

4K 60Hz 4x4 Professional HDMI Matrix Switch

Model: CH4420K_B

Ultra HD 4K@60Hz Transmission | 4x4 HDMI I/O | Independent Audio Output | Multi-Control Modes | Wide Compatibility

一、Product Overview

CH4420K_B is a professional-grade 4×4 HDMI matrix switcher designed for stable distribution and flexible switching of audio-visual signals between 4 HDMI input sources (e.g., PCs, Apple TV, DVD players, notebooks) and 4 HDMI display devices (e.g., monitors, projectors, TVs).

Compliant with HDMI 2.0 and HDCP 2.2 standards, it supports lossless transmission of 4K@60Hz (3840×2160) ultra-high-definition signals with YUV 4:4:4 color sampling, HDR10+, HLG, and Dolby Vision—delivering vivid, true-to-life visuals. It also features independent L/R analog and SPDIF digital audio outputs, along with audio embedding functionality (seamlessly integrating L/R audio into HDMI video output), making it ideal for small-to-medium scenarios such as conference rooms, home theaters, retail display zones, and education facilities.

With built-in EDID management, power-off memory, and multiple control options, CH4420K_B ensures consistent compatibility, easy operation, and reliable performance for daily AV signal management.

二、Key Feature Highlights

1. 4K Ultra HD Visual Experience

- Complies with HDMI 2.0 standard, supporting maximum resolution of **4K@60Hz (3840×2160)** with YUV 4:4:4 color sampling.
- Backward compatible with lower resolutions (1080P@60/30Hz, 720P, 480P) to match mainstream display devices.
- Supports advanced dynamic range technologies: **HDR10+, HLG, and Dolby Vision**—enhancing contrast and color depth for lifelike imagery.

2. 4×4 HDMI I/O & Independent Audio Output

- 4 HDMI input ports (standard Type A, 19-pin female) and 4 HDMI output ports (Type A, 19-pin female) for flexible cross-switching (1-to-1, 1-to-many, or cross-channel selection).
- Dual independent audio outputs: 1×L/R analog audio (3.5mm) and 1×SPDIF digital audio—ideal for separating audio to external sound systems.

- Audio embedding function: Seamlessly integrates L/R audio into HDMI video output for simplified single-cable transmission.

3. Seamless Compatibility & EDID Management

- Built-in **16 preset standard EDIDs**—eliminates compatibility issues with different display devices (e.g., monitors, projectors) by matching optimal signal parameters.
- Complies with **HDCP 2.2** (backward compatible with HDCP 1.4)—ensures normal decoding of encrypted content (e.g., Blu-ray, streaming services).

4. Versatile Control Methods

- Three flexible control options to suit different scenarios:
 - Front-panel buttons: For direct on-site operation.
 - IR remote control: Equipped with an external receiver (10m+ range) for convenient long-distance control.
 - RS-232 (9-pin female): For industrial-grade stable control (e.g., integration with central control systems).

