1792*960; the bottom right display is 1536*960. As any display width is no more than 1920, display height is no more than 1080, so the user no need to setup the output resolution.

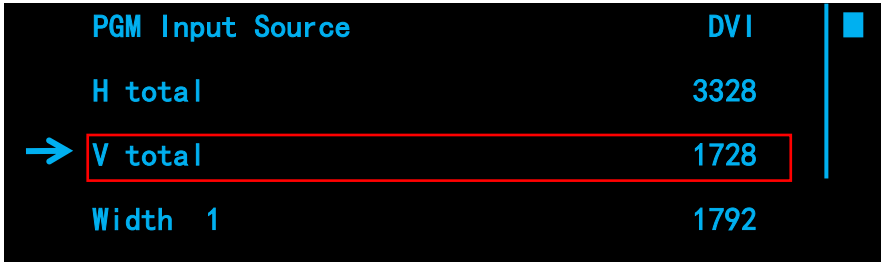
Step 3:

After Field split setting, set total width to 3328.



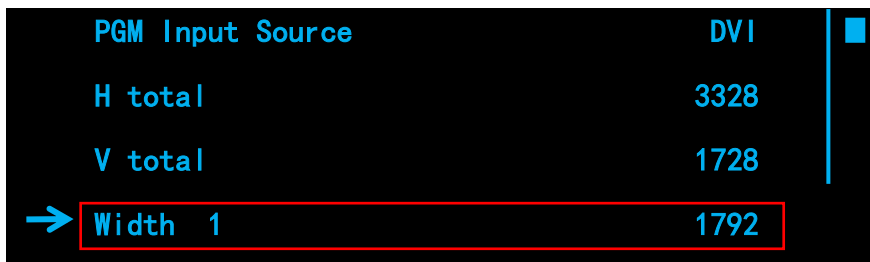
Step 4:

Set the display total height to 1728.



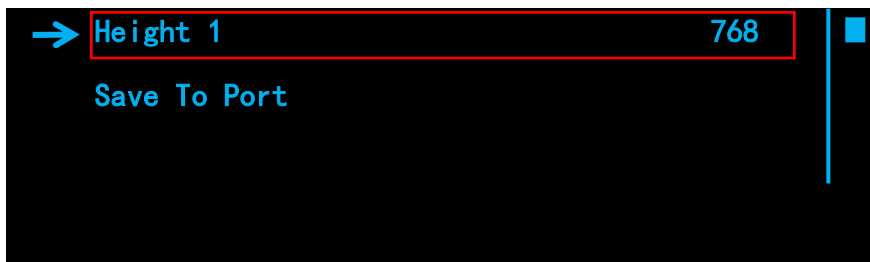
Step 5:

Set the first display width to 1792.



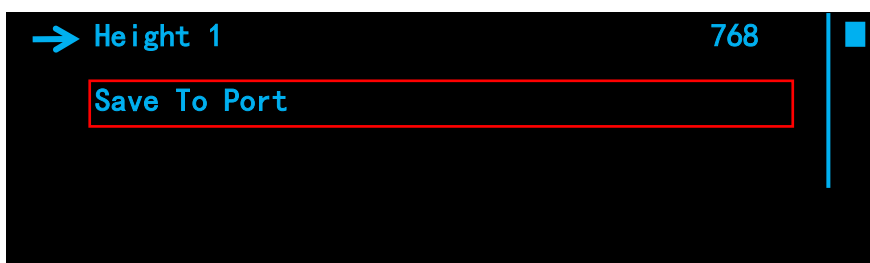
Step 6:

Set the first display height to 768.



Step 7:

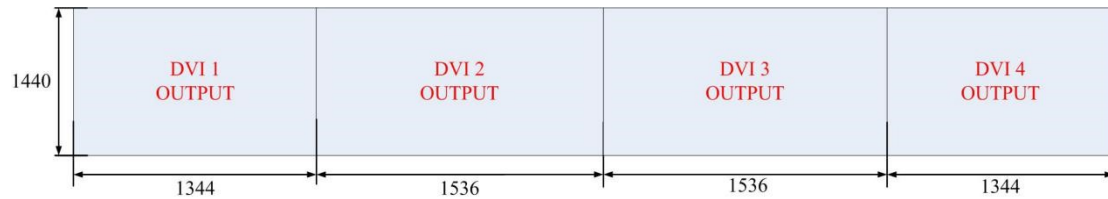
Confirmed to SAVE TO PORT to finish split setting.



