Colorlight

Z5

LED Video Controller

User Manual

Content

Safety Precautions

To prevent personal injury and to protect the device from damage, read and follow these safety precautions.

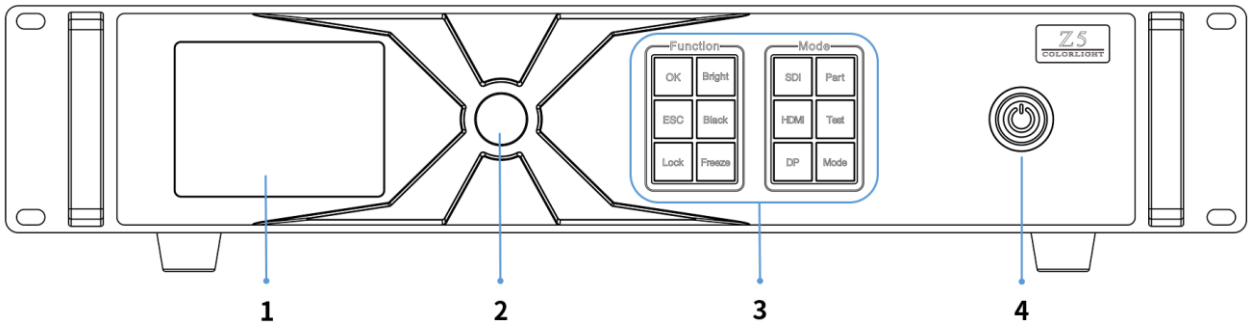
- **Do not remove the cover**
  To avoid personal injury, do not remove the top cover.
- **Only use the power supply and accessories specified by the manufacturer**
  The operating voltage of this product is 100V-240V AC. Only use the power cord provided with the product or the power cord that meets the appropriate local rating standards.
- **Prevent function interfaces from contact with charged objects**
  This is an electric product. The circuit elements may be damaged if the function interfaces contact charged objects.
- **Grounding**
  To avoid electrical shock, ensure that the product is grounded.
- **Class A statement**
  Warning: Operation of this equipment in a residential environment may cause radio interference.
- **Environmental Condition**
  Use only at altitudes not more than 5000m above sea level.
- **Avoid Moisture**
  This product is not waterproof, so avoid contact with liquid or operating the product in a humid environment.
- **Keep the product away from flammable and explosive hazardous substances**

Unpacking and Inspection

After unpacking, checking the items according to the packing list in the box. Please contact the salesman in time if you find the accessories are incomplete.

