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HDR10 MORE COLORFUL AND BRILLIANT DISPLAY

4K@60HZ 4:4:4 10BIT PROCESSING

4K@60HZ INPUTS AND OUTPUTS



VF4

USER MANUAL

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1. Product Feature

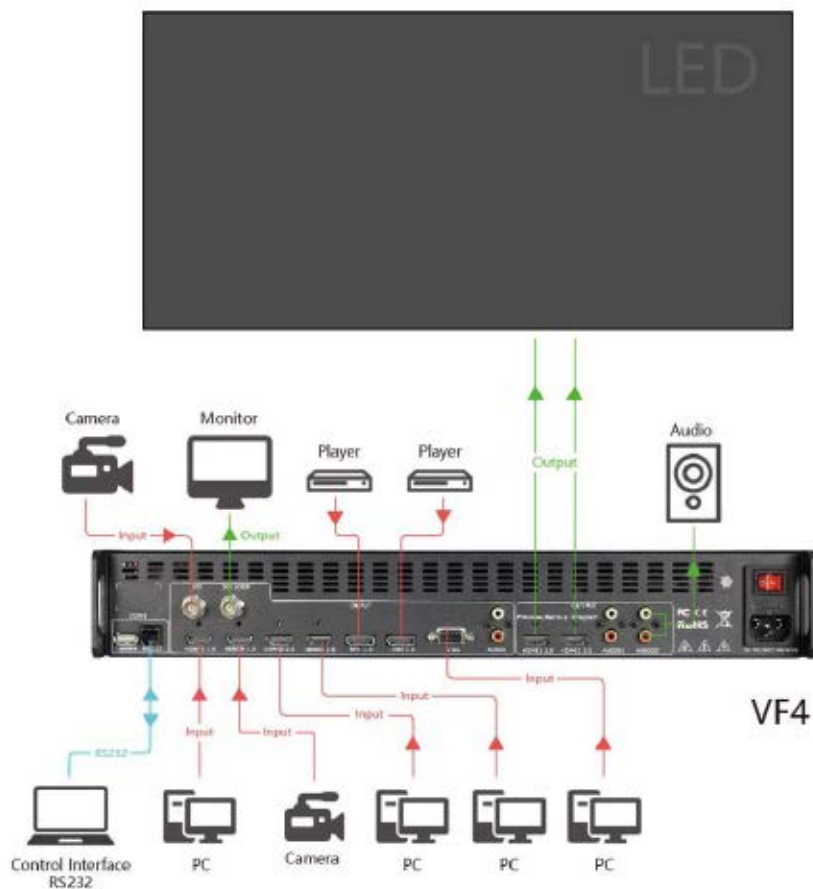


- HDR Color Reduction and Enhancement
- DP 1.2 / HDMI 2.0 4K@60Hz Input
- HDMI 2.0 4K@60Hz Output
- Any 4k Preview Input
- Any 4K PIP Input Channel
- EDID Management, P2P Display
- Cascade Split
- Embedded Audio Decoder, Video and Audio Synchronization
- Support 420 | 422 | 444 Video Format
- Open Control Protocol

2. Product Introduction

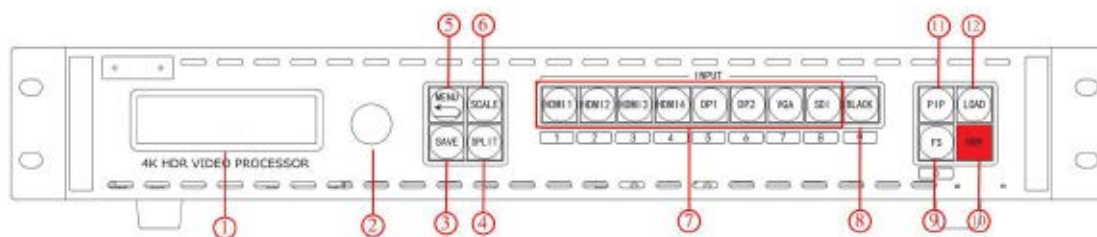
4K HDR application has become more and more popular in LED display. 4K sending card is already commonly used in application. VF4 is the professional 4K HDR solution from SPROLINK.

VF4 support HDMI 2.0 input and output. It is support HDR color reduction and enhancement. Not only can show HDR effects when applied with 4K sending cards, but also can realize HDR on normal 2K screen.



