

4K 60Hz Video Wall Matrix Processor

Model: HW03

Ultra HD 4K@60Hz Support | Modular 16-Screen Video Wall | Instant Seamless Switching | Multi-View Split & Preview | Image Rotation & Bezel Compensation

一、Product Overview

HW03 is a professional 4K 60Hz video wall matrix processor designed for flexible AV signal management and large-screen display scenarios. It features a modular design that supports up to 16-screen video wall configurations (customizable MxN layouts) and integrates core functions including instant seamless switching, quad-view split display, image rotation, and audio extraction.

Compliant with HDMI 2.0/1.4 standards, it delivers stable 4K@60Hz (and backward-compatible 1080P/720P) video transmission, making it ideal for applications such as control rooms, retail digital signage, conference halls, and exhibition centers. With centralized control options and a rackmount form factor, it ensures easy integration into professional AV systems.

二、Key Feature Highlights

1. Modular Video Wall Expansion

- Supports up to **16 HDMI outputs** via plug-in expansion cards, enabling flexible MxN video wall layouts (e.g., 2×2, 4×4).
- Fixed 4-input interface (2×HDMI 2.0, 2×HDMI 1.4) to connect diverse sources (PCs, DVD players, cameras).

2. Instant Seamless Switching

- "Zero-second" full-screen switching without blackouts, latency, or flicker—critical for real-time operations (e.g., command centers, live presentations).
- Requires all signal sources to operate at the same resolution for optimal seamless performance.

3. Multi-View Split & Real-Time Preview

- Quad-view split display: Shows 4 input sources simultaneously on a single monitor for efficient content monitoring.
- Real-time input preview: Synchronizes 4-channel source previews to any display in matrix mode, simplifying source management.

4. Flexible Image Adjustment

- Supports **90°/180°/270° image rotation** for inverted or side-mounted display installations (e.g., vertical digital signage).
- Built-in bezel compensation: Corrects image misalignment at video wall seams for a natural, immersive visual experience.

5. Audio Extraction

- De-embeds HDMI audio and provides a **3.5mm analog audio output** for external speaker integration, ensuring synchronized audio-visual playback.

6. Centralized Control Integration

- Open control protocol supports multiple control methods:
 - IR remote control (for quick on-site operation)
 - TCP/IP (RJ45, for LAN remote control)
 - RS-232 (2×input, 1×output, for industrial-grade stable control)
 - Front-panel buttons (for direct device operation)

7. Professional Rackmount Design

- Standard **19" 3U rackmount chassis** for secure, organized installation in AV racks.
- Robust build ensures durability in 24/7 operating environments (e.g., control rooms).

≡ Detailed Specification Table

Model Name	HW03
Expansion Slot	Flexible expansion (up to 16 plug-in output cards)
Input Interface	4×HDMI (2×HDMI 2.0, 2×HDMI 1.4)
Output Interface	Up to 16×HDMI (video) + 1×3.5mm Analog Audio (audio extraction)
Input Resolution	2 channels: 3840×2160@60Hz (4K 60Hz); 2 channels: 3840×2160@30Hz (4K 30Hz); Backward compatible with 1080P@60/30Hz, 720P
Stitching Output Resolution	Optional: 1024×768@60Hz, 1280×800@60Hz, 1280×720@60Hz, 1920×1080@60Hz, 1920×1200@60Hz