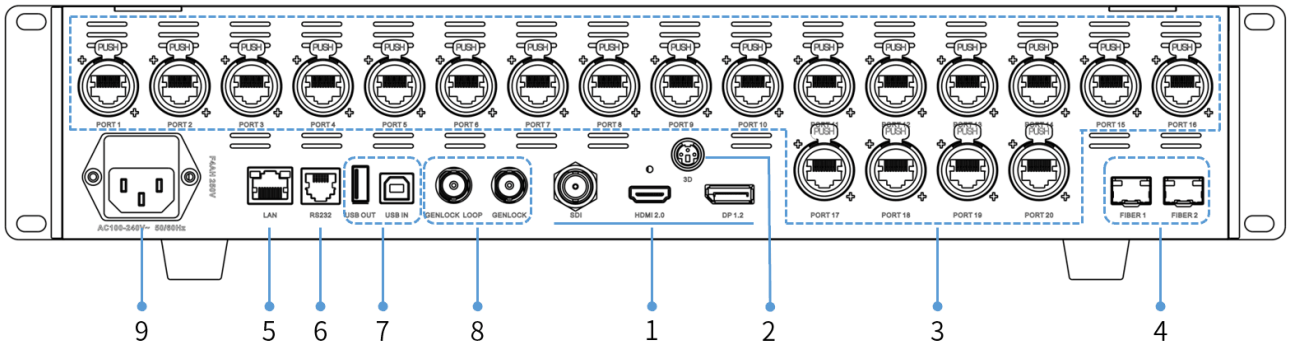
1 Hardware

1.1 Front Panel



No.	Item	Description
1	LCD	Display operation menu or system information
2	Knob	• Press the knob to enter the submenu or confirm the selection • Rotate the knob to select a menu item or adjust parameters
3	Shortcut	• OK: Enter key • ESC: Exit the current menu • Lock: Lock keys • Bright: Adjust brightness • Black: Blackout • Freeze: Freeze the image • SDI: Switch to SDI • HDMI: Switch to HDMI • DP: Switch to DP • Part: Enable cropping or turn off • Test: Enter test mode • Mode: Enter the preset mode selection interface
4	Button	Power button

1.2 Rear Panel



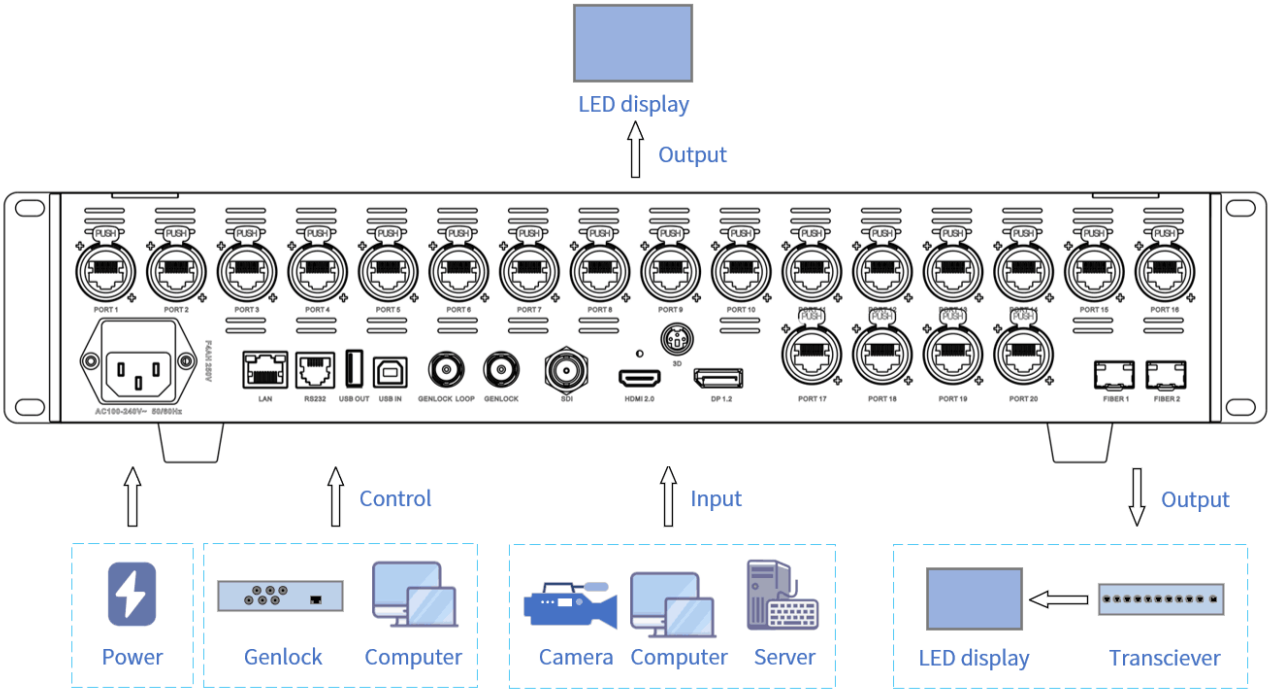
Input		
1	SDI	• 1×BNC connector, male • SMPTE 2082/2081/424M/292M standard, support the following: SD-SDI, HD-SDI, 3G-SDI (level A and level B), 6G-SDI, 12G-SDI (2SI format) • Maximum resolution: 4096×2160@60Hz • Support deinterlacing display
	HDMI2.0	• 1×HDMI type A connector, female • HDMI2.0 standard, HDCP 2.2 compliant HDCP1.3 • Maximum resolution up to 4096×2160@60Hz, maximum TMDS character rate: 600MHz - Maximum width: 8192（8192×1080@60Hz） - Maximum height: 8192（1080×8192@60Hz） • Support EDID setting，EDID Version 1.3 standard
	DP1.2	• 1×DisplayPort1.2 connector, female • DP1.2 standard, HDCP 2.2 compliant HDCP1.3 • Maximum resolution up to 4096×2160@60Hz, maximum TMDS character rate: 600MHz - Maximum width: 8192（8192×1080@60Hz） - Maximum height: 8192（1080×8192@60Hz） • Support EDID setting，EDID Version 1.3
Output		
2	3D*	• 4-pin S terminal interface, output 3D sync signal (optional, used with active 3D glasses)
3	PORT 1-20	• 20×1G Neutrik etherCON (NE8FBH) connector, compatible with standard RJ45 • Device loading capacity: - Maximum width or maximum height: 8192 pixels - Output frame rate: 60Hz Up to 13 million pixels at 8bit, or 9.75 million pixels at 10bit - Output frame rate: 120Hz Up to 6.5 million pixels at 8bit, or 3.25 million pixels at 10bit