3. Hardware Overview

3.1 Front Panel



OLED Display

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

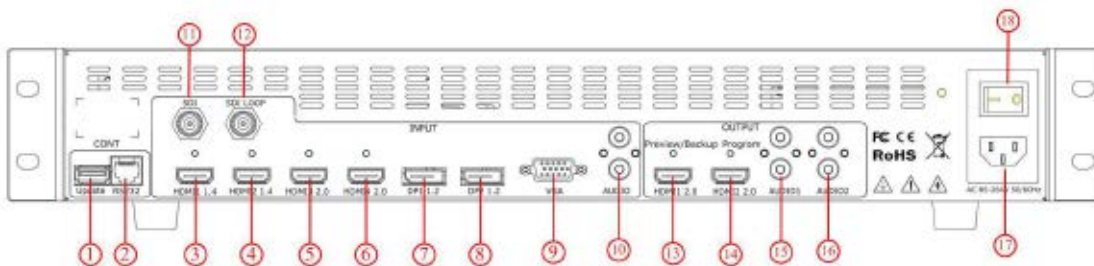
2	This button uses for menu selections and confirmation.
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Button

3	<p>SAVE Button:</p> <p>Save the setting into mode, use LOAD Button to cooperate.</p> <p>Press SAVE button, then M1\M2\M3\M4\E\F\G\H\DVI 3\ DVI 4 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	<p>SPLIT Button:</p> <p>Split Function Button used for selecting split mode and split parameter setting.</p>
5	<p>MENU Button: Menu and Return Previous Page</p> <p>Used for entering into MENU and corresponding Menu function. Repress the MENU will come back to previous Menu.</p>
6	<p>SCALE Button: Size and position adjusting,</p> <p>working in with 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 enable</p> <p>Used 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>
8	<p>BLCAK Button: For Screen Black Out.</p>
9	<p>FS: Screen Parameter setting</p> <p>Size follow the screen or full screen</p>
10	<p>HDR Button: HDR enable and configure</p>
11	<p>PIP: Enable picture in picture (Layer A & B)</p>
12	<p>LOAD:</p> <p>Load the templates in SAVE button. When pressing LOAD button, M1\M2\M3\M4\E\F\G\H\DVI 3\DVI 4 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.</p>

3.2 Back Panel



Control and Update

1	Connection for product firmware update
2	Connection used by RS232 for third party control

Input

1	<p>HDMI 1.4</p> <p>Support 3840*2160@30HZ and 4K1K\2K1K input;</p> <p>Support customize input</p>
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2	HDMI 1.4 Support 3840*2160@30HZ and 4K1K\2K1K input; Support customize input
3	HDMI 2.0 Support 3840*2160@60HZ, 3840*2160@30HZ and 4K1K\2K1K input
4	HDMI 2.0 Support 3840*2160@60HZ, 3840*2160@30HZ and 4K1K\2K1K input
5	DP 1.2 Support 3840*2160@60HZ, 3840*2160@30HZ and 4K1K\2K1K input
6	DP 1.2 Support 3840*2160@60HZ, 3840*2160@30HZ and 4K1K\2K1K input
7	VGA INPUT: Support 2K VGA Input
8	RCA AUDIO INPUT: External audio input interface
9	SDI INPUT: Optional module, Support 3G SDI\HD SDI\SD SDI
10	SDI LOOP: Optional module, Support 3G SDI\HD SDI\SD SDI

Output

1	HDMI 2.0 Preview (TBD) Support 3840*2160@60HZ, 3840*2160@30HZ and 4K1K\2K1K input
2	HDMI 2.0 Program Support 3840*2160@60HZ, 3840*2160@30HZ and 4K1K\2K1K input
3	RCA Audio Output: External Audio Output
4	RCA Audio Output: External Audio Output

