

Colorlight

CS16K (3GPUs)

Multimedia Server

Specification V1.1



1. Overview

CS16K(3GPUs) is a highly capable multimedia server that excels in playback control performance, scalability, and stability. It boasts powerful hardware that enables the decoding and playback of three 8K videos, while also allowing for the output of twelve 4K@60Hz video signals. Paired with the preinstalled GrandShow, a professional playback and control software crafted by Colorlight, CS16K can simultaneously decode and play materials across various formats, delivering multiple display effects such as multi-screen splitting and irregular-shaped screen splicing. Moreover, it offers flexible features such as multiple layers, multiple scenes, and seamless switching. These capabilities fully satisfy the diverse demands of the playback control industry.

2. Features

- 12×DP1.4 video output ports (up to 4K@60Hz per port)
- A single device supports pixel-to-pixel control and playback of up to 16384×6912@60Hz
- Playback of diverse materials, such as videos, images, PPTs, texts, webpages, and streaming media
- Multi-scene operations such as editing, previewing, switching, saving, and copying
- Quick functions such as screen freezing, background image display, and scene switching
- 10bit HDR video decoding and playback
- Supports server 3D Genlock signal
- Creative display options such as arbitrary image rotation, ultra-long displays, special-shaped screen splicing, and irregular screen splitting
- Real-time monitoring of the system operating status, providing alerts in case of device failure or playback material anomalies
- Preview of playback content and real-time monitoring of output image
- Quick control using an external MIDI controller
- Receiving NDI signals
- Multi-device primary-backup redundancy
- Timed power on/off and automatic scene looping
- Control via tablet app for visualized operations like image monitoring

and seamless scene switching

- Supports central control protocols for scene switching, image playback, volume adjustment and other functions
- Supports timeline playback for flexible program scheduling and dynamic timeline effects that change over time
- Performance monitoring by checking system resource usage and playback logs
- Scheduled command list allows for timed execution of commands and operations like software opening/closing/restarting, server shutdown/restart, playback, pause, and stop
- Window effects for playback materials, including color wheel, feather, fisheye, invert colors, kaleidoscope, keying, marquee, mask, mosaic, night vision, emboss, sharpen, flicker, and swirl
- Transition effects such as fade in/out, move left/right, move up/down, smog, and fire

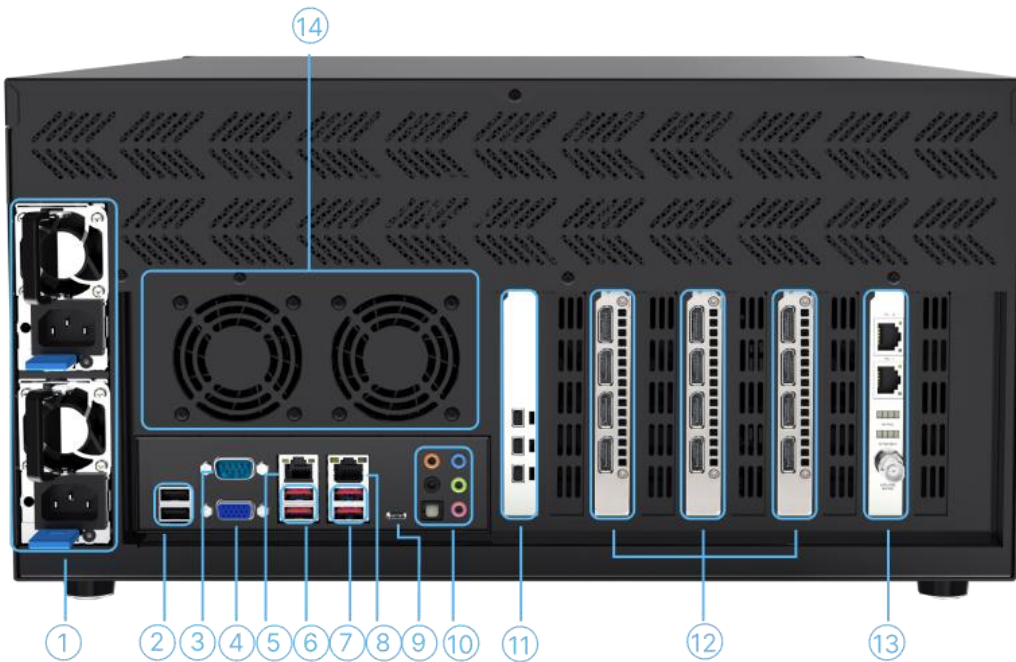
3. Appearance

3.1 Front Panel



No.	Item	Description
1	Power switch	Power on/off the device
2	USB	2×USB 3.0 ports for external devices such as keyboard, mouse, and USB flash drive

