

# Video playback control server

## S8-FHD



## Specification Document

# Revision History

Release version	Release date	Update Notes
V1.0	2021-08-31	• First release
V1.1	2022-06-15	• Updated power/graphics/VGA/COM interfaces
V1.2	2022-09-06	• Updated appearance parameters/system introduction
V1.3	2023-05-22	• Add HDMI monitor port • Add DVI monitor port • Add a T1000 graphics card for monitor display • Change the broadcast control system to the windowed version • External BNC SYNC synchronization card port

## Product Introduction

S8-FHD video server is a multimedia integrated broadcast control server for large-scale LED broadcast control scene applications such as multimedia exhibition halls, banquet halls, and live performances. It has the signal processing capabilities of traditional multi-screen splicing processors, and integrates the media editing and broadcasting functions and lighting choreography control functions of professional stage performances. It can not only complete high-quality ultra-large resolution point-to-point display, but also realize a variety of display ideas. The S8-FHD video server is equipped with professional LED broadcast control software, providing users with convenient scene management and professional LED human-computer interaction interface, which is suitable for performing arts, exhibitions, large-scale buildings and various creative display application scenarios.

## Certification

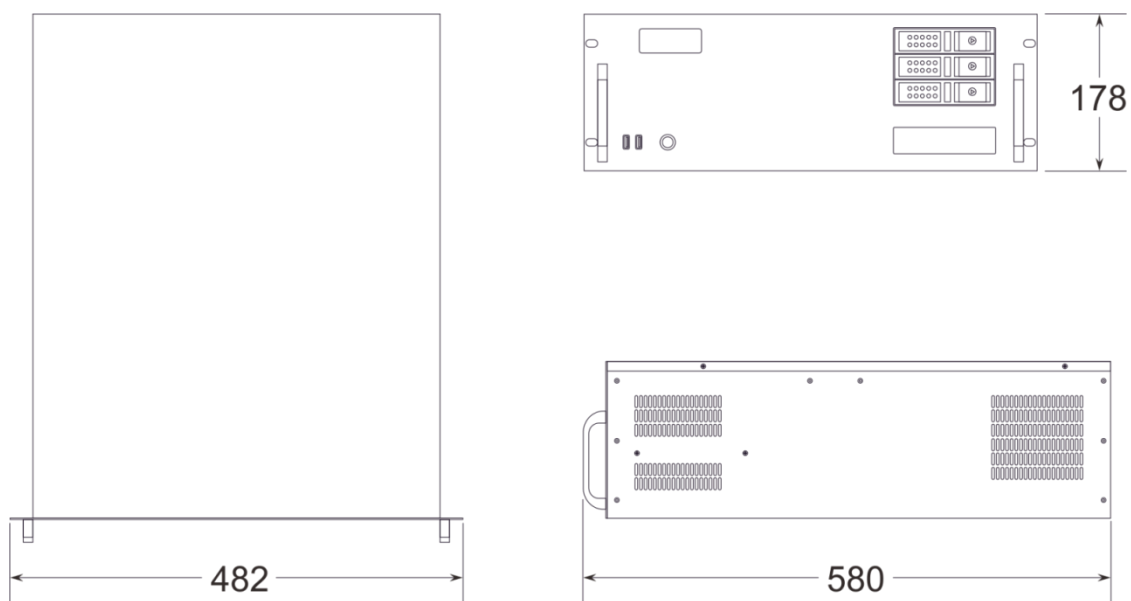
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If the product does not have the relevant certification of the country or region to which it is sold, please contact us for confirmation or processing as soon as possible, otherwise, if the relevant legal risks are caused, the customer shall bear it or we have the right to recover.