		• Capacity per port: - Output frame rate: 60Hz Up to 655K pixels at 8bit, or 491K pixels at 10bit - Output frame rate: 120Hz Up to 327K pixels at 8bit, or 245K pixels at 10bit
4	10G FIBER 1/2	• 2×10G SFP+ module interface (10G SFP+ module is optional, transmission distance depends on SFP+ module) • Automatically copy 20 ports output, FIBER 1 corresponds to PORT 1-10, FIBER 2 corresponds to PORT 11-20 • Manual switching between fiber and network port
Control		
5	LAN	• 1×RJ45 connector, female • Fast Ethernet port, connect to a computer or network switch for remote management, TCP/IP support
6	RS232	• 1×RJ11(6p6c) connector, female • RS-232 protocol control port, 115.2k baud, connect to a computer or other device for remote control
7	USB IN	• 1×USB2.0 Type B port, female • Connect to the computer for management, or use as cascade input
	USB OUT	• 1×USB2.0 Type A port, female • Connect to next device, use as cascade output
Genlock		
8	GENLOCK	• 1×BNC connector, male • Input synchronized signal, sync to source • Support Bi-level and Tri-level sync, frame rates from 23.98 to 60Hz
	GENLOCK LOOP	• 1×BNC connector, male • Direct loop out genlock signal
Power supply		
9	AC100-240V~	Power input, 100-240V~, 50/60Hz, containing a built-in fuse. - Fuse (F4AH) input voltage is AC250V/4A. ✧ 250V/4A fuse is selected and installed for the instrument with a spare fuse in the fuse case. ✧ When replacing the fuse, please remove the external power cord first, then open the fuse slot under the power interface, take out the old fuse and replace it with a new one, and install the fuse slot back after completion.

* 3D interface is optional, the equipment shown in the picture is for reference only, there may be differences in the production process, please refer to the actual product.

2 Connections

Before using the equipment，please connect the input, output and control interfaces according to the hardware interface, and finally connect the power supply.



Network port output: When selecting the network port output, you can connect to the LED display through the network cable.

Optical port output: When selecting the optical port output, the optical port is first connected to the optical fiber transceiver, and then connected to the LED display screen through the network cable.

