4K Projection Fusion Processors

Product Specifications

Model：RDRH-SW6800-05U

I. Product Overview

A professional desktop image blending hardware solution designed specifically for projectors. Utilizing image geometric correction and edge blending technology, it achieves multi-channel projection image fusion, supporting both flat and curved surface projections. This integrated system combines multimedia playback control, information publishing, cluster management functions, and an application platform, delivering powerful interactive and playback capabilities.

Supports multi-platform terminal control via Windows, Mac OS, iOS, and Android, enabling arbitrary multi-screen windowing and roaming display.Additionally, it integrates with video conferencing systems, surveillance systems, live streaming platforms, and local media playback to meet diverse application needs. Two scene modes (Desktop Mode and Window Mode) ensure optimal display for document presentations, video playback, and remote meetings.

Supporting infrared remote control, mouse, tablet, smartphone, and computer operation, this product is widely applicable in commercial display scenarios across government, enterprises, conference rooms, hotel design, healthcare, education, and other industries.

II. Key Features

✦ Supports video post-processing: deinterlacing, noise reduction, edge/detail/color optimization.

✦ Supports TF card expansion, USB flash drive extension, and direct live streaming.

✦ Supports online/local playback of video, audio, images, PPT, web pages, etc.

✦ Supports multiple communication methods: Wi-Fi, Gigabit Ethernet port, direct USB cable connection.

✦ Supports 1x 3.5mm audio output with synchronized audio-video playback.

✦ Enables cluster management and remote content publishing across LAN/WAN networks.

✦ Supports multi-window playback with up to 6 independent 1080P video windows for flexible windowing, roaming, overlay, and tiling displays.

✦ Custom Linux-based desktop UI system with optional Linux application integration.

✦ Supports personalized subtitle management including single-line text, static text, and scrolling text, plus clock and weather forecast display.

✦ Supports keyboard/mouse control, infrared remote control, and mobile/tablet control.

✦ Supports network streaming media playback, network camera decoding, and quick access to live stream links.

✦ Supports 64GB local storage capacity for saving customer video content.

✦ Supports central control functions for remote operation of curtains, air conditioners, audio systems, LED power distribution boxes, and more.

✦ Centralized multi-device management enables unified control of multiple units via PC or tablet software, eliminating the need to switch between separate control interfaces.

✦ Display feedback function: Users can directly view current window open signals on the control terminal (computer or tablet), enabling real-time monitoring of each signal's status. This resolves the limitation of existing fusion systems that cannot display window feedback on the control terminal, achieving true visual management of input channels.

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, OpenCL, supports AFBC (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 Supply	DC 12V
Interface Parameters	HDMI-OUT	1-4 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/mice

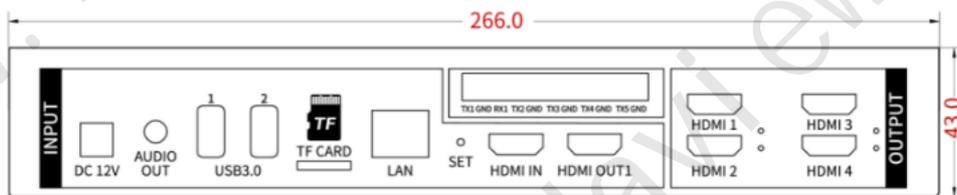|		
	SET	Function port selection
	AUDIO-OUT	3.5mm audio output port (1 channel)
	TF	Supports TF card for expanded storage capacity
Environmental Parameters	Operating Temperature	0℃ ~ 50℃
	Operating Humidity	10% ~ 75% RH (non-condensing)
	Storage Temperature	-25℃ ~ +125℃
Physical Specifications	Net Weight	1.5kg
	Gross Weight	2.3kg (with packaging)
	Chassis Dimensions	266 × 200 × 43 mm
Packaging Specifications	Package Dimensions	430 × 266 × 95 mm
	Package List	1 × Power Adapter, 1 × Certificate of Conformity, 1 × IR Remote Controller, 2 × Mounting Ears, 5 × Phoenix Terminal Plugs, 10 × Mounting Screws