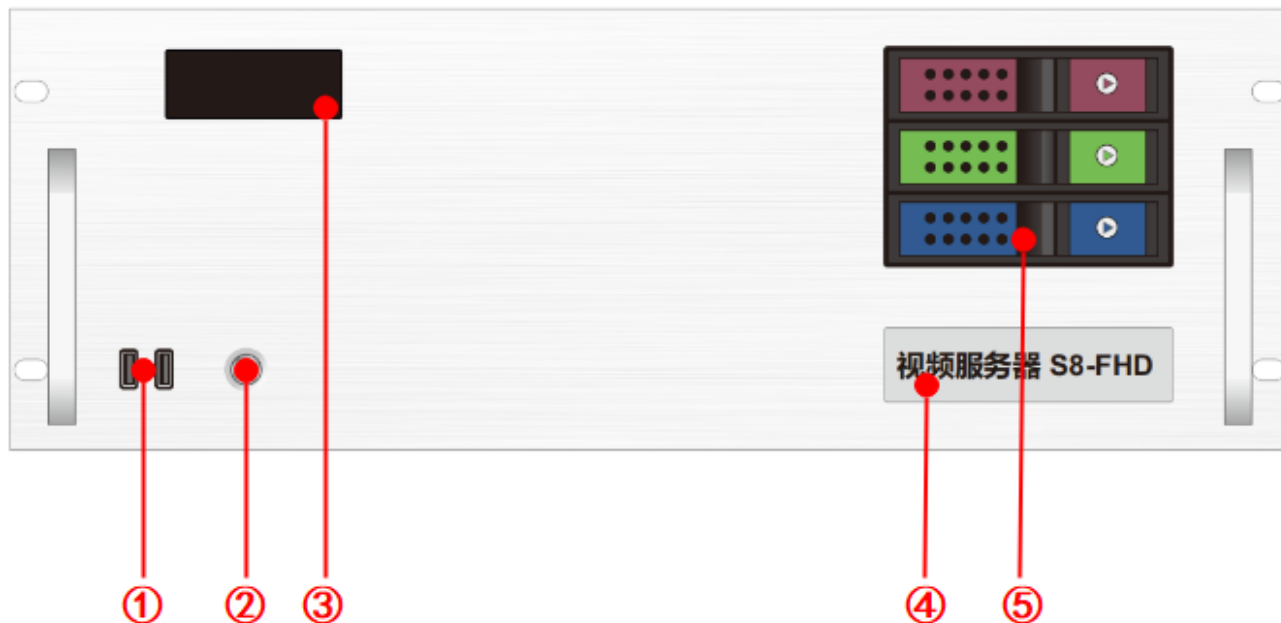
# Product Features

- The maximum load width of the single-port output port is 4096Px, the maximum height is 2160Px, and it can be customized within the range of 8.84 million Px.
- The whole machine can carry 70 million pixels and supports customization.
- Hardware decoding capability: multi-channel 2K/4K/8K hardware decoding.
- Video input: 4K/2K input is optional.
- Number of input channels: 1-4 HDMI/DVI/SDI optional.
- Support HDMI/DVI/SDI multiple signal inputs 2K/4K custom capture card (optional).
- Support tablet central control playback.
- Support TCP/UDP protocol network commands.
- Support any angle rotation of the screen, which is suitable for various creative display applications.
- LTC timecode synchronization.
- 1000W server power supply.
- Support 3D mapping.
- Built-in universal decoder that can decode common professional video formats such as HAP, DXV, HEVC, etc.

