Colorlight

Z4F

LED Video Controller

Specification V2.1

Overview

Z4F, a professional LED controller, integrates video processor with transmitter into one. Fully upgraded Z4F can achieve low latency, precise color management, adding Genlock function, which can be perfectly applied to public rental displays and high-end fixed installation projects. Equipped with 2x optical fiber outputs, Z4F meets the needs of ultra-long transmission with optical transceivers.

Features

Input

- Support HDMIx1, DVIx1, SDIx2, DPx1 video signal input.
- Maximum input resolution 1920x1200@60Hz.
- Video cascade loop-out interface: HDMI LOOPx1, DVI LOOPx1

Output

- 2x 2.5G optical fiber output.
- Up to 2.60 million pixels, maximum 4096 pixels in width and height.

Video processing

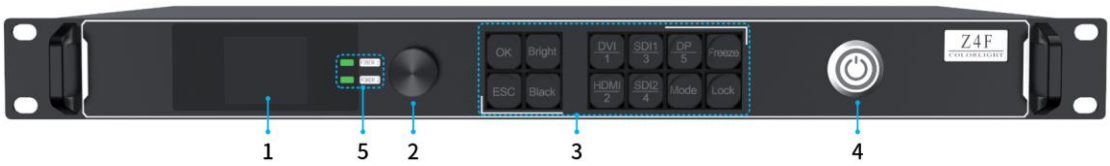
- Up to 3 layers display.
- Video sources zooming and cropping.
- Low latency.
- Better grayscale performance at low brightness.
- Genlock function.
- Brightness and color temperature adjustment.
- Precise color management.
- Picture adjustment for hue, saturation, contrast, and brightness compensation.

Control

- USBx2, for PC control or cascade.
- LANx1, Gigabit network IP control.
- Art-Net control.
- Strict sync cascading among multiple processors.

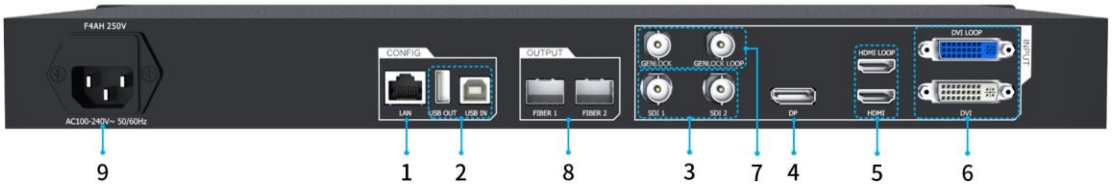
Hardware

Front panel



No.	Item	Function
1	1.8-inch LCD	Display 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	Shortcut	• **OK**: Enter. • **Bright**: Brightness adjustment. • **ESC**: Exit the current menu. • **Black**: Black the screen. • **Lock**: Lock the front panel keys. • **Freeze**: Freeze the image. • **DVI, HDMI, SDI1, SDI2, DP**: Switch video signal in single-window mode, select scene via 1~5 keys. • **Mode**: Enter / exit scene selection mode.
4	Power Switch	Switch the device on or off.
5	Signal Indictor	Fiber optic signal Indicator status: Indicator flashing shows normal data transmission.

Rear panel



Control		
1	LAN	Fast Ethernet control, connect to a PC for communication or accessing local area network.
2	USB OUT	USB2.0 Type A port, as cascading output.
	USB IN	USB2.0 Type B port, connect to PC for debugging or cascading input.

Input		
3	SDI1, SDI2	• 2x SDI input. • Maximum resolution: 1920x1080@60Hz.
4	DP	• 1x DP1.1 input. • Customized maximum resolution: 1920x1200@60Hz. - Maximum 4096 in width. - Maximum 4096 in height. • HDCP 1.4. • EDID settings.
5	HDMI	• 1x HDMI1.4 input, support HDMI1.3 • Customized maximum resolution: 1920x1200@60Hz. - Maximum 4096 in width. - Maximum 4096 in height. • HDCP 1.4. • EDID settings.
	HDMI LOOP	• Same as HDMI 1.4, loop out HDMI signal • HDCP is not supported.
6	DVI	• 1x DVI input. • Customized maximum resolution: 1920x1200@60Hz. - Maximum 4096 in width. - Maximum 4096 in height. • HDCP 1.4. • EDID settings.
	DVI LOOP	• Same as DVI, loop out DVI signal • HDCP is not supported.
GENLOCK		
7	GENLOCK	• Support Bi-level and Tri-level sync, connect to an external synchronization source.
	GENLOCK LOOP	• Loop out genlock signal.
Output		
8	FIBER 1, FIBER 2	• 2x 2.5G optical fiber interfaces. • Total load capacity is 2.60 million pixels, with maximum 4096 pixels in width and maximum 4096 pixels in height. • Redundant backup.
Power supply		
9	MAINS INPUT	AC100-240V, 50 / 60Hz, connect to AC power supply, built-in fuse.