3.2 Rear Panel



No.	Item	Description
1	Power connector	2000W redundant power supply
2	USB 2.0	2×USB 2.0 ports
3	COM1 port	DB9 port
4	VGA port (IPMI only)	VGA video port
5	LAN1 (1GbE)	Gigabit Ethernet port
6	USB 3.2 Gen 1	2×USB 3.2 ports
7	USB 3.2 Gen 1	2×USB 3.2 ports
8	LAN2 (10GbE)	10 Gigabit Ethernet port
9	USB 3.2 Gen 2×2	1×USB 3.2 port
10	Audio port	7.1-channel audio port
11	3×Mini DP	Video output ports
12	12×DP1.4	Video output ports
13	Video sync card	Sync signal port
14	Fan	2×cooling fans

4. Application



5. Specifications

Model		CS16K (3GPUs)
Chassis		5U
Operation interface port		Mini DP×3 (Up to 4096×2304@60Hz per port)
CPU		Intel Xeon 16-core 32-thread processor
RAM		128G
Storage		4TB M.2 high-speed SSD (expandable)
Capture card (optional)		HDMI, SDI, DVI ports
Graphics card		3×Quadro 16GB professional graphics cards + 4GB professional graphics card
Video port		DP1.4×12
Maximum output (single port)		4096×2304@60Hz
Maximum output (whole device)		16384×6912@60Hz
Audio		Support audio input and multi-channel output
Network		1GbE&10GbE
Playback and control software		GrandShow
Operating environment	Temperature	0°C~55°C/32° F~131° F
	Humidity	0%RH~85%RH, non-condensing
Storage environment	Temperature	-40°C~70°C/-40° F~158° F
	Humidity	0%RH~95%RH, non-condensing
Electrical specifications	Power supply	200-240V~8A, 50/60Hz
	Power	700W
Physical specifications	Net weight	20.6Kg / 45.4lbs
	Dimension (W×H×D)	482.6mm×236.76mm×577.4mm/ 19.00"×9.32"×22.73"