3 Operating Software

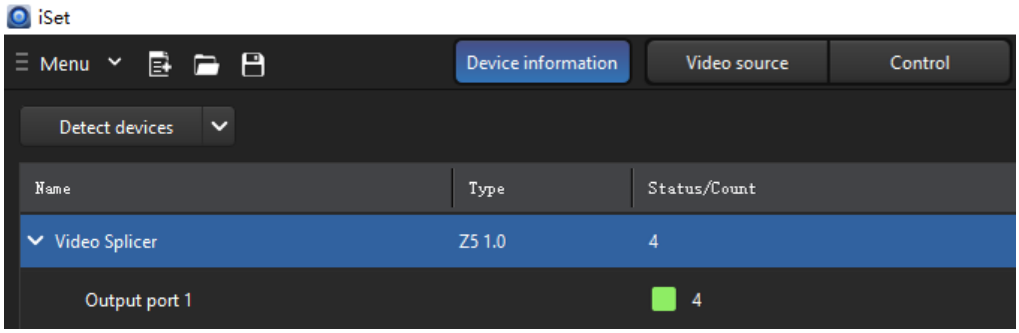
Please make sure the correctness of the hardware connection before setting, then use iSet to detect senders and all receiver cards. (Download url: www.colorlightinside.com)

* To control the device, you should download iSet version 6.0 or above software.

3.1 Device Information

Click **Device Information** to enter the interface

- Click **Detect devices**, the software will automatically acquire all devices and related information, including processor type, quantity, working status, and type of receiving cards, quantity etc.
- Please check the hardware connection or the installation of the relevant driver if cannot detect device.



3.2 Video Source

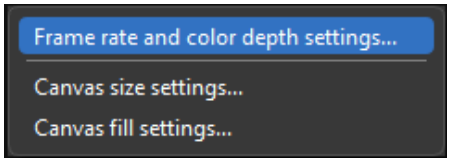
Click the **Video Source** and enter the video source setting page, it includes settings such as canvas, window, scaling, cropping, EDID etc., which can adjust the display range of the image output by the device.

- Once the input sources working, the software will automatically acquire the signal information and display on the bottom right corner.

Frame rate and color depth settings

Right-click the canvas or click **Max Frame Rate** and **Output Color Depth** at the bottom of the software to modify the frame rate and output color depth.

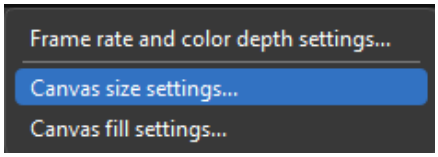
- Device supports 8bit, 10bit color depth.



Canvas

Canvas is used to limit the display resolution of the device as a whole, its maximum width is 8192 pixels.

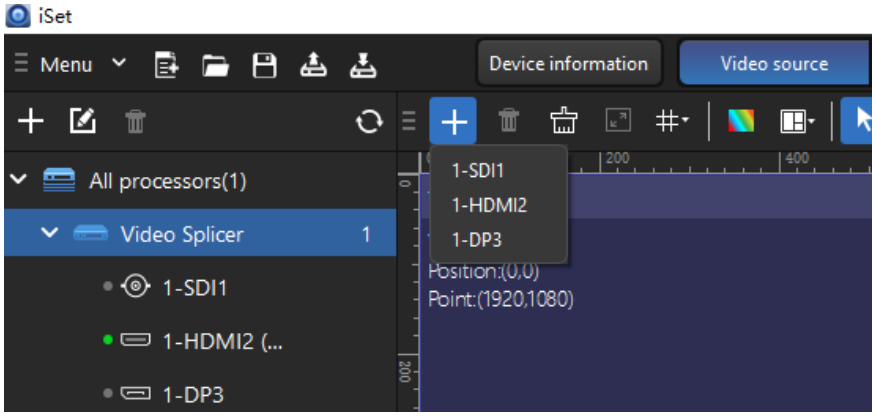
- Set the canvas size according to your LED screen, all windows are confined to the canvas.
- Right-click the grey canvas area, and select **Canvas size settings** to change it.



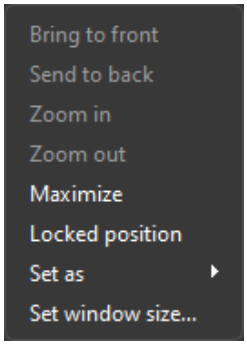
Window

Device supports 3-windows display, and the windows position and size can be flexibly set in the canvas.

- Click "+" to select a signal source to add a window.
- Directly click a signal source and drag the signal to the canvas area to add a window.