There is no need to set the Second, third and fourth display, the device will calculate by itself.

Horizontal 1/4 (Same as Horizontal 1/3)

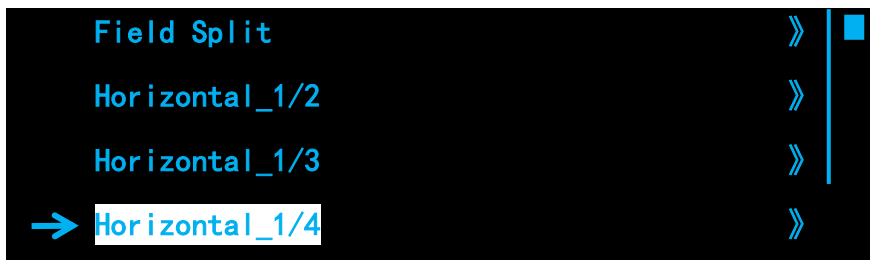
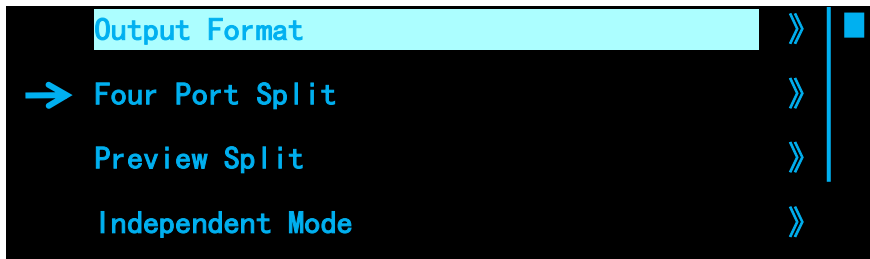
If the user has 4 LED display 1344*1440, 1536*1440, 1536*1440, 1344*1440 (from left to right) , needs to setup split to 5760*1440.



Operation steps:

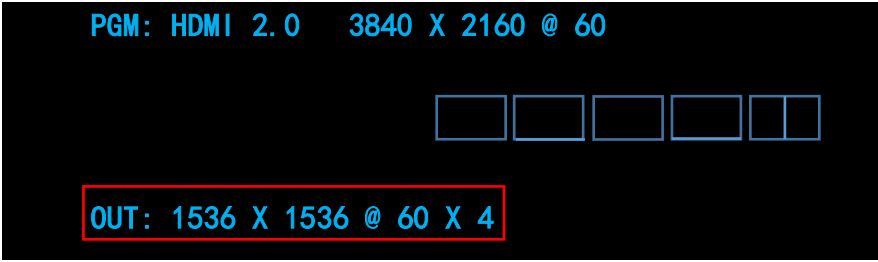
Step 1:

Choose Split Mode: Press Menu button, enter into 4 port split by knob and select 1/4 horizontal split.



Step 2:

Choose the output resolution.(if the display is no more than 1920*1080, there is no need to operate this step). The screen height is 1440, so the user needs to setup 1536*1440 @ 60Hz.



Step 3:

After horizontal 1/4 setting, set total width to 5760.

PGM Input Source	DVI
→ H total	5760
V total	1440
Width 1	1344

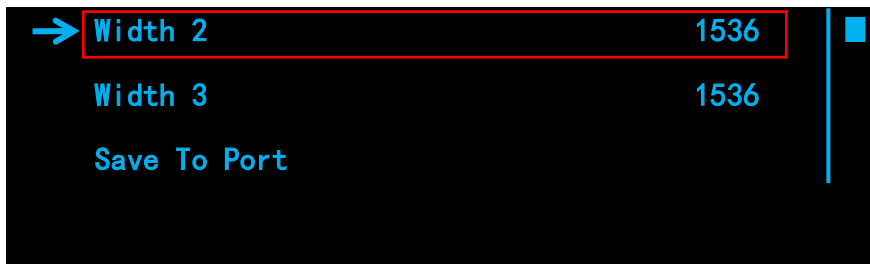
Step 4: Set total width to 1440.