# Product Dimensions

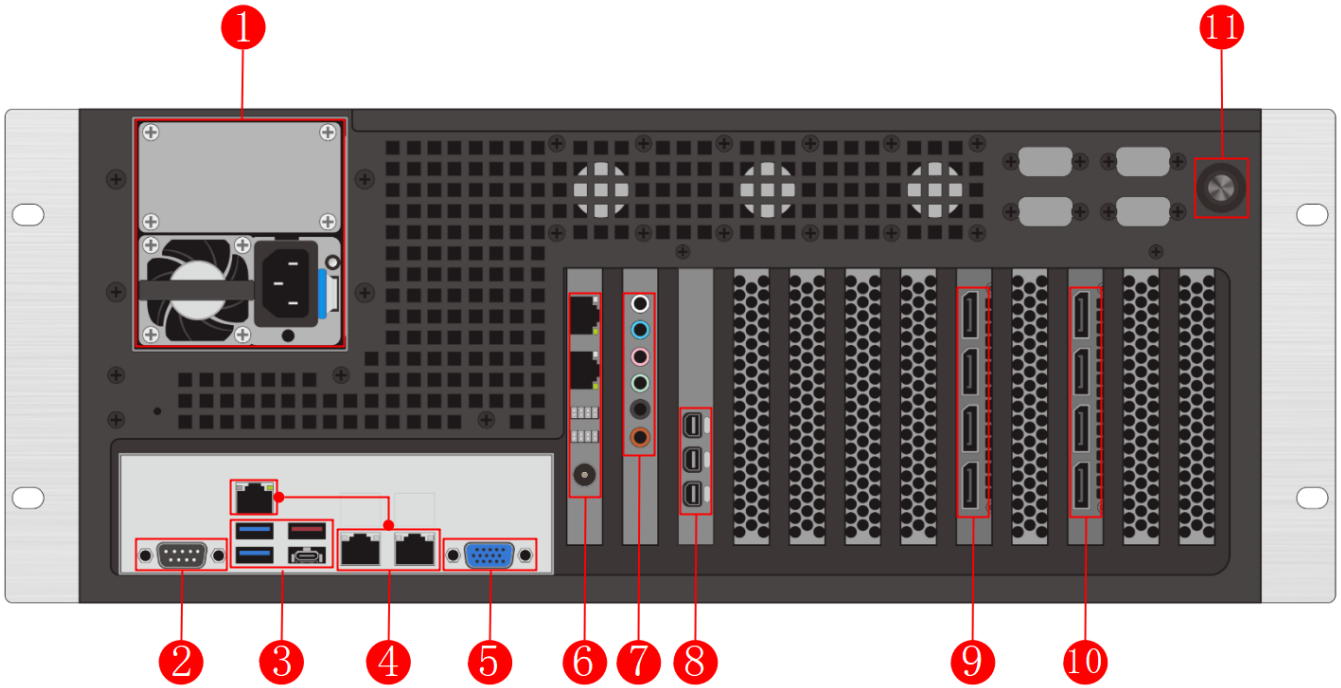


# Product Appearance



## Front Panel

Index	Interface	Quantity	Illustrate
1	USB	1	• Type-A USB3.0 *2
2	Power on and off button	1	• Power on and off button
3	Temperature control display screen:	1	• Display server runtime, temperature, cooling fan status, and abnormal alarms
4	Identification	1	• Server model and name identification
5	Front hard drive enclosure	3	• Supports installation of 3.5-inch and 2.5-inch SATA interface hard drives



## Back Panel

Index	Interface	Quantity	Illustrate
1	Power 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	Cooling vent	1	<ul style="list-style-type: none"> <li>• CPU water cooling fan vent</li> </ul>
4	DVI output	1	<ul style="list-style-type: none"> <li>• Connect to DVI monitor</li> <li>• Used for operating and editing broadcast control software</li> </ul>
5	HDMI output	1	<ul style="list-style-type: none"> <li>• Connect to HDMI monitor</li> <li>• Used for operating and editing broadcast control software</li> </ul>
6	COM port	1	<ul style="list-style-type: none"> <li>• COM interface</li> <li>• Can connect to RS232/485 protocol serial devices</li> </ul>
7	Network port	2	<ul style="list-style-type: none"> <li>• 1GB RJ45 port *1</li> <li>• 5GB RJ45 port *1</li> </ul>
8	Audio output	1	<ul style="list-style-type: none"> <li>• 3.5mm standard audio output port</li> </ul>
9	Microphone	1	<ul style="list-style-type: none"> <li>• 3.5mm standard audio output port</li> <li>• Can connect to microphone input audio</li> <li>• Can accept audio timecode</li> </ul>
10	Synchronization signal input	1	<ul style="list-style-type: none"> <li>• Connect to external synchronization signal</li> <li>• BNC interface</li> </ul>
11	USB	4	<ul style="list-style-type: none"> <li>• Type-A USB 3.0 *4</li> <li>• Can connect to mouse, keyboard, USB drive, external hard drive, wireless network card, etc.</li> </ul>
12	DP 1.2	4	<ul style="list-style-type: none"> <li>• Connect to monitor for displaying software editing interface</li> <li>• Connect to sender card or display screen for outputting images</li> <li>• Maximum output 4096*2160@60Hz</li> </ul>

