

# Video broadcast control server

## S4-UHD Lite



Specification Documents



## Revision History

Release version	Release date	Update notes
V1.0	2021-08-31	<ul style="list-style-type: none"><li>• First release</li></ul>
V1.1	2022-06-15	<ul style="list-style-type: none"><li>• Update the power/graphics /VGA/COM port</li></ul>
V1.2	2022-09-06	<ul style="list-style-type: none"><li>• Updated appearance parameters/System description</li></ul>
V1.3	2023-06-13	<ul style="list-style-type: none"><li>• Add HDMI monitor ports</li><li>• Change the broadcast control system to window version</li></ul>
V1.4	2023/7/25	<ul style="list-style-type: none"><li>• Motherboard upgraded to EAMB-1590 C246 chip-set</li><li>• Processor upgrade to Intel Xeon E-2174G</li><li>• Upgrade the graphics card to NVIDIA RTX A2000 6GB</li></ul>

## Product Introduction

S4-UHD Lite video server is a multimedia integrated broadcast control server for large-scale LED broadcast control scenarios such as multimedia exhibition halls, banquet halls, and live performances. It has the signal processing capability of traditional multi-picture splicing processor, and integrates the media editing function of professional stage performance and the lighting arrangement control function. It can not only achieve high quality and ultra-high resolution point-to-point display, but also achieve a variety of display creativity. S4-UHD Lite video server with professional LED broadcast control software, to provide users with convenient scene management and professional LED human-computer interface, suitable for performing arts, exhibitions, large buildings and a variety of creative display application scenarios.

## Certification

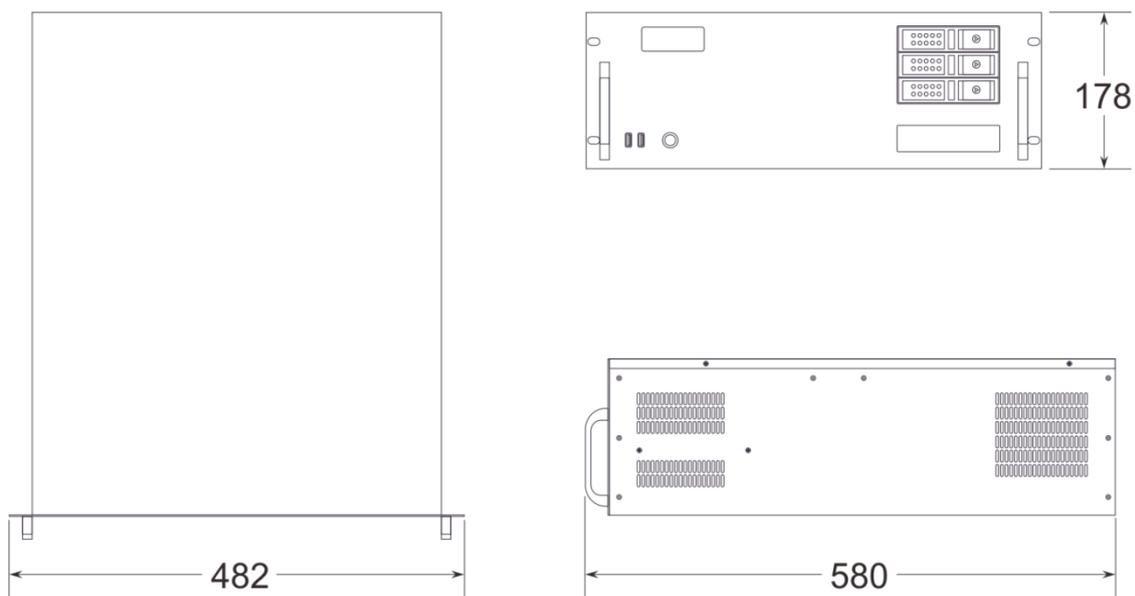
CCC, CE, Rohs

If the product does not have the relevant certification of the country or region where it is sold, please contact Ruizhong Technology to confirm or deal with it at the first time, otherwise, if the relevant legal risks are caused, the customer shall bear the responsibility or Ruizhong Technology has the right to recover.

## Product Features

- Single outlet with maximum load width 4096Px, maximum height 2160Px, in the range of 8.84 million Px user-defined.
- Machine load: maximum width of single screen 16384Px, maximum 4320Px, can be customized.
- Hardware decoding capability: 1 channel 8K hard decoding or 4 channel 4K hard decoding, support multi-channel 2K hard decoding.
- Video input: 4K/2K input is optional.
- Number of input channels: 1-4 HDMI/DVI/SDI Optional.
- Supports multiple HDMI/DVI/SDI signal input 2K/4K custom acquisition card (optional).
- Support tablet central control playback;
- Supports TCP/UDP network commands.
- Supports screen rotation at any Angle, suitable for a variety of creative display applications;
- LTC Time code synchronization;
- 650W Server power supply.
- 3D mapping;
- Built-in universal decoder, can decode HAP, DXV, HEVC and other common and professional video formats.