PGM Input Source	DVI
H total	5760
→ V total	1440
Width 1	1344

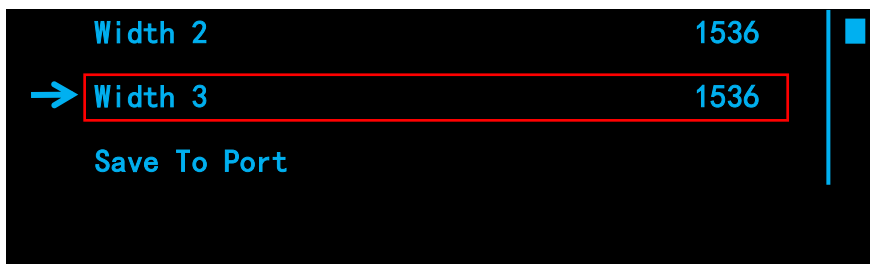
Step 5: Set the first display width to 1344.

PGM Input Source	DVI
H total	5760
V total	1440
→ Width 1	1344

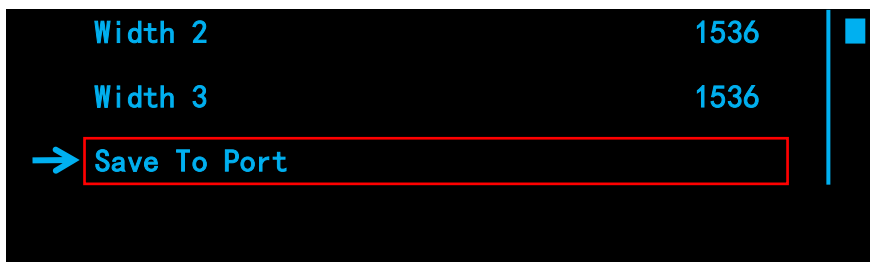
Step 6: Set the second display width to 1536.



Step 7: Set the third display width to 1536.



Step 8: Confirmed to SAVE TO PORT finish split setting.



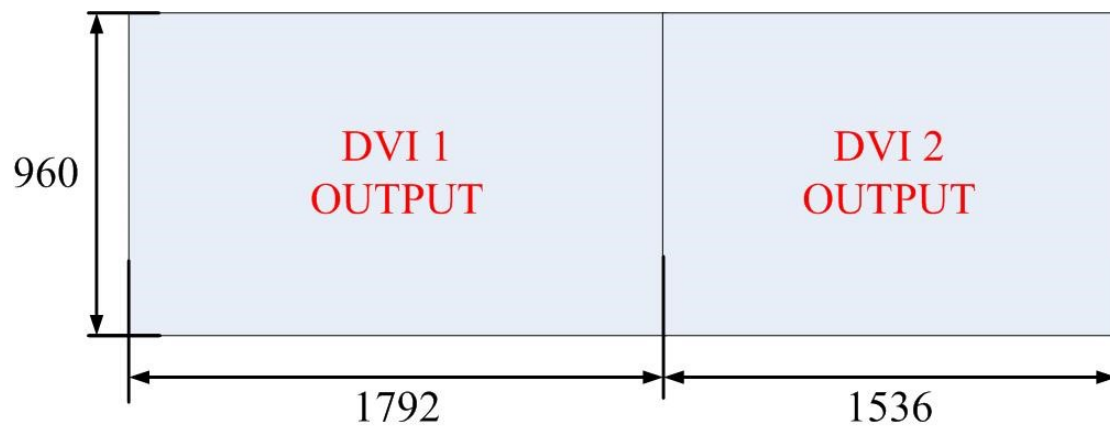
There is no need to set the fourth display, the device will calculate itself.