# Device Hardware/Software

Hardware Parameters			
CPU:	Intel Xeon W-2150B@ 3.00GHz, 10 cores, 20 threads, turbo Boost up to 4.5GHz		
Memory:	32GB DDR4 RECC		
Storage:	M.2 2048GB NVMe, supports hot-swappable hard drives		
Output Graphics Card:	2x NVIDIA RTX A4000 16GB Professional Graphics Card		
Control Graphics Card:	NVIDIA T1000 Professional Graphics Card		
Power supply:	1000W power supply		
Chassis:	4U hot-swappable chassis		
Cooler:	Water cooling (CPU), air cooling (GPU)		
Software			
Operating system:	Windows 10 Enterprise	Broadcast Control System:	LED Broadcast Control System (Window Version)
Power Supply			
Input Power:	110-220V AC ~50hz		
Maximum Power:	1000W		

# Equipment specifications

Electrical Specifications	110-240V~ 6A 50/60Hz ;1000W maximum power
Installation Specifications:	4U rack-mounted installation (according to the site situation).
Dimensions	580mm (length) × 482mm (width) × 178mm (height)
Working environment	Temperature: 5-35°C (40°-95°F), Humidity: 5%-95% (non-condensing).
Storage environment	-10°C to +60°C; 0% RH to 95% RH, non-condensing
Package size	678mm (length) × 548mm (width) × 265mm (height).
Fittings	Power Cable*1, Network Cable*1, Inspection report *1, Test report *1, Certificate of conformity *1, Packing list *1, Mouse and keyboard set *1, Wireless network card *1, DP cable *8, 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	mp3、aac、flac、amr、ape、wav、wma
Image	jpg、jpeg、bmp、png、gif、ico
Text	Txt
Streaming	Ndi、http、rtsp、rtp、rtcp、rtmp、mms、hls
Web page	Any web page that can be accessed
Office files	PPT(1080P)

## illustrate

Video encoding format recommendation:

- If the video is between 4K and 8K in size, with a width of 8192 or less and a height of 4320, H.265 (HEVC) or VP9 encoding is recommended.
- When the video is 4K or smaller, H.264 (AVC) encoding is recommended.
- If the video is over 8K and the width is not more than 15,360 and the height is not more than 7,680, it is recommended that the video be encoded in HAP.

For the best performance and image quality, the recommended video source bitrate 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 bitrate for SDR sources

## Optional Configurations

Products in the configurable options require separate orders for purchase.

Name/Model	Specifications
Sync Card (2nd Generation)	<p>The 2nd generation sync card must be used with high-end graphics processing cards A4000 or above.</p> <ul style="list-style-type: none"> <li>• LED lights indicate sync connection status.</li> <li>• 1×BNC interface for external sync signal input.</li> <li>• 2×RJ45 interfaces for frame sync lock signal input and output.</li> </ul>
HDMI Capture Card	<ul style="list-style-type: none"> <li>• Optional 1-4 channel HDMI capture card.</li> <li>• Maximum resolution support up to 3840*2160.</li> </ul>
Encoder/Decoder	<ul style="list-style-type: none"> <li>• NDI encoder supports 2K, 4K encoding and decoding.</li> <li>• Network streaming media encoder supports RTSP, HLS and other streaming media encoding protocols.</li> <li>• HDMI signal input.</li> <li>• Supports loop output monitoring.</li> </ul>
Central Control System	<ul style="list-style-type: none"> <li>• ShenGong central control system APP</li> </ul>



