Multi-screen Splicing Processor

Product Specifications

Model：MISP4100

I. Product Overview

The MISP4100 Series Multi-screen Splicing Processor is a newly launched, multi-functional video wall processor featuring an all-new architecture and UI design for ultra-high-definition video signal acquisition and transmission. It supports video image resolutions up to full 4:4:4 chroma sampling within the RGB color space. Utilizing a pure hardware FPGA + embedded architecture, it offers extensive customizable functionality tailored to client needs.

It supports diverse display modes including multi-source wall projection, splicing, roaming, cross-screen display, zoom in/out, picture-in-picture, picture-outside-picture, and image overlay. Video channels enable seamless switching, preset scenes, HDMI audio output per channel, and independent stereo audio output. Multiple control methods are supported, including PC and tablet interfaces.

II. Features and Functions

▶Device Architecture

1. FPGA + embedded architecture: The embedded system ensures stability for 7x24 continuous operation, while the FPGA delivers reliable image processing capabilities.

2. Modular card design: Each card supports 8 channels (1080P), offering high integration, compact size, plug-and-play functionality, and upgrade/maintenance flexibility.

3. Incorporates proprietary FPGA audio-video link switching technology.

▶ Core Functions

1. Supports HDMI ultra-high-definition signal input; supports HDMI ultra-high-definition digital signal output;

2. Supports single-port capture of 3840x2160@60Hz, backward compatible with HD signals (4K60 input card);

3. Supports single-port output of 3840x2160@60Hz (4K60 output card, optional), 3840x2160@30Hz (4K30 output card, optional), 1920x1080@60Hz (2K output card);

4. Supports wall-mapping, roaming, cross-screen display, scaling, picture-in-picture, picture-out-of-picture, and image overlay for any video signal;

5. Four windows per screen with full-screen layer support for 4*N layers (N = number of tiled screens). All windows display in real-time without frame loss, ensuring smooth operation without lag, flickering, or blackouts;

6. Supports end-to-end low latency: input-to-output delay <20ms;

7. Seamless video channel switching without stuttering, flickering, or

black screens;

8. HDMI output supports per-channel audio output with independent control; audio can be enabled or disabled;

9. Built-in FPGA audio de-embedding and switching capability allows any HDMI audio channel to be isolated and routed to audio output ports;

10. Supports control via Android tablet/mobile apps;

11. Customizable names for both inputs and outputs for easy client identification;

12. Preset up to 24 customizable scene names;

13. Scene switching latency <30ms, ensuring seamless operation without stuttering, blue screens, or screen flickering;

14. Supports scene rotation with customizable interval timing;

15. Supports source and display device validity detection with status LED indicators;

16. Output port synchronization time difference = 0ns (excluding screen-introduced variations);

17. Supports multi-user management;

18. Supports online device upgrades via upgrade tools;

19. Supports ultra-high-definition subtitles with flexible selection of font, color, size, background color, and background transparency; adjustable scrolling speed;

20. Supports ultra-high-definition static background images with quick and easy replacement for vibrant large-screen backgrounds;

21. Supports LED screens with customizable output resolution, suitable for various LED display wall applications;

22. Supports serial port control for large screen power on/off;

23. Must meet a Mean Time Between Failures (MTBF) of no less than 100,000 hours;

24. Possesses ISO9001 certification, with proof provided bearing the official company seal;

25. Must provide a National Compulsory Product Certification (CCC) test report issued by the National Product Quality Supervision Center, bearing the official company seal;

26. Must provide a copy of the inspection report issued by the Electronic Product Quality Inspection Center, bearing the official company seal;

27. The product must possess CCC, CE, RoHS certifications, and computer software copyright registration, with relevant copies bearing the official company seal.

▶ Other Features

Supports secondary development, providing third-party user control protocols and interfaces.