Preview Split

Two Port Split is the preview mode. DVI1 and DVI2 output is the main output; DVI3 and DVI4 is the Preview output.

Horizontal 1:1

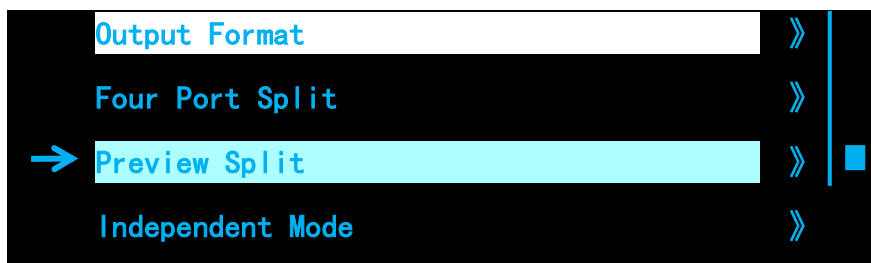
If the user has two displays, the left display is 1792*960, the right display is 1536*960, which needs display split to 3328*960 and preview and take out.



Operation steps:

Step 1:

Choose Split Mode: Press Menu button, enter into two port split by knob and select Horizontal 1/2 mode.



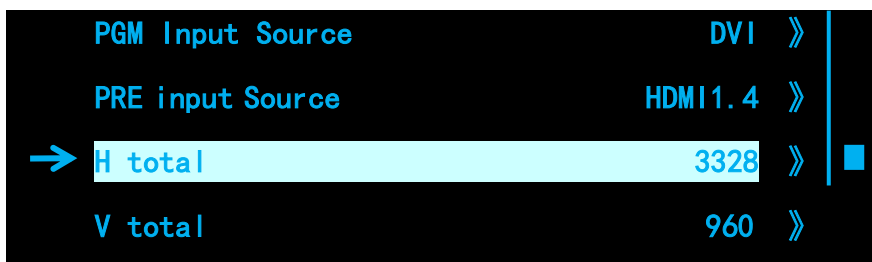


Step 2:

Choose the output resolution.(if any display is lower than 1920*1080, there is no need to operate this step). The left display is 1792*960; the right display is 1536*960. Any display width and height is no more than 1080, so the user doesn't need to setup the output resolution.

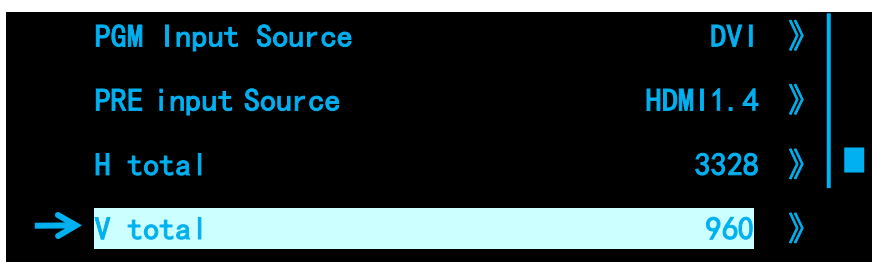
Step 3:

After Horizontal 1/2, set total width to 3328.



Step 4:

Set the total height to 960.



Step 5:

Rotate to the next page, set the first display with to 1728.





Step 6:

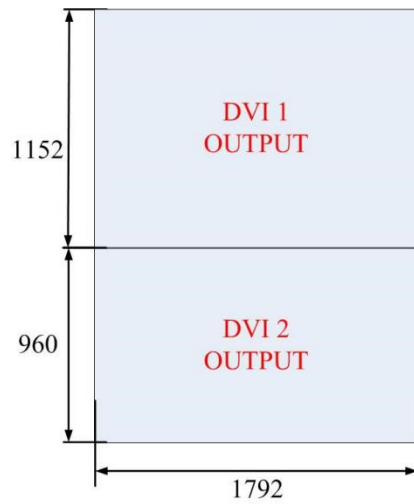
Confirmed to SAVE TO PORT to finish split setting.