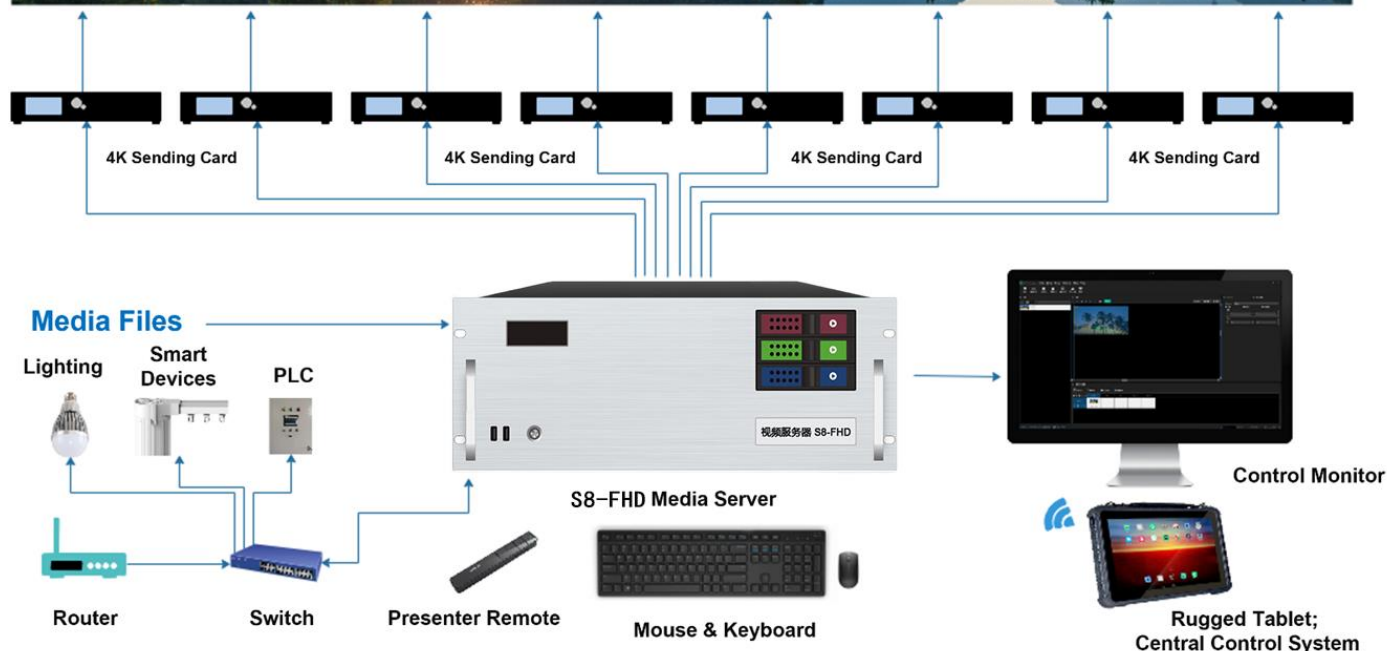
# Function support

Function	Description
Hot Standby	Supports automatic hot standby switching
Media Support	Supports playback of various media such as PPT, web pages, videos, images, and audio
Slice Masking	Supports importing slice data, and masking functions
Chroma Keying	Supports chroma keying, including custom color keying
Cascade	Supports multi-machine cascade control
Frame Synchronization	Supported (requires upgrade)
3D WEB Playback Control System	Supports multi-terminal control
24-244 Frame Rate Selection (Frame Interpolation Playback)	Supports
Central Control System (Standard Edition)	Supports
Playback Monitoring System	Supports
Interactive Games	Supports
NDI Capture	Supports
Streaming Media Playback	Supports
LTC/NTC Timecode	Supports receiving and sending timecode
DMX512	Supports recording playback and broadcast control controlled by DMX512 signals.
TCP/UDP Protocol	Supports sending TCP/UDP control commands and receiving TCP/UDP control commands

# Packing List

Item	Quantity	Specifications	Unit
Host	1	S8-FHD	Unit
Power cord	1	1.8 meters	Strip
HDMI cable	1	2 meters	Strip
DP Cable	8	2 meters	Strip
Wireless Network Card	1	USB wireless network card	Piece
Keyboard and mouse	1	Dual delphinium USB keyboard mouse	Set
Certificate of Conformity	1		Copy
Testing report	1		Copy
Functional Checklist	1		Copy
Packing List	1		Copy

# Application Scenarios



## i Illustrate

When using the device, place the device horizontally, do not flip or place it vertically.

The product can be installed in a standard 19-inch cabinet. The cabinet load requirement is at least four times the weight of all equipment in the cabinet. It needs to be installed with 4 M5 panel screws.

## Affirmations and Warnings

This is a Class A product. In a residential environment, this product may cause radio interference. In such cases, users may need to take practical measures to address the interference.

### Disclaimer

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