

5×4 Matrix Video Wall Processor with Quad-Split Display

Model: PANIO CH4432

1. Product Overview

The CH4432 is a professional 5×4 Matrix Video Wall Processor integrating three core functions—matrix switching, video wall splicing, and quad split display—into a single unit. This all-in-one solution simplifies system architecture, reduces installation costs, and delivers exceptional stability and performance powered by Realtek RTD core technology. It supports flexible N×M video wall configurations and multi-input integration, making it ideal for commercial display scenarios such as conference rooms, surveillance control centers, retail digital signage, lecture halls, and corporate lobbies that demand versatile, high-quality audio-visual signal management.

2. Key Features

- **3-in-1 Integrated Solution:** Combines matrix switching, video wall splicing, and quad split display in one device, eliminating the need for multiple separate components.
- **Flexible Video Wall Configurations:** Supports diverse N×M layouts including 1×2 vertical, 2×1 horizontal, 2×2, 1×3, 3×1, 1×4, 4×1, PIP (Picture-in-Picture), and single-screen modes.
- **Professional Matrix Switching:** Enables one-to-one and one-to-many signal routing for efficient multi-display management, adapting to complex signal distribution needs.
- **Multi-Input Compatibility:** Equipped with 5 signal inputs (4×HDMI + 1×DisplayPort), compatible with computers, media players, surveillance systems, and conference equipment.
- **Comprehensive Image Adjustment:** Offers bezel compensation, brightness/contrast adjustment, and 90°/180°/270° rotation + mirror display for single screens or the entire video wall.
- **Versatile Control Options:** Supports front panel operation, IR remote control, RS-232, and TCP/IP control, facilitating convenient system management.
- **Triple-Language Interface:** Features Traditional Chinese, Simplified Chinese, and English interfaces to meet global user needs.
- **Reliable Performance:** Adopts high-quality components and Taiwan Chip Excellence technology, ensuring stable operation for professional display systems.

3. Technical Specifications

Model Name	5×4 Matrix Video Wall Processor (CH4432)
Core Technology	Realtek RTD Core

Input Interfaces	4×HDMI, 1×DisplayPort
Output Interfaces	4×HDMI (5th channel optional), 1×3.5mm Audio Output (for audio synchronization)
Max Input Resolution	DisplayPort: 4K@60Hz; HDMI 1/2: 4K@30Hz; HDMI 3/4: 4K@60Hz (backward compatible)
Output Resolution	1024×768@60Hz, 1280×720@60Hz, 1280×800@60Hz, 1920×1080@60Hz, 1920×1200@60Hz (splicing mode)
Video Wall Display Modes	1×2 vertical, 2×1 horizontal, 2×2, 1×3, 3×1, 1×4, 4×1, PIP display, single-screen mode
Image Adjustment	Bezel compensation, brightness/contrast adjustment; 90°/180°/270° rotation (single screen/overall), mirror display
Control Methods	Front panel, IR remote control, RS-232, TCP/IP
Interface Languages	Traditional Chinese, Simplified Chinese, English
Power Requirements	Input: DC 12V/3A (certified power adapter included)
Physical Dimensions	302mm (Width) × 148mm (Depth) × 45mm (Height)
Weight	1.50kg
Operating Environment	Temperature: 0°C ~ 45°C (32°F ~ 113°F); Humidity: 20% ~ 85% RH (no condensation)
Storage Environment	Temperature: -10°C ~ 60°C (14°F ~ 140°F); Humidity: 10% ~ 90% RH (no condensation)