There is no need to set the Second display, the device will calculate itself.

Vertical 1:1

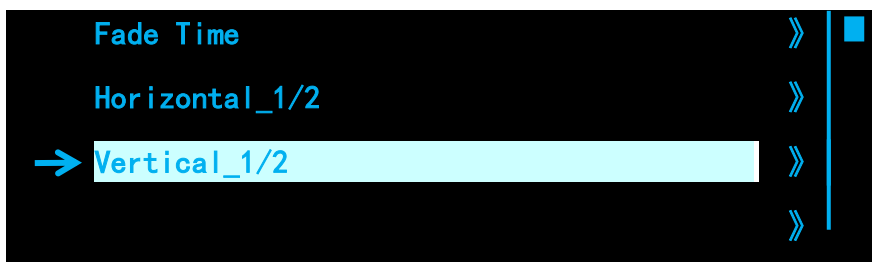
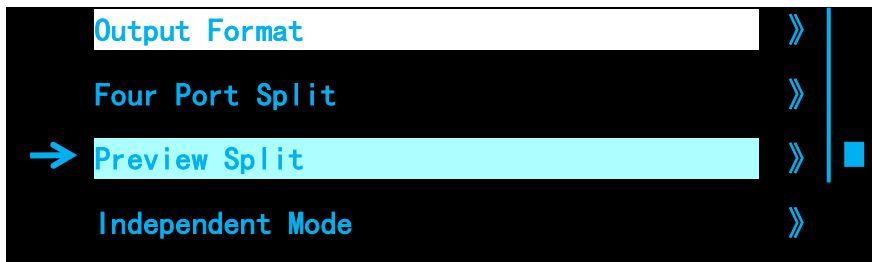
If the user has two displays, top display is 1792*1152, the bottom display is 1792*960, it needs display split to 1792*2112 and preview setting and take out.



Operation steps:

Step 1:

Choose Split Mode: Press Menu button, enter into two port split by knob and select 1/2 vertical mode.

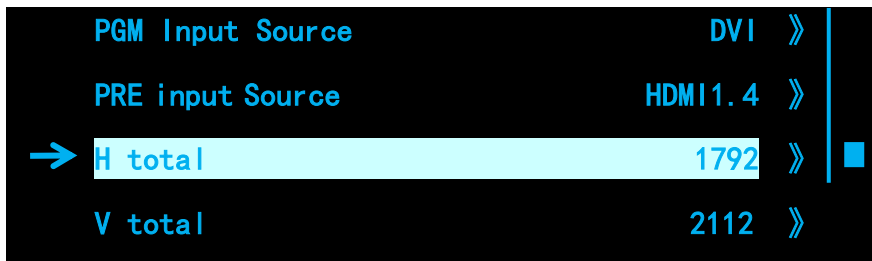


Step 2:

Choose the output resolution.(if any display is lower than 1920*1080, there is no need to operate this step). The top display is 1792*1152; the bottom display is 1792*960. The top display height is more than 1080, so the user needs to setup the output resolution to 2048*1152*60Hz. (The steps is details, please review to output resolution page).

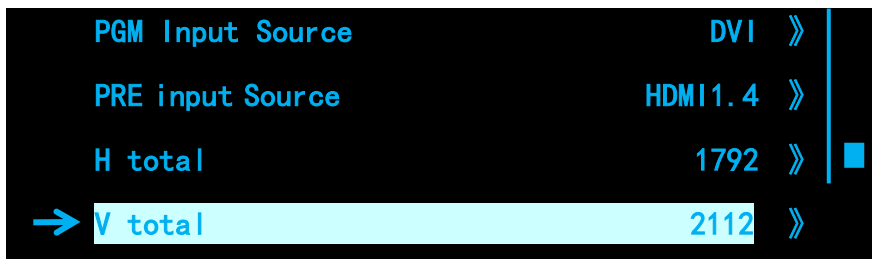
Step 3:

After Vertical 1/2, set total width to 1792



Step 4:

Set the total height to 2112.



