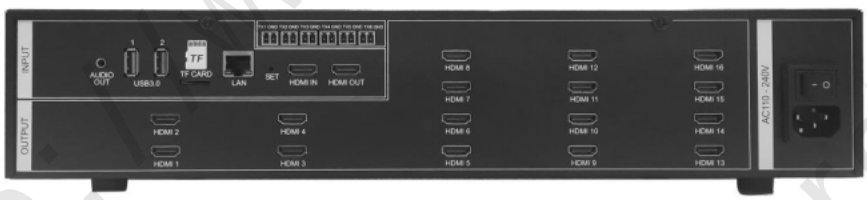
4K Heterogeneous Splicing Processor

Product Specifications



Model：RDYX-SW6800-2U

I. Product Overview

In retail storefronts, exhibition displays, flagship stores, restaurants, and high-end clubs, irregular-shaped video walls are commonly used to achieve stylish, dazzling visual effects. They play exquisite ultra-high-definition product demos, brand image videos, advertisements, or scenic landscapes.Compared to traditional video walls, irregular-shaped video walls deliver stunning and novel visual experiences, enhancing both the display value and aesthetic appeal of the setup.

Non-standard video walls utilize standard 46-inch, 49-inch, or 55-inch LCD panels. Through specialized design, these panels are assembled into irregular configurations. A dedicated non-standard video wall processor then processes the images to display irregular signal layouts. To meet this demand, a powerful yet user-friendly non-standard Heterogeneous Splicing Processor has been developed.

II. Key Features

✦ Embedded pure hardware architecture with plug-and-play operation ensures exceptional system stability, reliably meeting 24/7 operational demands.

✦ Superior system performance. Utilizes mid-to-high-end universal SOC chipsets, fully leveraging their powerful CPU, GPU, VPU, and RGA hardware resources along with core engines to support 4K@60 decoding of H.264/H.265/VP9 formats.

✦ Non-rectangular video wall support. Built-in video wall functionality accommodates displays of varying sizes and supports arbitrary image rotation to meet diverse non-rectangular configuration needs.

✦ Massive storage capacity. Local storage for images and videos eliminates the need for additional servers. Supports storage expansion via TF cards and USB drives.

✦ 4K HDMI capture.Supports external 4K HDMI video sources like screen casters, media players, and laptops, with simultaneous audio-video transmission.

✦ Robust Network Connectivity. Supports TCP/IP access to streaming media signals compliant with RTSP/ONVIF, RTMP, and other standard protocols. Connects to the internet to leverage online resources, enabling network-based access, sharing, and display of text/graphic data and diverse streaming media signals.

✦ User-friendly interactive experience. Dynamic, real-time display of audio/video files, images, web pages, 4K HDMI captures, and network signals in windowed formats, with flexible cross-screen splicing, scaling,

and overlay capabilities.

✦ Diverse media integration and display capabilities. Beyond 4K HDMI capture, it integrates audio/video files, images, web pages, and other media for display on video walls according to preset layouts. It also incorporates daily information displays like weather forecasts, clock information, and scrolling captions.

✦ Scene saving and recall. Window displays and layouts for various audio/video files, images, web pages, 4K HDMI captures, and network signals can be saved as scenes with a single click. These scenes can be recalled instantly as needed for quick and convenient operation.

✦ Scene polling and preset configuration. Multiple scenes can be saved as presets to cycle through in a specific sequence and time interval.Select a preset to configure as an auto-start or scheduled preset, executing automatically at power-on or at a preset time.

✦ Signal Cycling. Enable signal cycling for one or more displayed signal windows. This causes the window at that position to cycle through selected signals at set intervals, while other windows maintain their corresponding signals unchanged.

✦ Playback Control. Control currently playing video windows (e.g., mute, pause) or select video rotation windows to advance/rewind tracks.

✦ Central Control Integration. Integrate environmental control functions to manage lighting, curtains, video walls, audio matrices, etc.,

customizable per project requirements.

✦ Tablet Mobile Control. Supports switching, roaming, and zooming operations for various signals and information via tablets, smartphones, and other mobile devices, along with scene switching and recall. Also enables uploading videos or images from tablets/phones for display on the screen.