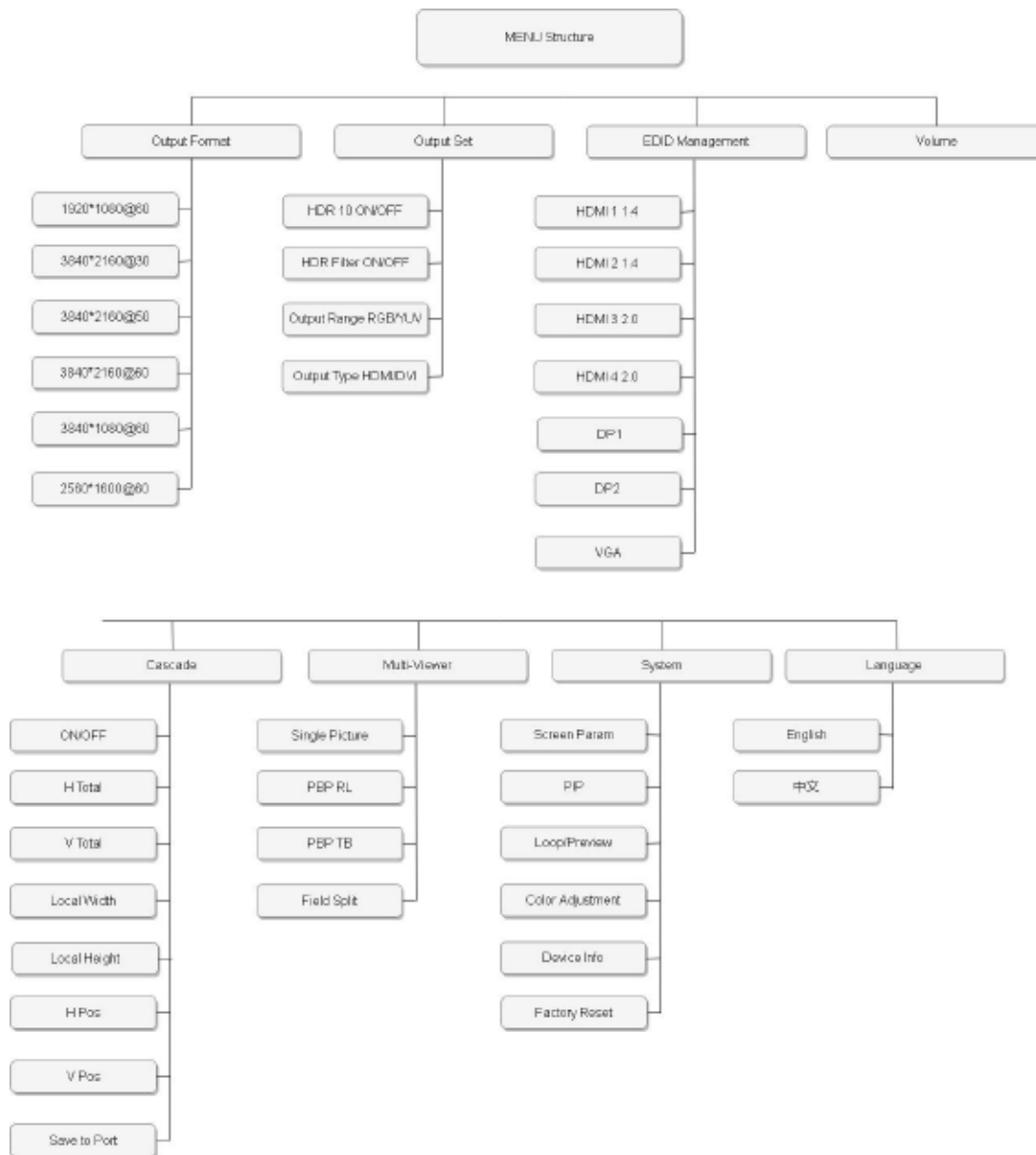
Power

1	IEC- Power interface: AC 85-264V, 50/60HZ, max 45W.
2	Power Switch

4. Operations

- Menu Structure
- Output Format
- Screen Parameter Setting
- PIP Setting
- Cascade Split Setting
- EDID Management
- HDR Setting
- Multi-Viewer Setting
- System

4.1 Menu Structure



4.2 Output Format

The default output format for VF4 is 1920*1080@60h.

Follow the instructions below to change output format.