- Right-click the window to change the layer position, size, and input signal.

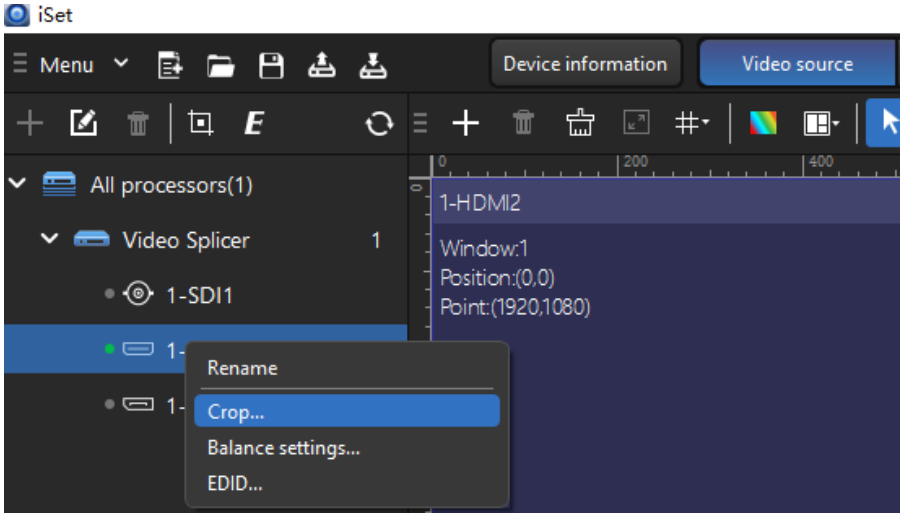


- Click the border of window, and drag it to resize. At the same time, you can click "  " or "" to delete the window.

Cropping

Right click the signal that you want to crop, then select **crop** to set.

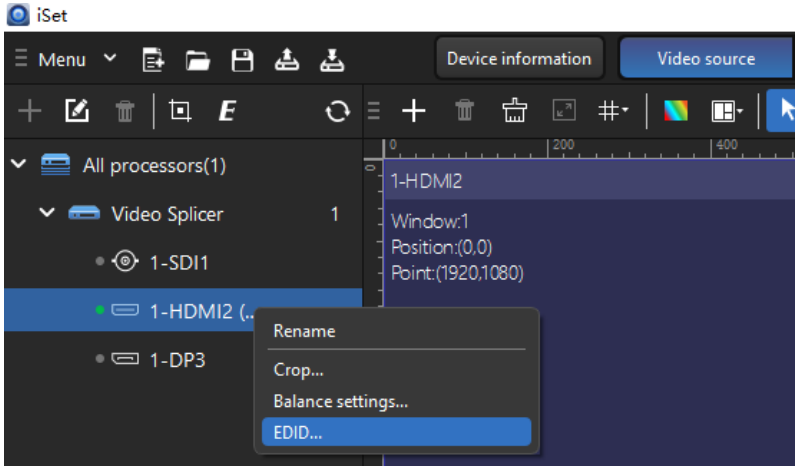
- In the cropping interface, click "" to enable this feature, then set X (Horizontal), Y (Vertical), W(Width) and H(Height).



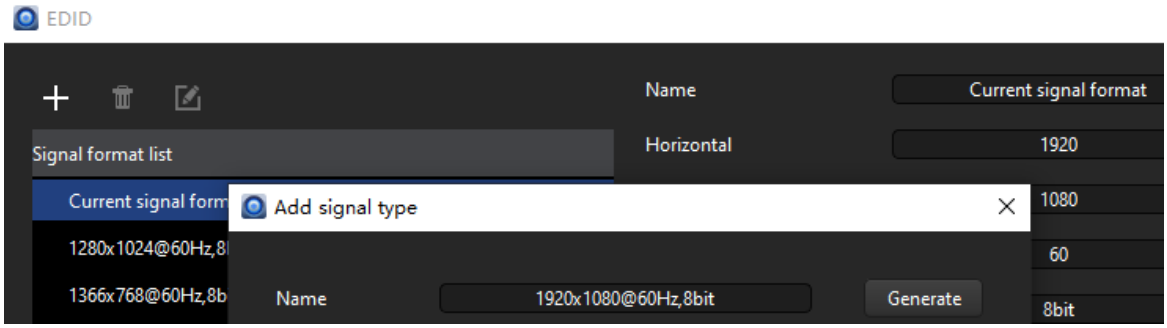
EDID

EDID is Extended Display Identification Data, which can be used to set the resolution information of this device.