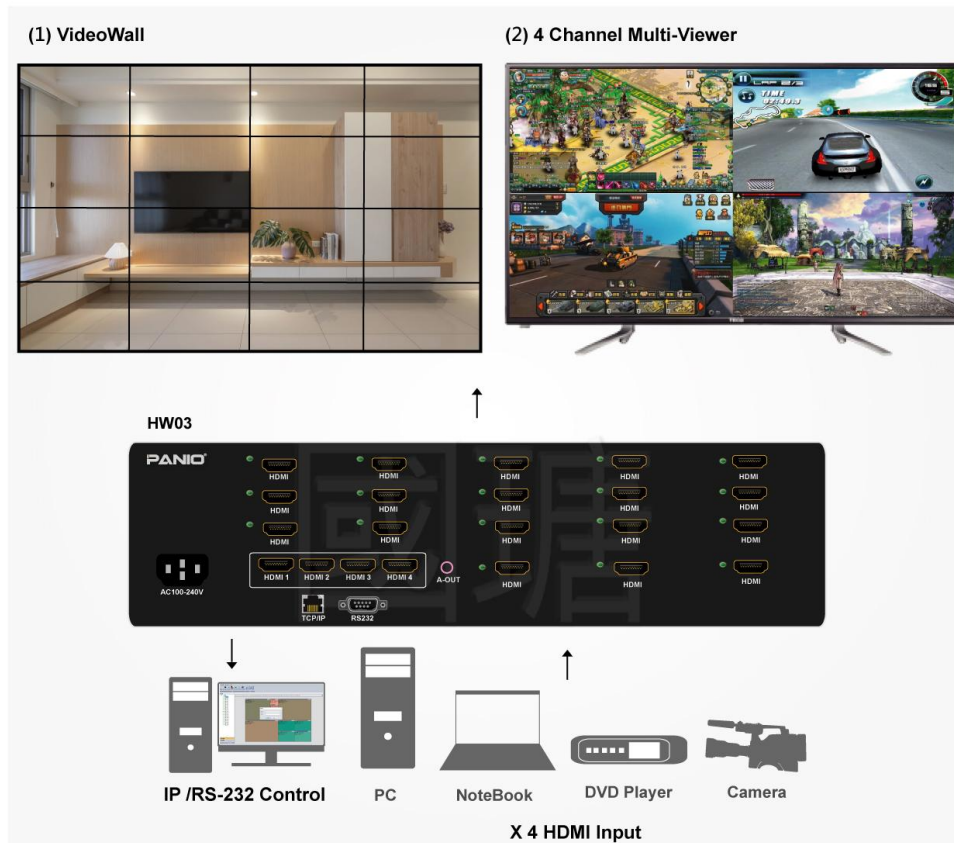
Color Depth	24-bit (16.77 million colors)
Preview Function	4-channel input sources displayed as quad-split on a single monitor
Control Interfaces	1×RJ45 (10M/100M TCP/IP); 2×RS-232 Input (DB9 female); 1×RS-232 Output (DB9 male); Front-panel buttons; IR receiver
Control Methods	IR remote, TCP/IP, RS-232, front-panel buttons
Power Supply	Input: AC 170–245V 50/60Hz
Power Consumption	Max. 70W
Chassis Dimensions	440mm × 310mm × 133mm (L×W×H)
Weight	7.5kg
Operating Temperature	0–40°C (32–104°F)
Storage Temperature	-20–60°C (-4–140°F)
Relative Humidity	20–90% RH (non-condensing)

四、 Important Notes for Use

- Certified Cables Requirement:** Use certified HDMI cables (HDMI 2.0 for 4K@60Hz) to ensure stable signal transmission. Inferior cables may cause signal loss, distortion, or no display.
- Avoid Unauthorized Devices:** Do not connect uncertified switchers, distributors, or converters—these may disrupt signal integrity or damage the device.
- Original Power Cord:** Always use the original certified power cord to maintain stable operation and prevent electrical hazards.
- Third-Party Compatibility:** Consult the manufacturer before integrating third-party devices to avoid compatibility issues (e.g., signal decoding errors).
- Seamless Switching Prep:** For "zero-second" seamless switching, ensure all input sources are set to the **same resolution** (e.g., 1080P@60Hz or 4K@60Hz).

6. **Rack Ventilation:** Reserve $\geq 5\text{cm}$ of space around the chassis during rack installation. Keep the environment well-ventilated and dust-free to avoid overheating.

Diagram



Matrix+Segmentation Mode



五、 Package Contents

Item	Quantity	Remarks
HW03 Chassis	1 unit	
AC Power Cord	1 unit	
IR Remote Control	1 unit	Battery not provided
User Manual	1 piece	

Core Advantages Summary

- ✓ Modular design supports up to 16-screen video walls (customizable MxN layouts)
- ✓ Instant seamless switching (zero latency/blackout) for real-time scenarios
- ✓ 4K@60Hz transmission + backward compatibility with 1080P/720P
- ✓ 90°/180°/270° image rotation & bezel compensation for flexible displays
- ✓ Quad-view split & real-time input preview for efficient source management
- ✓ Diverse control methods (IR, TCP/IP, RS-232, buttons) for centralized operation
- ✓ Standard 3U rackmount design for easy AV system integration