Set output resolution as 3840*2160@60HZ

Steps:

1. Push Menu select OUTPUT, Push the knob to enter



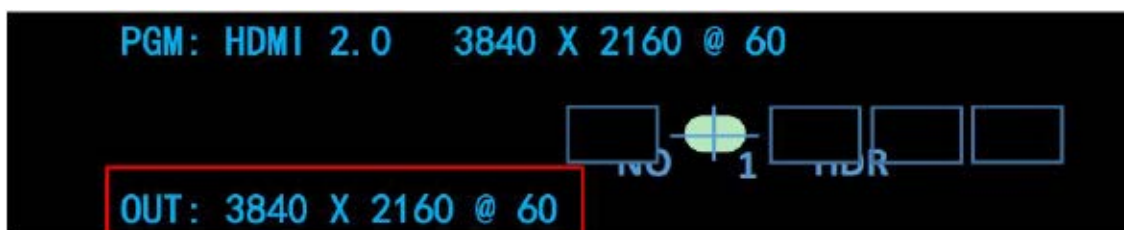
2. Turn the knob and enable 3840*2160@60HZ



3. Push the knob to confirm. Will take several seconds to configure.



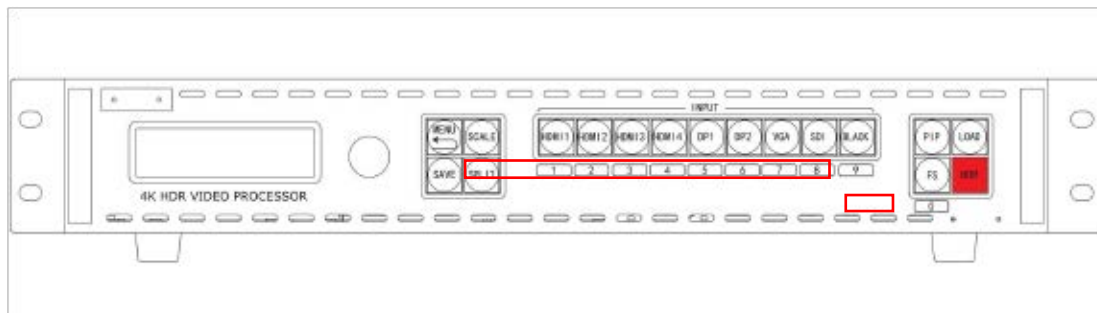
4. When the arrow disappears, press MENU to home page to check whether it succeeds.



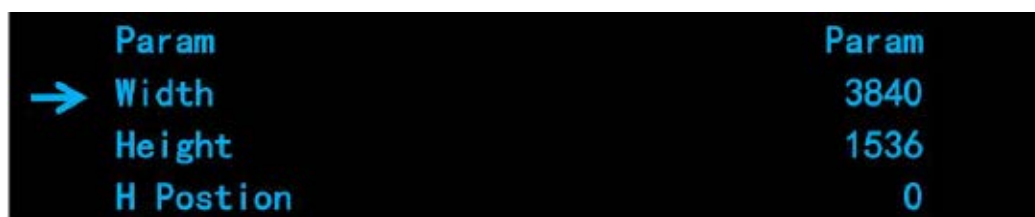
4.3 Screen Parameter Setting

Use scale button to configure screen size according the screen size. Follow the steps below to set screen parameter as 3840*1536.

Push scale button, enable width setting the numeric button will lighted for digital width setting.



Set the width as 3840, push the knob to confirm. Set the height in 1536 in same way.



4.4 PIP Setting

VF4 PIP Setting: Set HDMI 3 as background and set HDMI 4 as PIP layer.

Enable PIP: Push PIP button to enable PIP. Customer can also enable PIP in System Menu.

Set Image Layout: PIP CNT



Enable Image A or Image B for adjustment

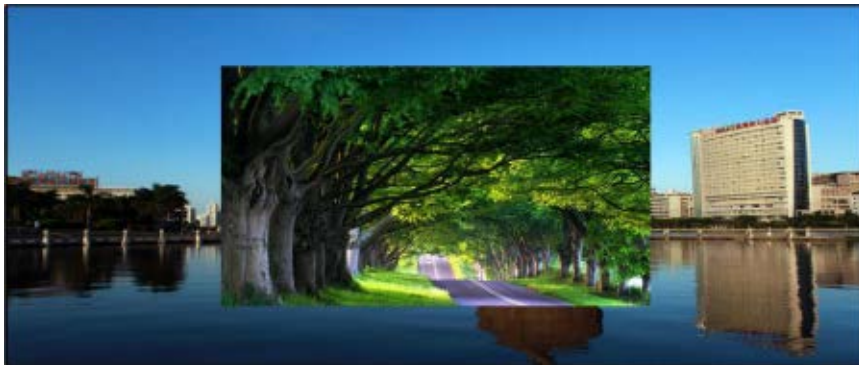


Choose HDMI 3 as image A input source.