## Product Dimensions

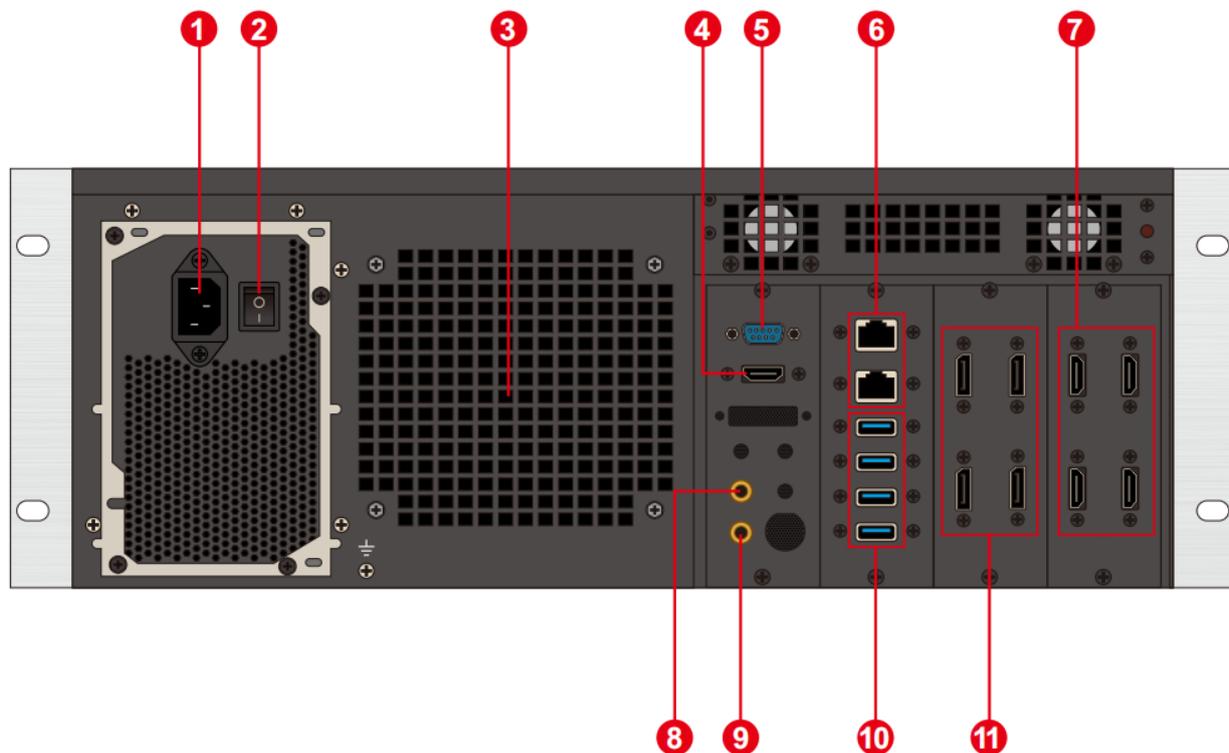


## Product Appearance



Front panel

Serial No.	Interface	Quantity	Description
1	USB	1	<ul style="list-style-type: none"> <li>Type-A USB3.0 * 2</li> <li>Connect mouse and keyboard</li> </ul>
2	Switch button	1	<ul style="list-style-type: none"> <li>Switch button</li> </ul>
3	Temperature control display	1	<ul style="list-style-type: none"> <li>Display server running time, temperature, cooling fan status, and abnormal alarm</li> </ul>
4	Identification	1	<ul style="list-style-type: none"> <li>Server model and name identification</li> </ul>
5	Front hard disk box	3	<ul style="list-style-type: none"> <li>3.5-inch and 2.5-inch SATA disks can be installed</li> </ul>



Back panel

Serial No.	Interface	Quantity	Description
1	Power supply input	1	<ul style="list-style-type: none"> <li>Power input</li> <li>110V-240V 50/60Hz</li> <li>Alternating current</li> </ul>
2	AC switch	1	<ul style="list-style-type: none"> <li>Main power switch</li> </ul>
3	Heat sink	1	<ul style="list-style-type: none"> <li>Heat dissipation port of the CPU water-cooled radiator fan</li> </ul>
4	HDMI output	1	<ul style="list-style-type: none"> <li>Connect to HDMI display</li> <li>Used to operate and edit broadcast control software</li> </ul>
5	COM port	1	<ul style="list-style-type: none"> <li>COM interface</li> <li>Connect to RS232/485 serial port devices</li> </ul>
6	Network port	2	<ul style="list-style-type: none"> <li>1GB RJ45 port *2</li> </ul>
7	HDMI input	4	<ul style="list-style-type: none"> <li>Connect the HDMI signal input</li> <li>Maximum resolution 1920*1080</li> </ul>
8	Audio output	1	<ul style="list-style-type: none"> <li>3.5mm standard audio output</li> </ul>
9	microphone	1	<ul style="list-style-type: none"> <li>3.5mm standard audio output</li> <li>Microphone can be connected to input audio</li> <li>Acceptable audio timecode</li> </ul>
10	USB	4	<ul style="list-style-type: none"> <li>Type-A USB3.0 x 4</li> <li>Can connect mouse, keyboard, U disk, mobile hard disk, wireless network card, etc</li> </ul>
11	DP1.2	4	<ul style="list-style-type: none"> <li>Connect the monitor to display the software editing interface</li> <li>Connect the sending card or display for output screen</li> <li>Maximum output 4096*2160@60Hz</li> </ul>