IV. Product Dimensions

0.5U chassis (supports up to 4 ports)

266.0

43.0

PTOP
SmartPlayer

IR POWER

Front panel

266.0

43.0

INPUT

DC 12V AUDIO OUT USB3.0 TF CARD LAN SET HDMI IN HDMI OUT1

TX1 GND RX1 TX2 GND TX3 GND TX4 GND TX5 GND

HDMI 1 HDMI 3
HDMI 2 HDMI 4

OUTPUT

Rear panel

266.0

200.0

EDGE BLENDING CONTROLLER
SMART MEDIA PLAYER

Top panel

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
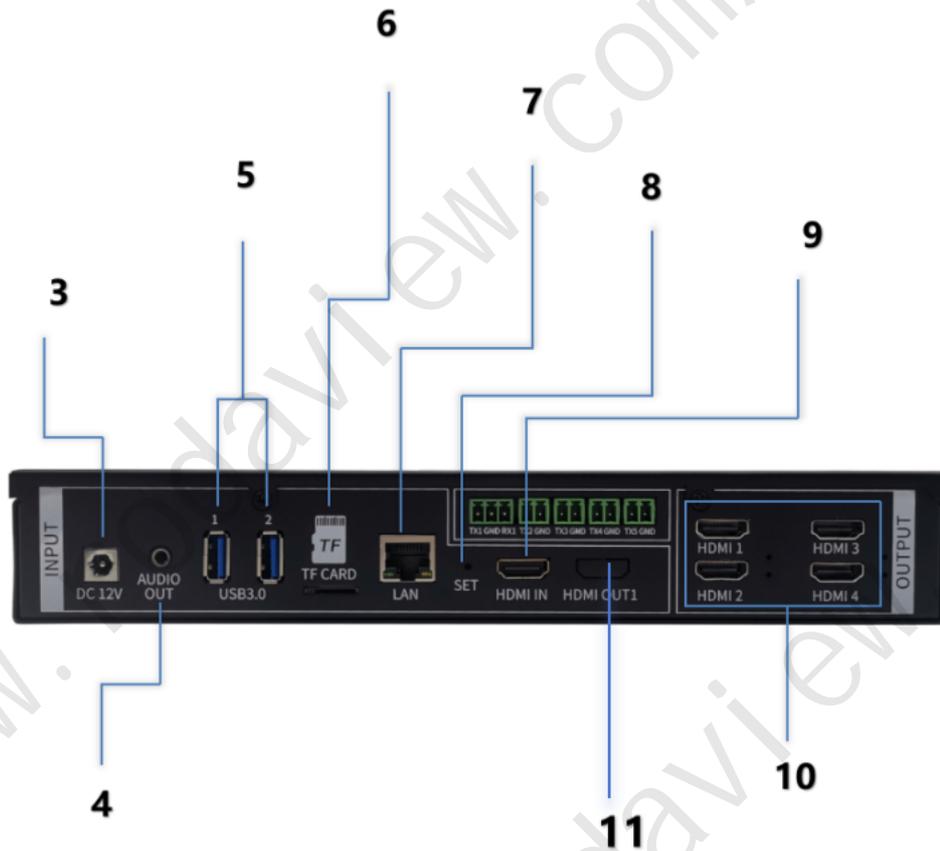
3	DC-12V	DC-12V power input
4	AUDIO-OUT	Supports one 3.5mm audio output channel
5	USB 3.0	Connect USB drives, mouse, keyboard
6	TF Card Slot	Supports TF card for expanded storage capacity
7	LAN	1000M Ethernet port for network connection
8	SET	Function port selection
9	HDMI IN	Supports input up to 4K@30Hz
10	HDMI OUT (1-4)	Supports output up to 1920×1080@60Hz
11	RS 232	Control serial port output interface, controls external equipment

VI. Connection Diagram

VII. Management System Framework

Terminal 1　　Terminal 2　　Terminal 3　　Terminal 4

router

switch

Local Area Network (Intranet)　　4G/Wide Area Network (External Network)

Local Area Network

Cloud services

Multi terminal management

computer

pad