Set Image A scale. Value as 3840*1536.



Push SPLIT to enable image B. Push scale for image B size and position setting Use Save and Load function to recall setting

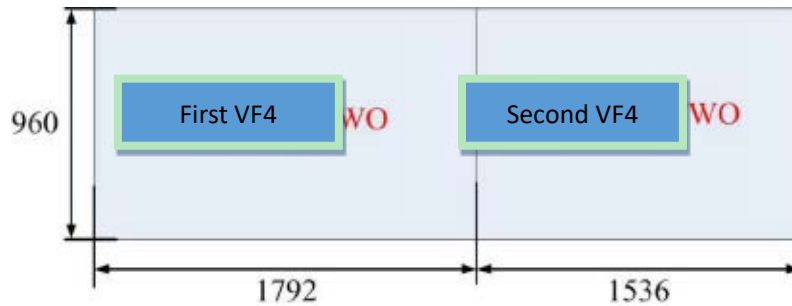


4.5 Cascade Split Setting

For Cascade Split VF4 currently support 1920*1080*60 output only.

Customer have screen in 3328*960 (Left screen resolution: 1792*960; Right

Screen resolution: 1536*960). Need 2 VF4 and 2 sending card to do mapping.



Steps:

Connection Diagram: Use signal splitter and feed the signal into 2 set of VF4. The first VF4 will handle left screen. Second VF4 will launch right screen.

Set Parameters

Need to enable Cascade Split Function on both VF4.

For first unit.

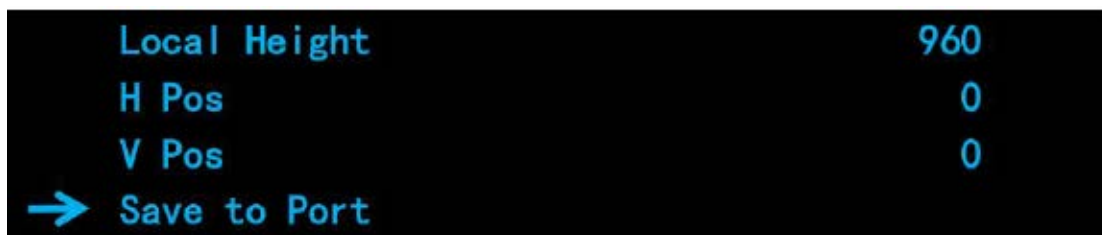
→ Cascade	ON
H Total	3328
V Total	960
Local Width	0

Set H total and V total as screen size 3328*960.

Cascade	OFF
H Total	3328
→ V Total	960
Local Width	0

Set Local Width 1792 Height 960 as left screen size H POS and V POS is 0

Cascade	OFF
H Total	3328
V Total	960
→ Local Width	1792



Click

Save to Port to enable setting

For Second Unit

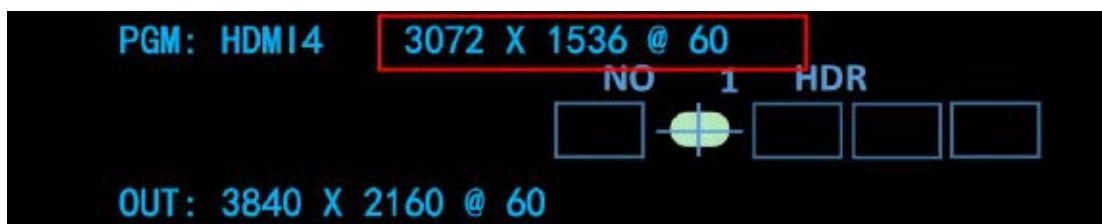
Set H total V total same with first unit



Set Local width 1536 height 960 as right-side screen. The right screen should start from 1792(First screen width). Set H Pos as 1792.



Click Save to Port to enable setting



4.6 EDID Management

Normal Graphic card do not support customer output resolution. By EDID

Management VF4 custom input resolution to realize Pixel by Pixel display. Follow

the steps below to custom input resolution as 3072*1536.