III. Technical Specifications

Category	Item	Specifications	
Interface Parameters	Input Signal Card	HDMI1.4 Input:	8 x HDMI1.4 digital interfaces, supports 1920×1080@60Hz, backward compatible
		HDMI2.0 Input:	2 x HDMI2.0 digital interfaces, supports 3840×2160@60Hz, backward compatible
	Output Signal Card	HDMI1.4 Output:	8 x HDMI1.4 digital interfaces, output resolution: 1920×1080@60Hz, embedded audio output
		HDMI2.0 Output:	2 x HDMI2.0 digital interfaces, output resolution: 3840×2160@60Hz, embedded audio output
	RJ45 Port	10/100M adaptive, supports remote control of the processor by other devices within the LAN	
	RS232		Supports serial control connection for matrices, large

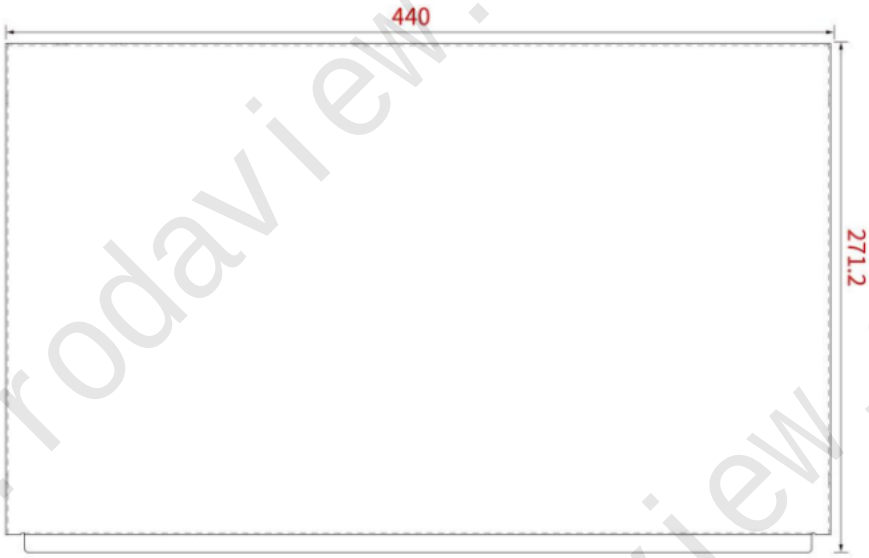
		screens, and central control systems
	Audio Port	Supports decoupled audio output for the entire system
	Function	(HD signal input/output, video wall display / multi-screen splicing / overlay adjustment & scaling / independent audio output)
	Single Screen Window Count	4
	Power Consumption	Approx. 160W
	Power Supply	AC 110V-220V
Environmental Parameters	Operating Temperature	0℃ ~ 50℃
	Operating Humidity	10% ~ 75% RH (non-condensing)
	Storage Temperature	-25℃ ~ +125℃

Physical Specifications	Net Weight	10kg
	Gross Weight (with packaging)	11.3kg
	Chassis Dimensions	440×276.7×178mm
Packaging Specifications	Package Dimensions	560×425×240mm
	Package List	1 × Main Unit, 1 × Warranty Card, 1 × Equipment Grounding Requirements Sheet, 1 × Power Cord, 1 × Grounding Wire

