

Z6 PRO-G2

LED Video Controller

Specification V1.4



Overview

Z6 PRO-G2 is a new-generation professional LED display controller. Combining video splicing, video processing and sending functions, it not only has powerful video signal receiving, UHD image processing and LED display control capabilities, but also has cinematic professional color adjusting functions such as 3D-LUT, Color Magic and Color Curve. It enables the LED to display high-quality images, and provides customers with abundant and practical functions. It can be widely applied in various scenarios such as high-end stage leasing, XR virtual shooting, and movie shooting.

Features

Input

- Three types 4K input cards: HDMI2.0, DP1.2, 12G-SDI.
- Four 4K input slots, up to 4096×2160@60Hz resolution per input card.
- Input 8bit / 10bit video signals.
- Support 23.98Hz to 240Hz frame rate.

Output

- Maximum capacity of 8.80 million pixels, with maximum 8192 pixels in width and 8192 pixels in height.
- 4× 10G fiber outputs (Two main outputs, two backup outputs) .
- Support output frame rate from 23.98Hz to 240Hz.

Video processing

- Up to 4-window display.
- Support cropping, broadcasting level switching and seamless switching.
- Low latency, support arbitrarily selecting one signal to turn on its low latency function, with at least one-frame latency.
- HDR 10 and HLG display with wide gamut HDR display.
- Frame multiplexing for multi-camera shooting of virtual background, support fusion output of multiple video signals.
- Frame rate multiplication with automatic multiplication and custom multiplication up to 6×.
- Better grayscale at low brightness for improving the grayscale performance in low brightness.
- Genlock function.

Color adjustment

- Color curve for individually adjusting the RGB and overall brightness at different grayscale levels.
- Color magic with multi-color adjustment based on HSV color model to realize color transformation.
- 3D-LUT for cinematic color adjustment, with color adjustment strength setting.
- Picture adjustment for hue, saturation, contrast, and brightness compensation.
- Brightness adjustment, support brightness adjustment based on Ethernet port groups.
- Color temperature adjustment with precision and individual RGB adjustment.

Control

- USB port for control and cascading.
- RS232 protocol.
- LAN port for TCP/IP control.

Hardware

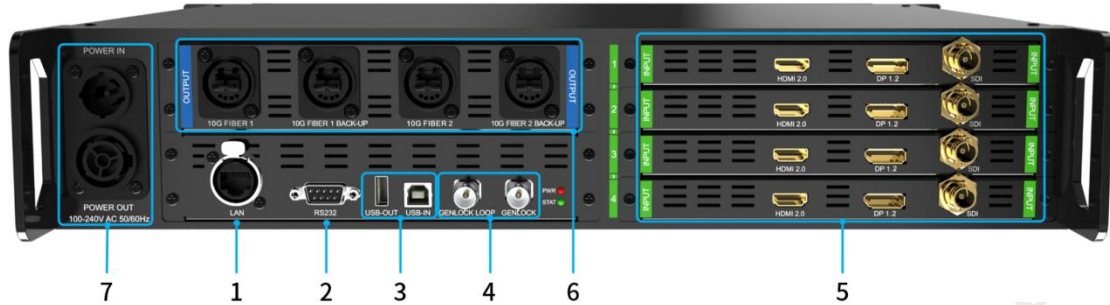
Front



No.	Item	Description
1	LCD	Displays the operation menu and system information.
2	Knob	Select an item or adjust the parameter, press the knob to confirm your selection or adjustment.
3	Function keys	<ul style="list-style-type: none"> • OK: confirm button. • ESC: exit the current interface. • Bright: tune brightness. • Black: black screen. • Lock: lock buttons of front panel. • 1, 2, 3, 4, 5: switch preset modes. • Mode: select a preset. • F1: switch to the main interface. • F2: switch to the signal list. • F3: switch to the signal selection interface.

4	Button	Power button.
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Rear



Control		
1	LAN	Neutrik (NE8FBH) Fast Ethernet port, connect to the computer, or connect to the router for access to the local area network, or as Art-net control port.
2	RS232	DB9 port, for control of serial communications protocol, connect to the third-party device.
3	USB IN	USB2.0 Type-B, connect to the computer for debugging, or as cascading input.
	USB OUT	USB2.0 Type-A, as cascading output.
Genlock		
4	GENLOCK	Input synchronized source, support Bi-level and Tri-level sync.
	GENLOCK LOOP	Output synchronized source.
Input (Maximum 4 input cards)		
5	12G SDI	<ul style="list-style-type: none"> - Support SMPTE 2082 / 2081 / 424M / 292M standard, compatible with SD / HD / 3G / 6G-SDI. - Maximum resolution: 4096×2160@60Hz. - Support deinterlacing display, EDID setting is not supported.
	HDMI2.0	<ul style="list-style-type: none"> - Maximum resolution: 4096×2160@60Hz, maximum pixel clock: 600MHz. - Maximum 8192(8192×1000@60Hz) in width. - Maximum 8192(1000×8192@60Hz) in height. - Support EDID setting.
	DP1.2	<ul style="list-style-type: none"> • Maximum 4096×2160@60Hz, maximum pixel clock: 600MHz. - Maximum 8192(8192×1000@60Hz) in width. - Maximum 8192(1000×8192@60Hz) in height.