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 HDMI 2.0 for an example to set Input EDID.



Select HDMI 2.0 enable EDID custom



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



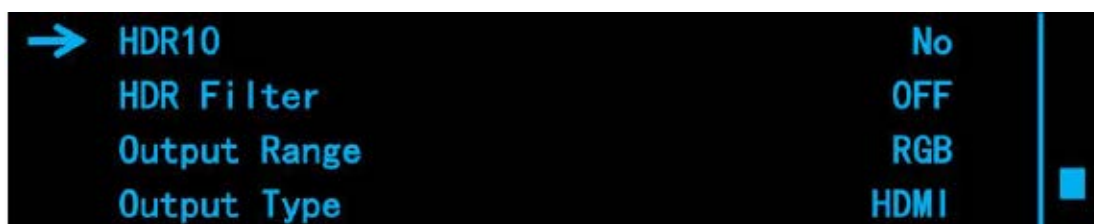
Check back to the home page

(Some computers take effects after reconnection the cables).

4.7 HDR Setting

Connect HDR Signal with HDMI3/4 HDMI 2.0 port.

Push the red button to enable HDR or trigger HDR in device menu after finish resolution and parameter setting.

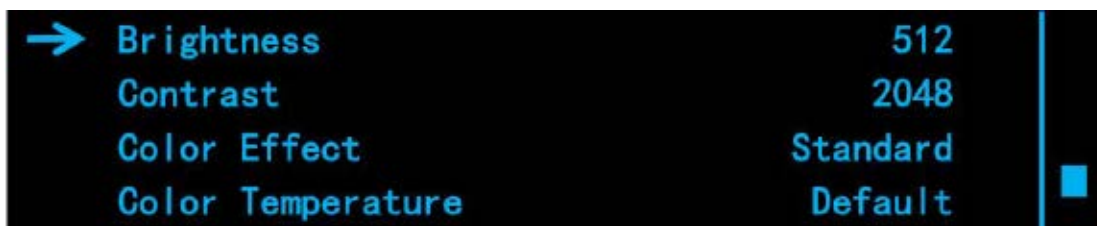


Turn on HDR10 to realize HDR display. If the color is too flashy set, set HDR10 OFF and enable HDR Filter

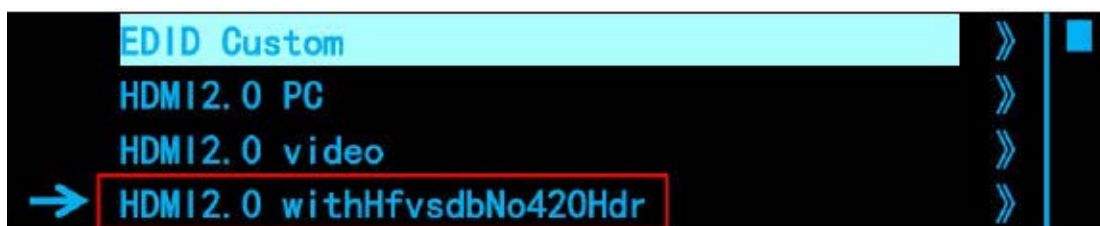
Can also do configuration in color adjustments



To custom HDR configuration need set Color Temperature as Default.



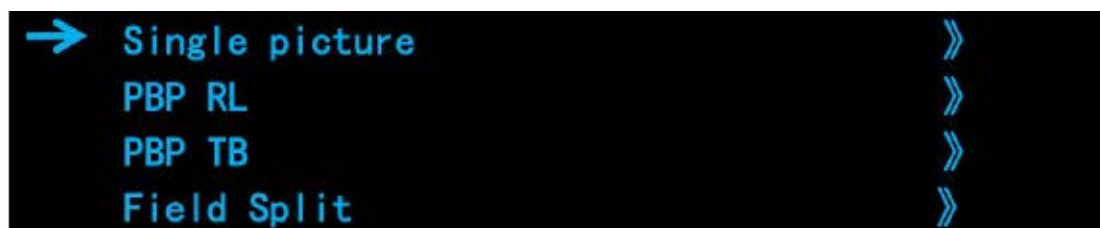
Please use HDMI 2.0 withHfvfdbNo420Hdr as EDID to enable HDR10 to get best display.



4.8 Multi-Viewer Setting

4 support Multi-Viewer function which can split screen into several image.