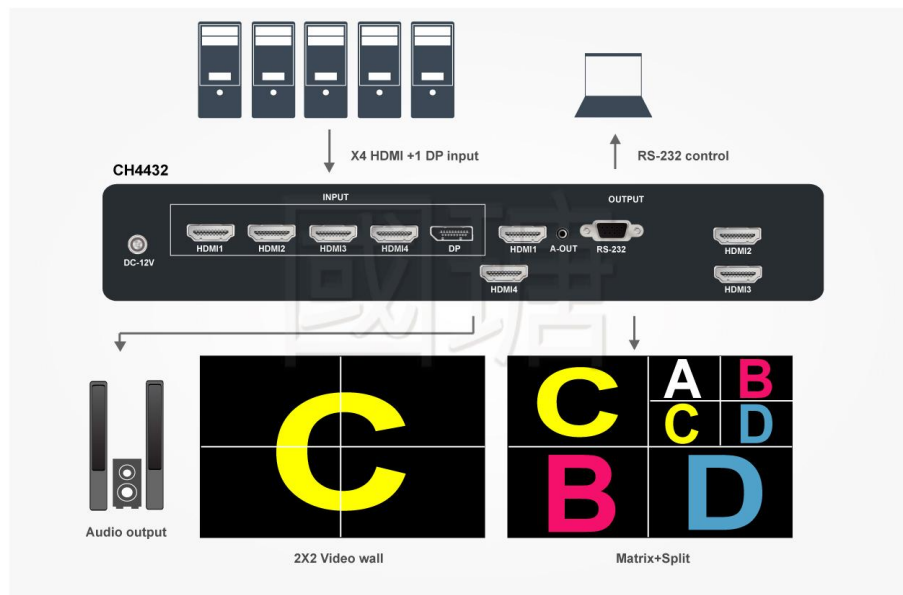
4. Important Installation Notes

1. The CH4432 contains precision electronic components. Do not use it in environments with dust, oil fume, conductive dust, corrosive gas, flammable gas, high temperature, condensation, wind/rain exposure, vibration, or impact—these conditions may cause product damage, electric shock, or fire.
2. To ensure stable signal transmission, use certified high-quality HDMI and DisplayPort cables. Avoid using low-quality or uncertified cables to prevent signal attenuation or distortion.
3. Before installation and wiring, cut off all external power supplies to prevent electric shock or equipment damage. Ensure all connections are firm and reliable before powering on

the device.

4. Avoid daisy-chaining too many external devices to the processor, as this may lead to signal degradation and system instability.
5. When mounting the device or drilling holes for installation, avoid letting metal shavings, wire ends, or other debris enter the device's ports or internal components to prevent short circuits or equipment failure.
6. Do not plug or unplug cables (HDMI, DisplayPort, power, etc.) when the device is powered on. Hot-swapping may cause circuit damage, signal interruption, or electric shock.
7. Verify compatibility with other connected equipment (e.g., displays, signal sources) before system integration. Consult the user manual or technical support if compatibility issues arise.
8. For RS-232/TCP/IP control system integration, refer to the operation manual or contact technical support for guidance to ensure proper setup.

Diagram



VideoWall



5. Package Contents

Item	Quantity
5×4 Matrix Video Wall Processor (CH4432)	1 unit
DC 12V/3A Power Adapter	1 piece
IR Remote Control (batteries not included)	1 piece
User Manual	1 piece

6. Function Description

Label Name	Function Description
1. HDMI Input Ports (1-4)	4×HDMI Type A female ports, used to connect HDMI signal sources (e.g., computers, media players) for signal input.
2. DisplayPort Input Port	1×DisplayPort female port, compatible with DisplayPort-enabled devices, supporting up to 4K@60Hz input resolution.
3. HDMI Output Ports (A-OUT 1-4)	4×HDMI Type A female ports, used to connect display devices (screens/monitors) for video signal output; 5th channel optional for extended use.
4. 3.5mm Audio Output Port	Analog audio output interface, used to connect speakers or audio amplifiers for synchronized audio playback.
5. RS-232 Control Port	Serial communication port, used for external control system integration (e.g., central control systems) via RS-232 cable.
6. TCP/IP Control	Network-based control function, enabling remote management of the processor via a local network.
7. Front Panel Controls	Physical buttons for direct operation, including power on/off, mode selection, input/output switching, and image adjustment.
8. IR Remote Receiver	Receives signals from the included IR remote control, supporting wireless operation of all core functions.

9. Power LED	Illuminates steadily when the device is powered on (indicates normal power supply).
10. Mode Indicator LEDs	Corresponding LEDs light up to indicate the selected video wall mode (e.g., 2×2, PIP) or matrix switching status.