		- Support EDID setting.
Output		
6	10G FIBER 1 / 2	<ul style="list-style-type: none"> • 2×10G main fiber outputs. • Built-in 10G single-mode fiber module, wave length: 1310nm, transmission distance: 2km, support Neutrik optical CON DUO (NO2-4FDW-A) and LC-LC fiber connector, recommend using single-mode fiber with a wire diameter of 9 / 125μm and with a PC / UPC connector. • Total load capacity is 13.10 million pixels.
	10G FIBER 1 / 2 BACK-UP	<ul style="list-style-type: none"> • 2× 10G backup fiber outputs. • Automatically back up FIBER1 / 2 signal, with the same physical parameters.
Power		
7	POWER IN	Neutrik (NAC3PX-TOP) power input, 100-240V, 50 / 60Hz, 6A Max.
	POWER OUT	Neutrik (NAC3PX-TOP) power output, 4A Max.

*The equipment shown in the picture is for reference only. Due to the difference of boards assembled, the appearance of the equipment may be different from the picture. Please refer to the actual product.

Signal format

HDMI2.0					
Input	Color space	Sampling	Color depth	Resolution	Frame rate
4K	YCbCr	4:2:2	8bit	4096×2160	23.98,24,25,29.97,30,50,59.94,60
	YCbCr/RGB	4:4:4	8bit		23.98,24,25,29.97,30
	YCbCr/RGB	4:4:4	8bit		50,59.94,60
	YCbCr	4:2:2	8,10bit	3840×2160	23.98,24,25,29.97,30,50,59.94,60
	YCbCr/RGB	4:4:4	8,10bit		23.98,24,25,29.97,30
	YCbCr/RGB	4:4:4	8bit		50,59.94,60
2K	YCbCr	4:2:2	8,10bit	2048×1080	23.98,24,25,29.97,30,50,59.94,60
	YCbCr/RGB	4:4:4	8,10bit		60
	YCbCr	4:2:2	8,10bit	1920×1080	23.98,24,25,29.97,30,50,59.94,60
	YCbCr/RGB	4:4:4	8,10bit		60
	YCbCr	4:2:2	8bit	2048×1080	100,120,144
	YCbCr/RGB	4:4:4	8bit		100,120,144
	YCbCr	4:2:2	8bit	1920×1080	100,120,144
	YCbCr/RGB	4:4:4	8bit		100,120,144