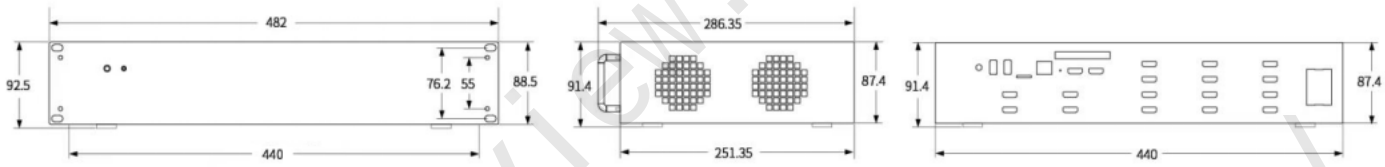
III. Technical Specifications

Category	Item	Specifications
Hardware Configuration	CPU	Quad-core CPU architecture, frequency up to 2.0GHz
	GPU	Dual-core GPU, supports OpenGL ES 1.1/2.0/3.0/3.1, OpenGL, supports AFBC (Anti-aliasing Frame Buffer Compression)
	VPU	High-performance VPU, 1080P 100FPS H.264/H.265 video encoding, 4K 60FPS H.265/H.264 video decoding
	RAM	4G
	Storage	64G (Expandable)
	Power	AC 110-220V power supply

Interface Parameters	HDMI-OUT	1-16 outputs, max. resolution 1920x1080@60Hz
	HDMI-IN	HDMI 1 input, supports up to 4K@30Hz
	LAN	1000M Ethernet port
	RS232	Control serial port (Supports controlling this device and external equipment)
	USB 3.0	Supports connecting USB drives/keyboards
	SET	Function port selection
	AUDIO-OUT	3.5mm audio output port (1 channel)
	TF	Supports TF card for expanded storage capacity
Environmental Parameters	Operating Temperature	0℃ ~ 50℃
	Operating Humidity	10% ~ 75% RH (non-condensing)
	Storage Temperature	-25℃ ~ +125℃
Physical Specifications	Net Weight	5.6kg
	Gross Weight	6.7kg

	Chassis Dimensions	482×286.35×93.5mm
Packaging Specifications	Package Dimensions	550×380×130mm
	Package List	1 × Main Unit, 1 × Power Cord, 1 × Certificate of Conformity, 1 × IR Remote Controller, 6 × Phoenix Terminal Plugs

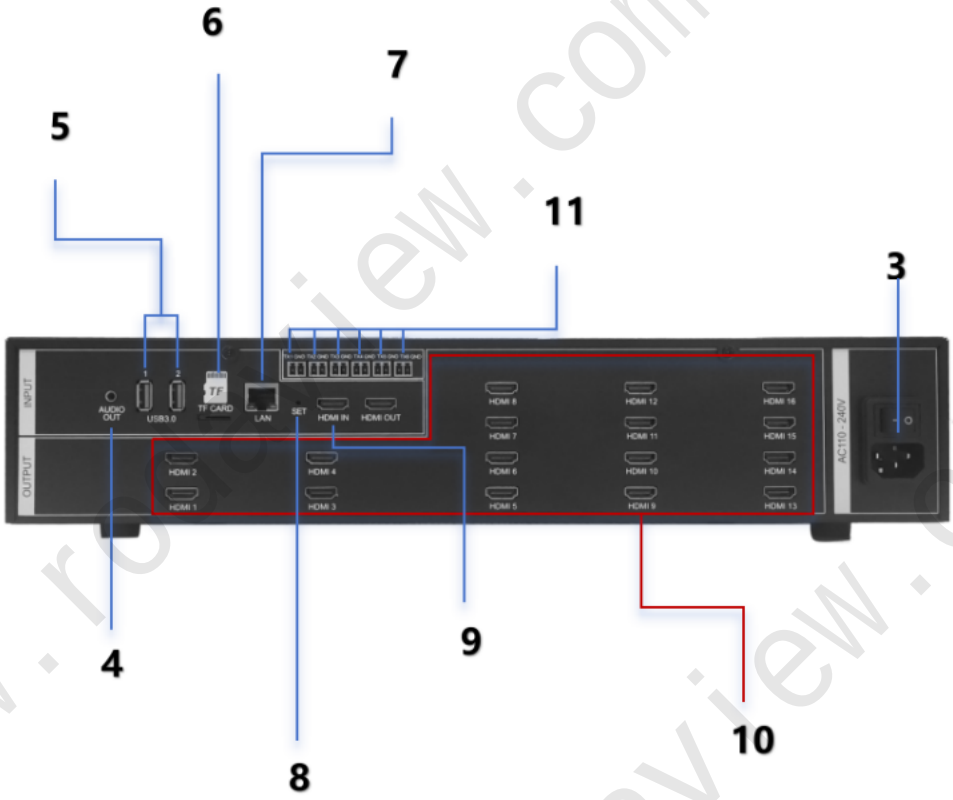
IV. Product Dimensions



2U chassis (supports up to 16 outputs)