- In the left input signal area, right-click the signal source and select EDID to enter the setting interface.
- Directly select the preset EDID.



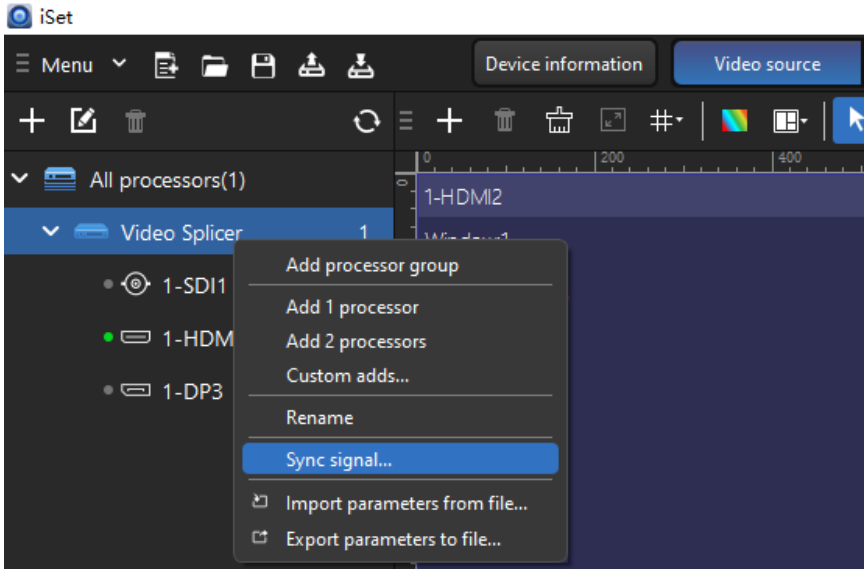
- In the **EDID** interface, click "+" to add a special signal format.
- Set inputting width, height, frame rate (Device supports 23.98-240Hz Frame rate) , color depth and standard, then click generate the custom resolution and add to the list.



Sync Signal

Device supports lock sync to video source, genlock and self-generated signal.

- Self-generated signal is not synchronized between multiple devices.
- Right-click the device, select **Sync signal** and enter the setting interface, select **Video input**, **Genlock** and **Self-generated signal**.
- When selecting **self-generated signal** can select different frame rate as you need.

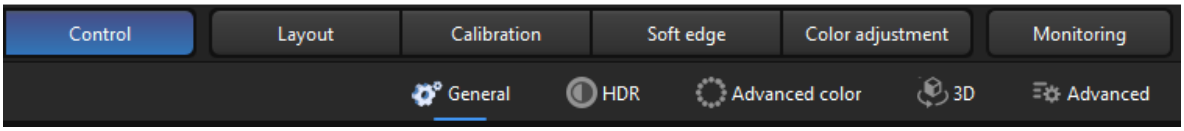


3.3 Control

In the **Control** interface, there are **General**, **HDR**, **Advanced color**, **3D** and **Advanced setting** interfaces. Select the processor to set the brightness, color, test patterns, HDR and others.

General settings

General settings interface including brightness, color adjustment, test patterns, picture adjustment and freeze & blackout.