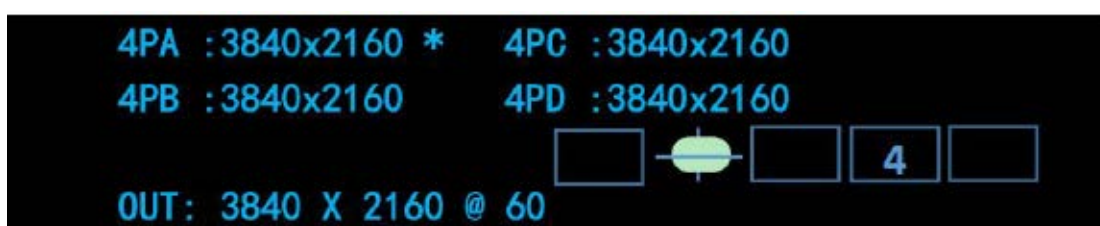
Customer can configure the signal display layout from menu.



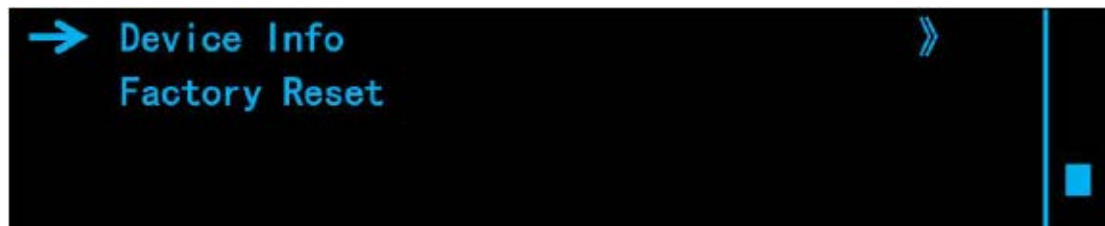
Signal Configure

Use Split to configure signal after enable Field Split.

The * indicate currently enabled image. Use SPLIT button to enable each image



4.9 System

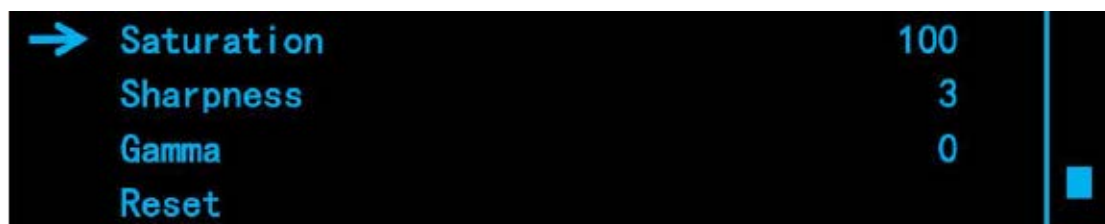
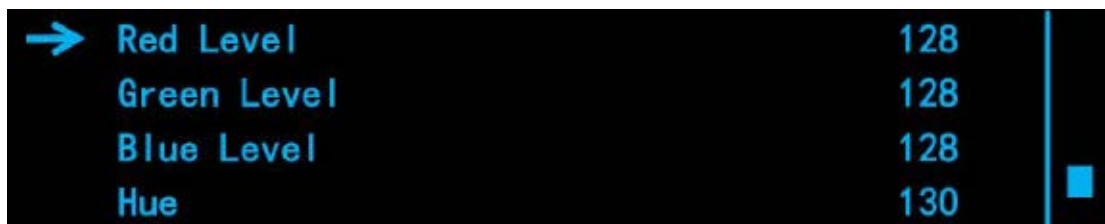


Screen Param: Same with Scale, to adjust screen size

PIP: Same with PIP function. To enable picture in picture

Loop/Preview : TBD

Color Adjustment : Set screen Brightness Color Temperature and GAMMA etc.



To custom HDR configuration need set Color Temperature as Default.

→	Brightness	512	
	Contrast	2048	
	Color Effect	Standard	
	Color Temperature	Default	■

Factory Reset : Clear all configure to Default

Device Info: Check hardware and software version

	SN	0031	
→	Software Version	》	
	Hardware Version	》	
	OLED Brightness	12	■




LANGUAGE: This device supports Chinese and English

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