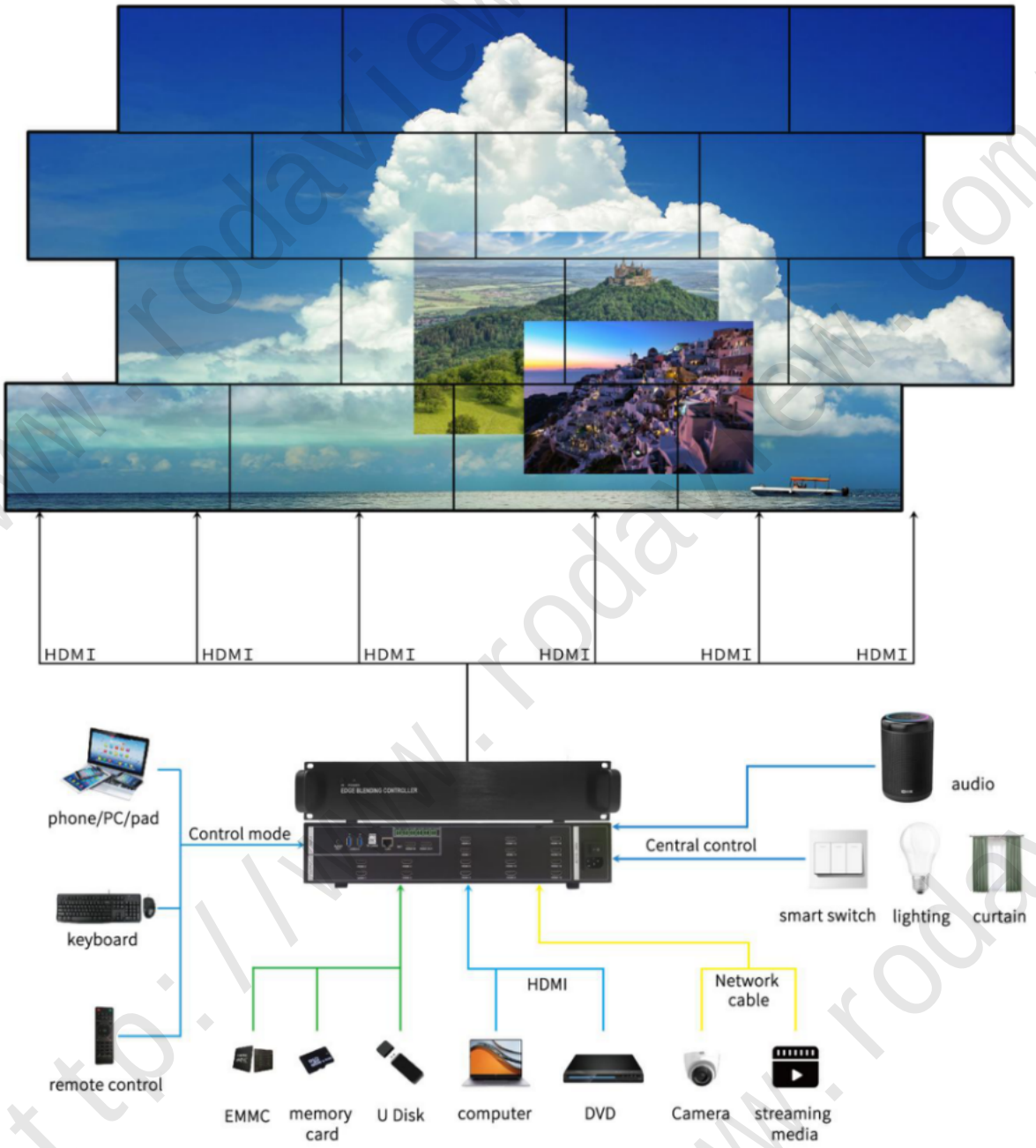
V. Panel Buttons and Ports

No.	Interface	Description
1	POWER	Power indicator, green light on indicates normal operation
2	IR	Infrared (IR), receives infrared signals



3	Power Supply	AC 110-220V
4	AUDIO-OUT	Supports one 3.5mm audio output channel
5	USB 3.0 / USB 2.0	Connect USB drives, mouse, keyboard
6	TF Card Slot	Supports TF card for expanded storage capacity
7	LAN	1000M Ethernet port for network connection
8	SET	Function port selection
9	HDMI IN	Supports input up to 4K@60Hz
10	HDMI OUT (1-16)	Supports output up to 1920×1080@60Hz
11	RS 232	Control serial port output interface, controls external equipment

VI. Connection Diagram



VII. Cloud Management System Framework