6. Signal Formats

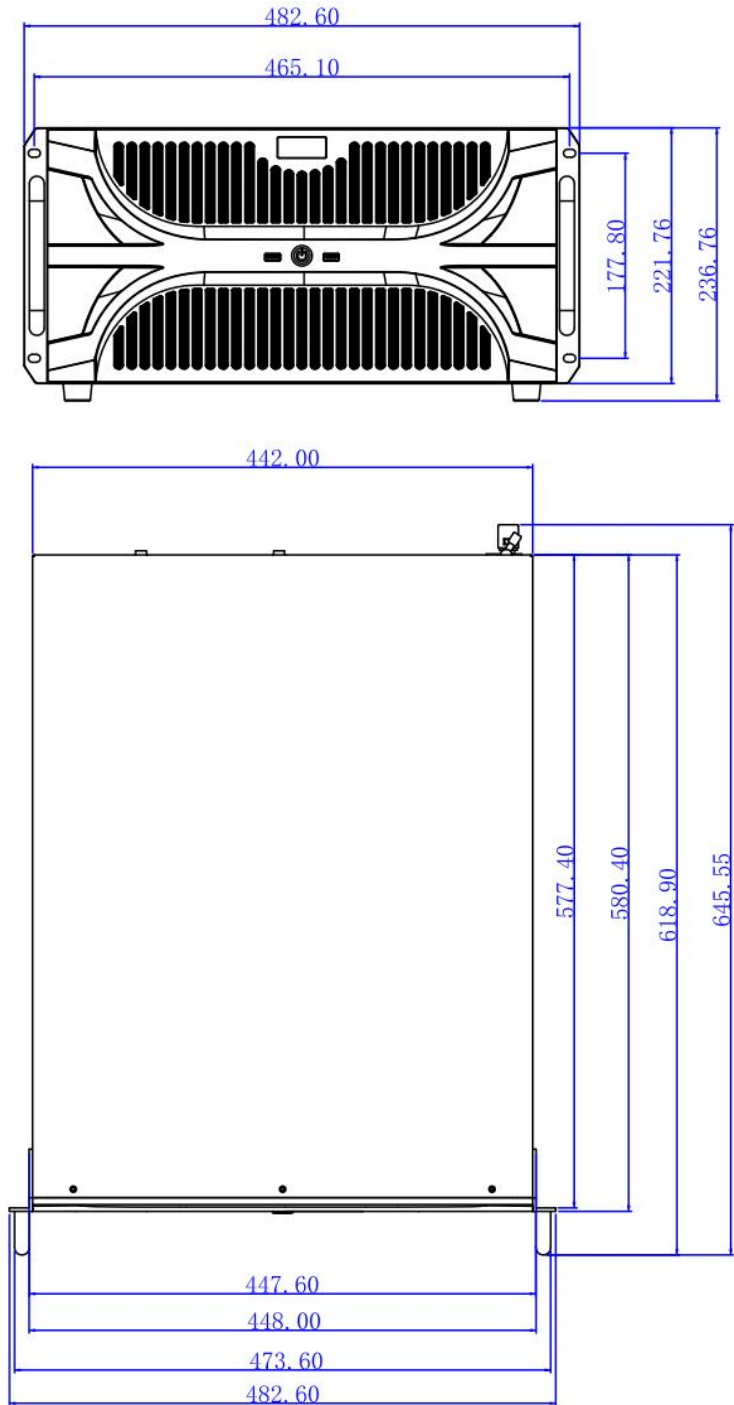
DP1.4 (12)					
Output	Maximum Resolution	Color Space	Sampling	Color Depth	Frame Rate
4K	4096x2304	YCbCr	4:2:2	8/10bit	23. 98, 24, 25, 29. 97, 30, 50, 59. 94, 60
		YCbCr/RGB	4:4:4	8/10bit	
	3840x2160	YCbCr	4:2:2	8/10bit	
		YCbCr/RGB	4:4:4	8/10bit	
2K	2048x1080	YCbCr	4:2:2	8/10bit	23. 98, 24, 25, 29. 97, 30, 50, 59. 94, 60, 100, 120
		YCbCr/RGB	4:4:4	8/10bit	
	1920x1080	YCbCr	4:2:2	8/10bit	
		YCbCr/RGB	4:4:4	8/10bit	

Note: The above figure only shows some of the common resolutions.

7. Dimensions

Unit: mm

Tolerance: $\pm 0.2\text{mm}$



Statement

Copyright © 2024 Colorlight Cloud Tech Ltd. All rights reserved.

No part of this document may be copied, reproduced, transcribed, or translated without the prior written permission of Colorlight Cloud Tech Ltd., nor be used for any commercial or profit-making purposes in any form or by any means.

Colorlight The logo is a registered trademark of Colorlight Cloud Tech Ltd.

Without written permission of the company or the trademark owner, no unit or individual may use, copy, modify, distribute, or reproduce any part of the above and other Colorlight trademarks in any way or for any reason, nor bundle them with other products for sale.

Due to possible changes in product batches and production processes, the text and pictures in the document may be adjusted and revised to match accurate product information, specifications, and features. Colorlight may make improvements and changes to this document without prior notice. Please refer to the actual product.

Thank you for choosing Colorlight Cloud Tech Ltd. product. If you have any questions or suggestions during use, please contact us through official channels. We will do our utmost to provide support and listen to your valuable suggestions. For more information and updates, please visit www.colorlightinside.com or scan the QR code.

Colorlight

Official Website



Colorlight Cloud Tech Ltd

Service Phone: 4008 770 775

Official Website: www.colorlightinside.com

Head Office Address: 37F-39F, Block A, Building 8, Zone C, Phase III,
Vanke Cloud City, Xili Street, Nanshan District, Shenzhen, China