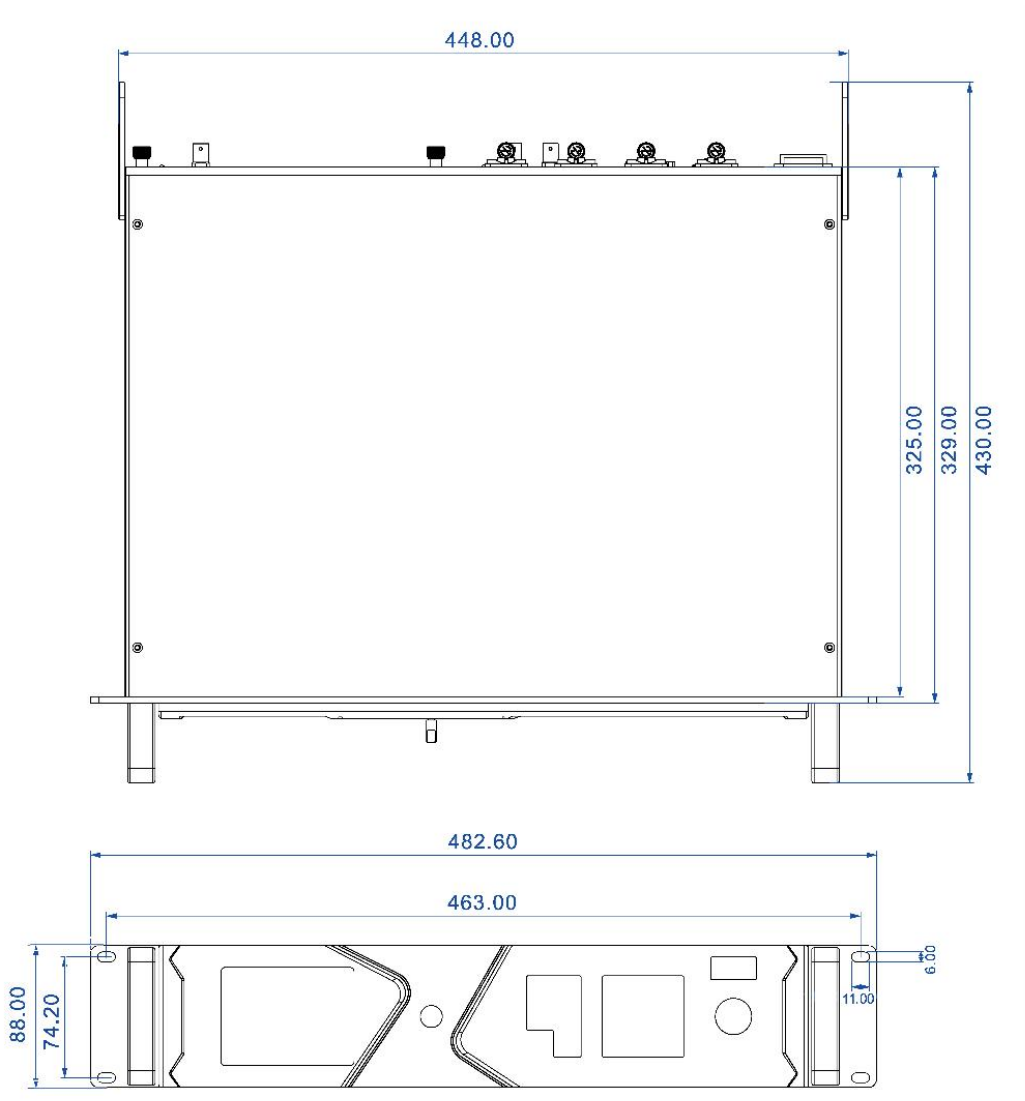
	RGB	4:4:4	8bit	1920×1080	240
The above only shows a part of conventional resolutions.					
DP1.2					
Input	Color space	Sampling	Color depth	Resolution	Frame rate
4K	YCbCr	4:2:2	8bit	4096×2160	23.98,24,25,29.97,30,50,59.94,60
	YCbCr/RGB	4:4:4	8bit		23.98,24,25,29.97,30
	YCbCr/RGB	4:4:4	8bit		50,59.94,60
	YCbCr	4:2:2	8,10bit	3840×2160	23.98,24,25,29.97,30,50,59.94,60
	YCbCr/RGB	4:4:4	8,10bit		23.98,24,25,29.97,30
	YCbCr/RGB	4:4:4	8bit		50,59.94,60
2K	YCbCr	4:2:2	8,10bit	2048×1080	23.98,24,25,29.97,30,50,59.94,60
	YCbCr/RGB	4:4:4	8,10bit		
	YCbCr	4:2:2	8,10bit	1920×1080	23.98,24,25,29.97,30,50,59.94,60
	YCbCr/RGB	4:4:4	8,10bit		
	YCbCr	4:2:2	8bit	2048×1080	100,120,144
	YCbCr/RGB	4:4:4	8bit		
	YCbCr	4:2:2	8bit	1920×1080	100,120,144
	YCbCr/RGB	4:4:4	8bit		
RGB	4:4:4	8bit	1920×1080	240	
The above only shows a part of conventional resolutions.					
12G SDI					
Input	Color space	Sampling	Color depth	Resolution	Frame rate
12G	YCbCr	4:2:2	10bit	4096×2160p	50,59.94,60
	YCbCr	4:2:2	10bit	3840×2160p	50,59.94,60
6G	YCbCr	4:2:2	10bit	4096×2160p	23.98,24,25,29.97,30
	YCbCr	4:2:2	10bit	3840×2160p	23.98,24,25,29.97,30
3G Level A / B	YCbCr	4:2:2	10bit	2048×1080p	50,59.94,60
	YCbCr	4:2:2	10bit	1920×1080p	50,59.94,60
HD	YCbCr	4:2:2	10bit	2048×1080p	23.98,24,25,29.97,30
	YCbCr	4:2:2	10bit	1920×1080p	23.98,24,25,29.97,30
	YCbCr	4:2:2	10bit	1920×1080i	50,59.94,60
	YCbCr	4:2:2	10bit	1280×720p	23.98,24,25,29.97,30,50,59.94,60
SD	YCbCr	4:2:2	10bit	720×576i	50
	YCbCr	4:2:2	10bit	720×480i	59.94

Parameters

Dimensions (W×H×D)	
Unboxed	482.6mm(19.0")×88.0mm(3.5")×430.0mm (16.9"), 2.5U chassis (w / o foot pads)
Boxed	655.0mm (25.7")×245.0mm (9.6")×615.0mm (24.2")
Weight	
Net weight	9.64kg (21.3lbs)
Total weight	19.8kg (46.7lbs)
Electrical specification	
Power input	AC100-240V, 50 / 60Hz
Rated power	150W (With all cards installed)
Operating environment	
Temperature	0°C~55°C / 32°F~131°F
Humidity	10%RH-80%RH, non-condensing
Storage environment	
Temperature	-30°C~80°C / -22°F~176°F
Humidity	10%RH-90%RH, non-condensing
Certification	
CCC, CE, FCC, IC, CB, cTUVus.	
* If there is no certification for the country or region where the product is sold, please contact Colorlight to confirm it right away. Otherwise, if the relevant legal risks are caused, the customer shall bear it or Colorlight has the right of recourse.	

Reference dimensions


Unit: mm



Statement

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