Signal format

Input	Color space	Sampling	Color depth	Resolution	Frame rate
DP	YCbCr	4:2:2	8bit	1920x1200	23.97, 24, 25, 29.97, 30, 50, 59.94, 60
	YCbCr	4:2:0	8bit		
	YCbCr/RGB	4:4:4	8bit		
DVI	YCbCr	4:2:2	8bit	1920x1200	23.97, 24, 25, 29.97, 30, 50, 59.94, 60
	YCbCr	4:2:0	8bit		
	YCbCr/RGB	4:4:4	8bit		
HDMI	YCbCr	4:2:2	8bit	1920x1200	23.97, 24, 25, 29.97, 30, 50, 59.94, 60
	YCbCr	4:2:0	8bit		
	YCbCr/RGB	4:4:4	8bit		
SDI	• Maximum input resolution 1920x1080@60Hz. • Input resolution and bit depth settings are not supported. • Support ST-424 (3G), ST-292 (HD) standard video input.				

Function specification

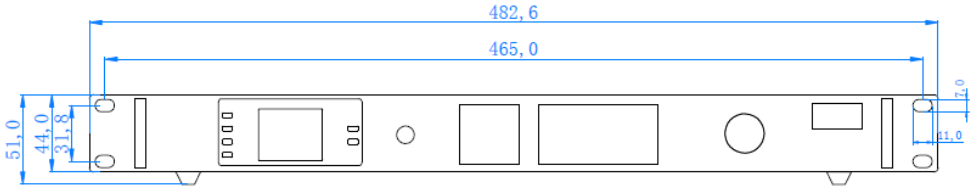
Multi-layer display	Up to 3 layers, support window overlay. 2x SDI only support either 1 channel for windowing. Freely adjust cropping size and position, minimum 64x64 resolution, maximum load capacity 2.60 million pixels.
Signal cropping	Arbitrary cropping of all input signals. Freely adjust cropping size and position can be adjusted freely, minimum 64x64 resolution.
Signal switch	Seamless switching between input signals.
Low latency	Only low latency without cropping and scaling, when the load capacity of a single network port is less than or equal to 512 pixels, using this feature reduces the end-to-end latency to zero frame.

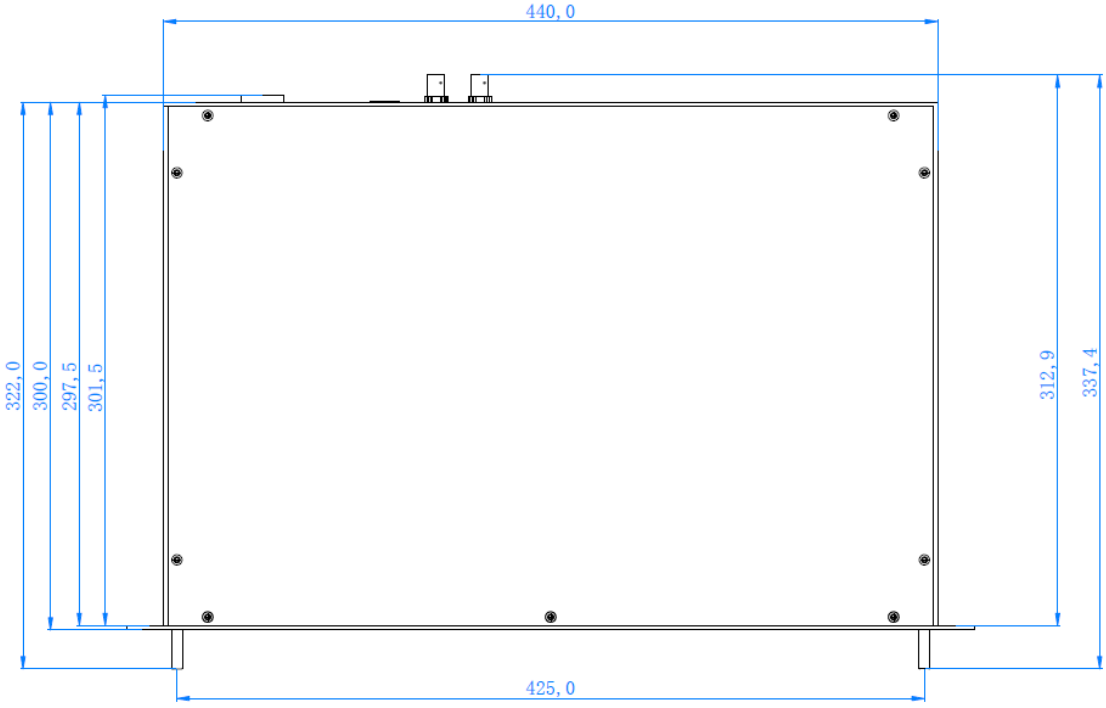
Parameters

Dimensions (W×H×D)	
Unboxed	482.6mm (19.0") × 44.0mm (1.7") × 337.4mm (13.3")
Boxed	545.0mm (21.5") × 95.0mm (3.7") × 463.0mm (18.2")
Weight	
Net weight	3.2kg (7.05lbs)
Total weight	4.8kg (10.58lbs)
Electrical specification	
Power input	AC100-240V, 50/60Hz
Rated power	20W
Operating environment	
Temperature	-20°C~60°C (-4°F~140°F)
Humidity	0%RH~80%RH, non-condensing
Storage environment	
Temperature	-30°C~80°C (-22°F~176°F)
Humidity	0%RH~90%RH, non-condensing
Certification	
CE, FCC, IC, CB, cTUVus, EAC. * If the product does not have the relevant certifications required by the countries or regions where it is to be sold, please contact Colorlight to confirm or address the problem. Otherwise, the customer shall be responsible for the legal risks caused or Colorlight has the right to claim compensation.	

Reference dimensions

Unit: mm





Statement

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