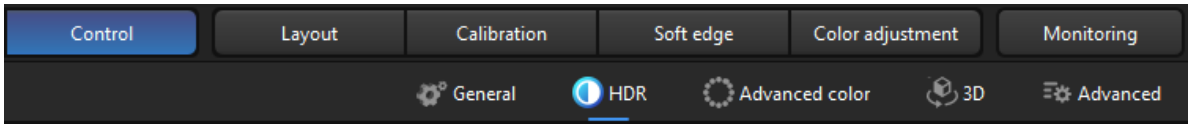


HDR

HDR (high dynamic range images) can provide more dynamic range and image detail than ordinary images. Both HDMI and DP of this device support HDR, including HDR10 and HLG.

- Turn function on or off in the **HDR** interface.

* Need to cooperate with i9 or above receiving card to achieve.

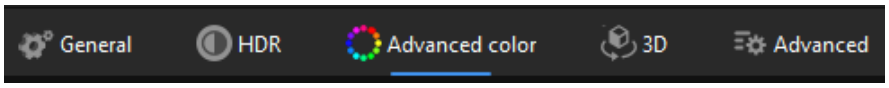


Advanced color settings

Advanced Color Settings interface enables precise color for finer color processing.

- It can be used to adjust the display color gamut of LED display.

* Need to cooperate with i9 or above receiving card to achieve.

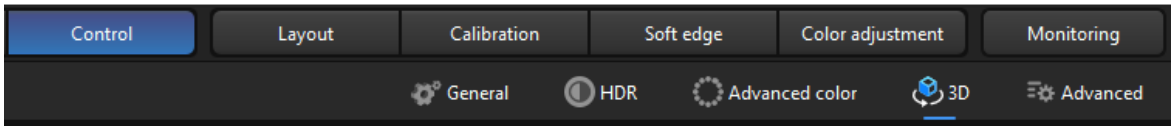


3D

3D interface can set the effect of 3D screen display and signal delay etc.

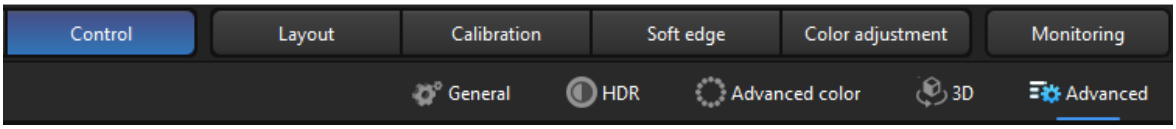
- When this function is turned on, the output frame rate will be doubled.

* This function is an optional function, it needs to be used with active 3D glasses.



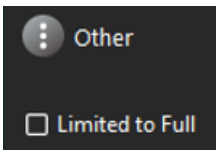
Advanced Settings

Advanced Settings interface includes turning on/off low light and high gray, optical fiber output, IP address settings and restore factory settings.



Limited to Full

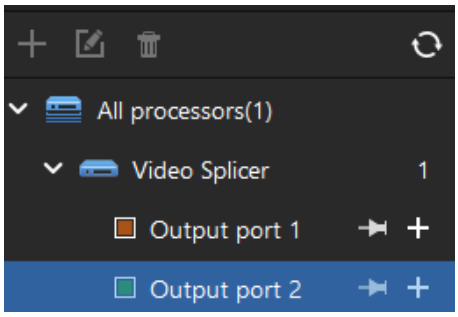
This function is used to convert a limited range display signal into a full range signal suitable for LED display. In the input signal source area on the left, select a signal source and click **Limited to full** to enable this function.



3.4 Layout

Click **Layout** to enter setting of receiving cards.

- Set the layout according to the actual LED panel placement and network cable connection mode.
- Select the output port, click "+" and select imported cabinets model or custom to add a cabinet, then drag the corner of the cabinet to increase or decrease the number of cabinets.



- Added Cabinets will set default connection mapping, it may not correct.
- Click "" to clean the mapping.
- Click "" at the top symbol line, then click the cabinets one by one from the start to the end.
- Select all cabinets and choose the existing **topology** to set mapping.

- Once the cabinets connection mapping is finished, click **Save mapping**, the cabinets connection mapping will be sent to sender and saved.

Legal Notices

This guide is for reference only and does not constitute any form of commitment. Please refer to the actual product (including but not limited to color, size, screen display, etc.)

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