Step 5:

Set the first display height to 1152 (the top display is viewed as the first display)



Step 6:

Confirmed to SAVE TO PORT to finish split setting.



There is no need to set the Second display, the device will calculate itself.

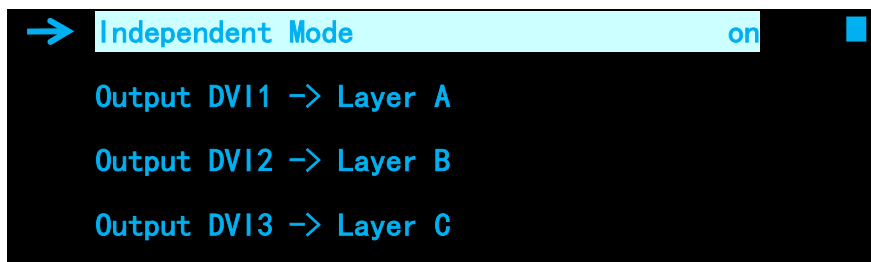
Individual output

In the individual output working mode

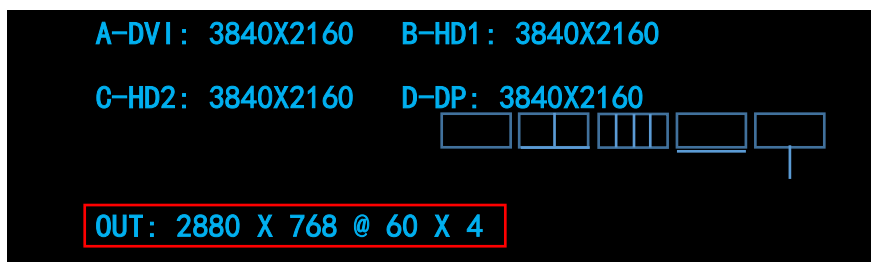
4 outputs on 4K Video processor could control 4 different screens separately, any of the four pictures could be adjusted individually, including the source signal, picture size etc.

EG. 4 screens of different size 2880*384, 2560*576, 2304*768, 1024*768, how to make them to display different pictures or the same picture.

a. Press MENU button, turn the knob to find the individual output, enable this function.

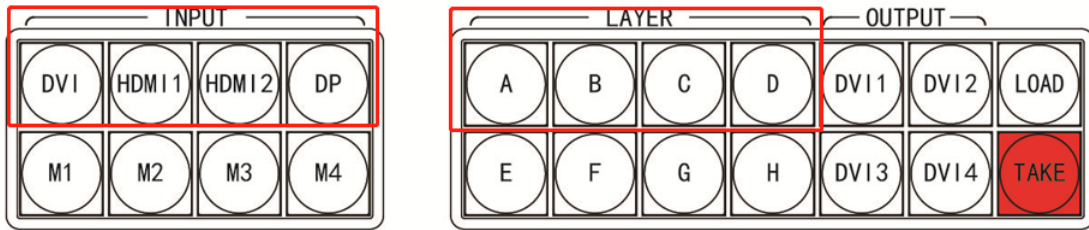


b. Set resolution according to the widest and highest screen, the widest is 2880 and highest 768, so it should be 2880*768@60.



c. Select the source signal of each output, select DVI as source signal for 4 ports, the outputs port DVI1/2/3/4 are layer ABCD separately.

Press layer A and choose DVI to change the source signal for DVI1 into DVI, it is the same way to change source signals for layer BCD.



A-DVI : 1920X1080 B-DVI : 1920X1080
 C-DVI : 1920X1080 D-DVI : 1920X1080
 OUT: 2880 X 768 @ 60 X 4

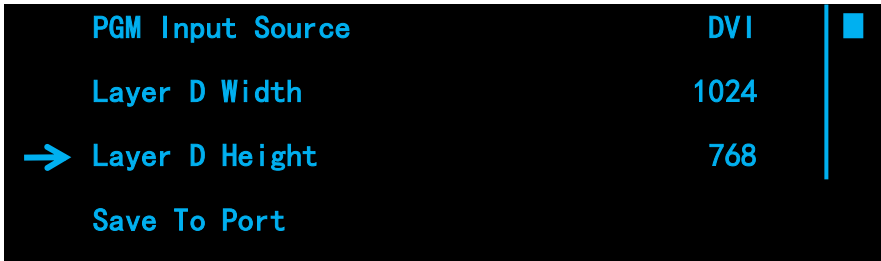
d. After source signal changed, adjust the size of the ABCD layers into 2880*384, 2560*576, 2304*768, 1024*768

Note! Size adjustments would not be valid until all parameters saved to the port.