## Device hardware/software

Hardware parameter			
CPU	The Intel ® Xeon ® E-2174G processor has an 8-meter cache with a base frequency of 3.8GHz and up to 4.70 GHz		
Memory	16GB DDR4		
Storage	500GB SSD with hot swappable hard drive		
Output graphics card	NVIDIA RTX A2000 6GB professional graphics card		
Control video card	INTEL P630		
Power Supply	Great Wall 650W		
Chassis	4U hot swap chassis		
Radiator	Water cooling (CPU), Air cooling (GPU)		
Software			
Operating system	Windows 10 Enterprise Edition	Broadcast control system:	LED broadcast control system (window version)
Power source			
Input power supply	110-220V AC ~ 50hz		
Maximum power	650W		

## Equipment specification

Electrical specification	110-240V~ 6A 50/60Hz; 650W maximum power
Installation specification	4U rack mounting (based on site conditions)
Size specification	580 mm(length)×482 mm(width)×178 mm(height)
Working environment	Temperature: 5-35°C (40°-95°F), humidity: 5%-95% (non-condensing)
Storage environment	-10°C ~ +60°C; 0%RH to 95%RH, non-condensing
Package size	678 mm(length)×548 mm(width)×265 mm(height)
Accessories	Power cable *1, Network cable *1, test report *1, test report *1, Certificate *1, packing list *1, mouse and keyboard set *1, wireless network card *1, DP cable *4, HDMI cable *1, activation label *1 (attached to the front panel of the chassis)

## Media Type

Media type	Media format
Video	mp4、avi、mkv、flv、mov、wmv、mpeg、mpg、m4v、webm、HAP
Audio frequency	mp3、aac、flac、amr、ape、wav、wma
Picture	jpg、jpeg、bmp、png、gif、ico
Text	Txt
Streaming media	Ndi、http、rtsp、rtp、rtcp、rtmp、mms、hls
WEB	Supports access to any web page
Office file	PPT (1080P)

## *i* Notes

Video encoding format recommended:

- When the video size is above 4K, 8K or below, and the width does not exceed 8192 and the height does not exceed 4320, it is recommended to use H.265 (HEVC) encoding or VP9 encoding.
- When the video is 4K or below, H.264 (AVC) encoding is recommended.
- HAP encoding is recommended when the video is larger than 8K and the width is less than 15360 and the height is less than 7680.

For the best performance and picture quality, the recommended video source rate is as follows:

Video resolution	24-30 FPS (standard video)	48-60 FPS (high frame video)
4320P (8K)	70-100Mbps	100-140Mbps
2160P (4K)	35-45Mbps	55-70Mbps
1080P (2K)	10Mbps	16Mbps

The above is the recommended video bit-rate for SDR source



## Functional support

Feature	Description
Media support	Support PPT, web pages, videos, pictures, audio and other media playback
Slice mask	Supports the import of slice data and mask function
Matting function	Support chroma matting, support custom color matting
3D WEB broadcast control system	Supports multi-terminal control
24-244 Frame rate selection (Insert frame playback)	support
Central control System (Standard Edition)	support
Echo monitoring system	support
Interactive game	support
NDI acquisition	support
Streaming media	support
LTC/NTC time code	Supports receiving and sending time codes
DMX512	Support recording playback and broadcast control by DMX512 signal control
TCP/UDP protocol	You can send and receive TCP/UDP control commands

## Packing List

Item	Quantity	Quantity	Unit
Mainframe	1	S4-UHD Lite	Unit
Power cord	1	1.8m	Strip
HDMI cable	1	2m	Strip
DP line	4	2m	Strip
Wireless network card	1	USB wireless card	Piece
Keyboard and mouse	1	Dual Swift USB keyboard and mouse	Set
Certificate of conformity	1		Copy
Test report	1		Copy
Functional checklist	1		Copy
Packing list	1		Copy

## Notes

When using the device, place it horizontally. Do not turn it over or place it vertically.

The product can be installed in a 19-inch standard cabinet. The cabinet must bear at least four times the weight of all the devices in the cabinet. Use four M5 panel screws to secure the installation.

## Statement and warning

This is A Class A product, which may cause radio interference in a domestic environment. In such cases, users may be required to take practical measures against their interference.

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