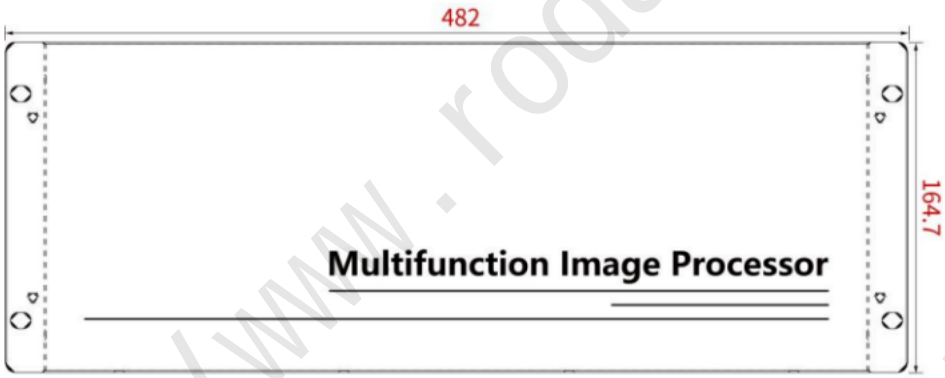
http://www.rodaview.com/

IV. Product Dimensions

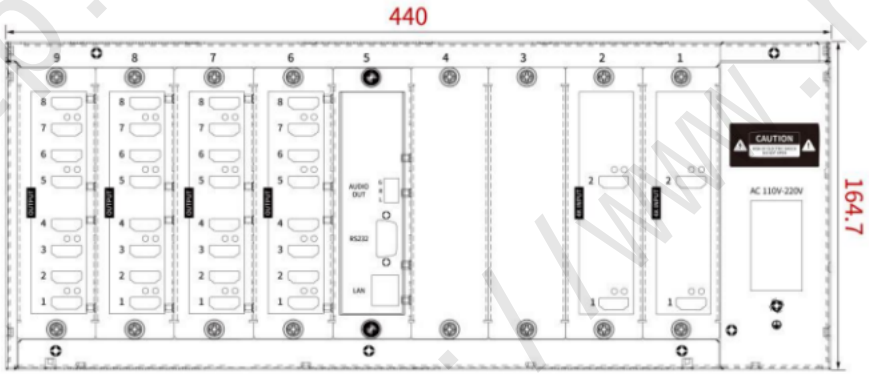
4U



Top panel

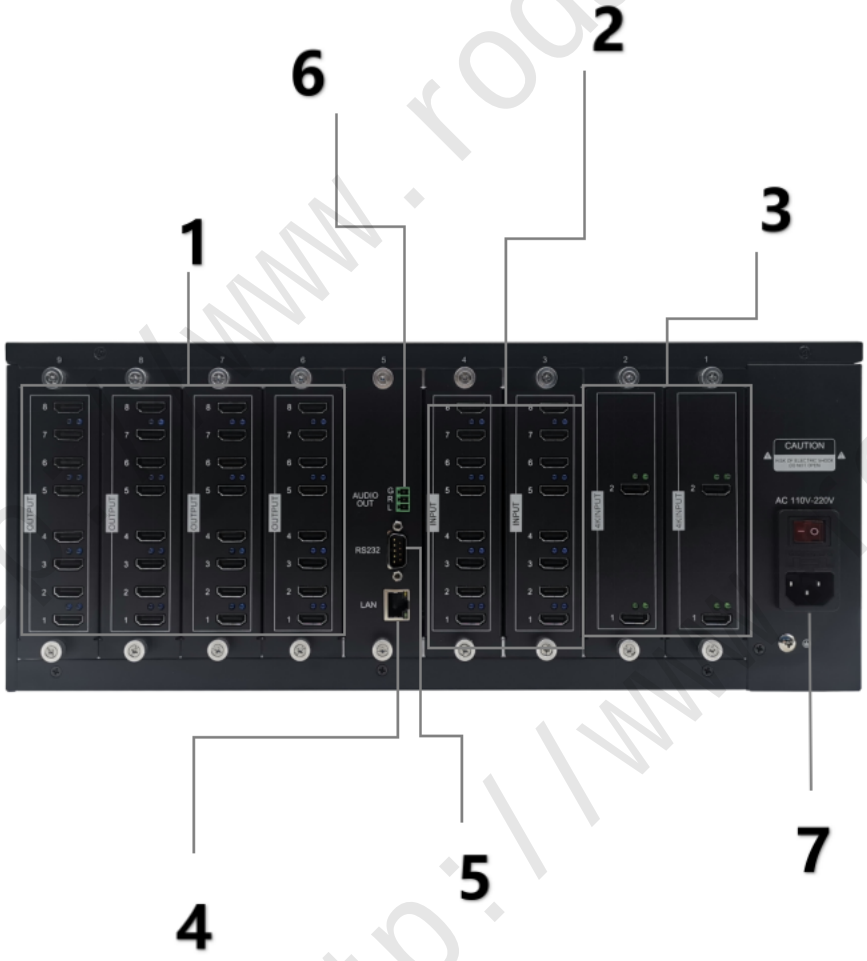


Front panel



Rear panel

V. Panel Buttons and Ports



Specifications: 4K@60Hz input: 1 card, 2 channels; 1080P input/output: 1 card, 8 channels. Inputs and outputs support mixed configuration. Total of 8 slots for inputs and outputs.

No.	Interface	Function
1	HDMI-OUT	Supports output up to 1920×1080@60Hz
2	HDMI-IN	Supports input up to 1920×1080@60Hz
3	HDMI-IN	Supports input up to 4K@60Hz
4	LAN	10/100M auto-negotiation
4	LAN	Supports remote control of the processor by other devices within the LAN
5	RS232	Supports connection to large screens and central control systems
6	AUDIO-OUT	Supports audio de-embedding output for the entire unit
7	Power	AC 110V-220V

VI. Connection Schematic Diagram