PGM Input Source DVI
 Layer A Width 2880
 → Layer A Height 384
 Save To Port

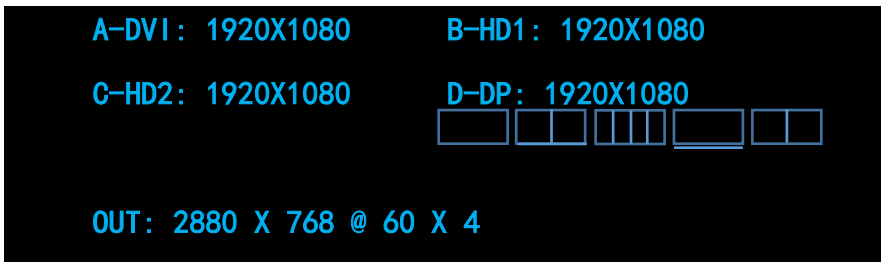
PGM Input Source DVI
 Layer B Width 2560
 → Layer B Height 576
 Save To Port

PGM Input Source DVI
 Layer C Width 2304
 → Layer C Height 768
 Save To Port



e. Press SAVE to save all above settings to saving mode 1, now the four screens are showing the same picture.

f. Change source signal for layer ABCD separately, (find how to do it in “c.”), save it to saving mode 2, the four screens are displaying 4 different pictures.



g. By loading saving mode 1 / 2 could easily switching the four screen to display four same picture or four different ones.

EDID Management

One display 3072*1536 needs pixel to pixel effect. How to set if the computer only has the resolution 3840*2160 but not 3072*1536? The answer is EDID management.

Operating steps:

Press Menu Button, and enter into EDID Management by knob.





Press EDID input interface by knob (The adjustable interface can be revised). Now we take HDMI2.0 for an example to revise input interface EDID.



Select HDMI2.0 interface and enter,

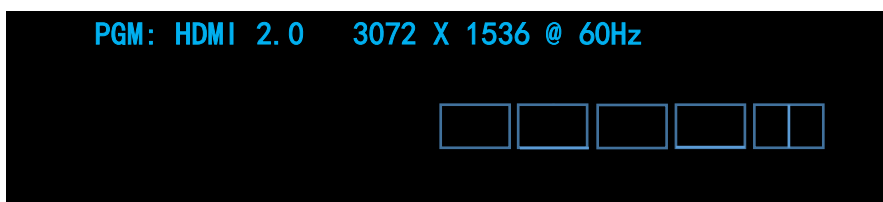
The user can choose standard HDMI2.0(4K60Hz) HDMI1.4(4K30Hz) Or HDMI1.3(2K) if the resolution is standard. But the user needs to customize EDID for the example, so choose CUSTOM.



When entering into CUSTOM, press the numbers 3072, 1536 and 60 to finish the EDID setting.



After that, the user checks back to the home page (Some computers take effects after reconnection the cables).



OUT: 2048 X 1152 @ 60 X 4

System Setting

Output Brightness: Adjust output brightness 0-255 steps by knob.

Output interface select: Use to copy the output setting.

For example: DVI2 output of the device is broken. If wanting to split by 3 output, the user can change DVI4 into DVI2 setting.

→	Output1 Map To	DVI1
	Output2 Map To	DVI2
	Output3 Map To	DVI3
	Output4 Map To	DVI4

Factory Reset: Reset to its factory setting

System information: Use can view the device version

	SN	0031
→	Software Version	»
	Hardware Version	»
	OLED Brightness	12

Language: This device supports Chinese and English.