5. Reliable Design & Power-off Memory

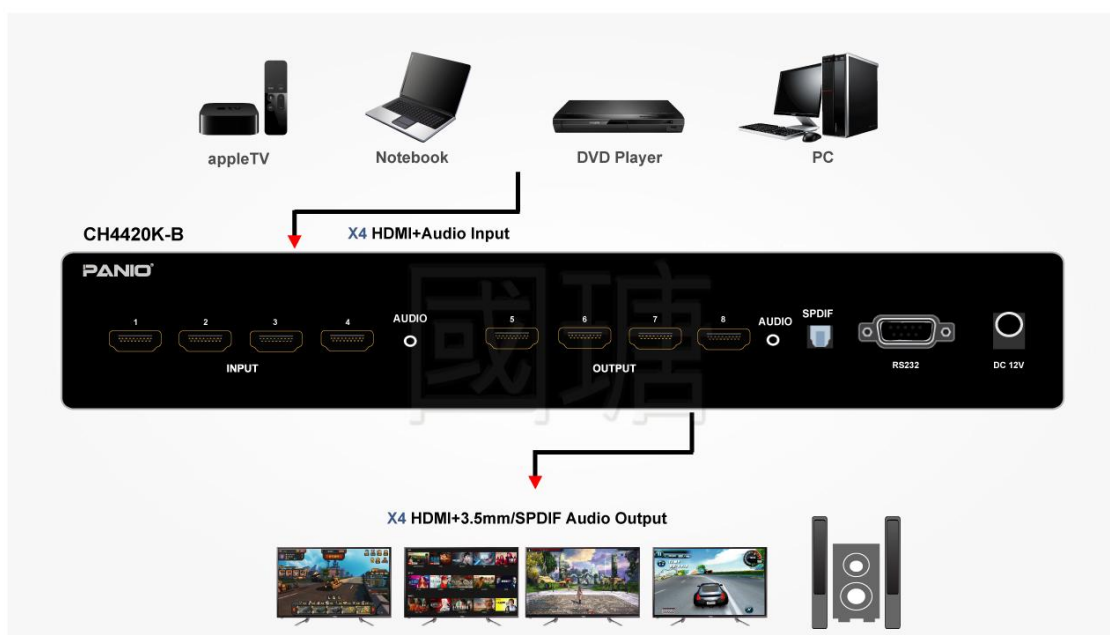
- **Power-off memory function:** Automatically restores the last working state (input/output assignments, audio settings) after power recovery—reducing reconfiguration time.
- **Anti-static protection:** All input/output ports are ESD-protected to prevent damage from electrostatic discharge.
- Independent power switch: Simplifies device on/off control and enhances safety.

三、 Detailed Specification Table

Model Name	CH4420K_B
Compliance	HDMI 2.0, HDCP 2.2 (backward compatible with HDCP 1.4)
Video Bandwidth	300MHz
Supported Resolutions	Max. 3840×2160@60Hz (4K); Backward compatible with 1080P@60/30Hz, 720P, 480P
Color & Dynamic Range	YUV 4:4:4/4:2:2/4:2:0; HDR10+, HLG, Dolby Vision

Audio Features	Supported formats: LPCM, Dolby (Digital/Plus/True HD/Atmos), DTS (Digital/HD Master Audio); Audio embedding (L/R to HDMI)
HDMI I/O	4×HDMI Input (Type A, 19-pin female); 4×HDMI Output (Type A, 19-pin female)
Audio Output	1×L/R Analog (3.5mm); 1×SPDIF Digital
Control Interfaces	1×RS-232 (D-Sub 9-pin female); Front-panel buttons; IR remote (with external receiver)
Power Supply	Input: AC 110V–240V 50/60Hz; Output: DC 12V/1.5A (certified original adapter)
Dimensions	280mm × 117.5mm × 44mm (L×W×H)
Weight	940g
Power Consumption	Max. 5W
Operating Environment	Temperature: 0–40°C (32–104°F); Relative Humidity: 20–90% RH (non-condensing)
Protection Features	ESD protection (input/output ports); Independent power switch

Diagram



四、 Important Notes for Use

- 4K Signal Cable Requirement:** Use certified 4K HDMI cables to transmit 4K@60Hz signals. Inferior cables may cause signal distortion, screen freezes, or no signal output.
- Cable Length Limitation:** The total length of HDMI input + output cables must not exceed 10 meters. For longer distances, use **optical HDMI cables** or certified HDMI extenders to avoid signal attenuation.
- Avoid Unauthorized Cascading:** Do not cascade uncertified devices (e.g., switchers, distributors, converters) with CH4420K_B—this may cause compatibility issues or signal loss.
- Original Power Cord Mandate:** Use only the provided original DC 12V/1.5A power adapter to ensure stable power supply and prevent device damage.
- Remote Control Battery:** The IR remote control does not include batteries (due to shipping safety regulations). Please purchase compatible batteries separately.
- EDID Configuration:** Select the appropriate EDID preset via the control interface based on your display device's specifications—this ensures optimal signal matching and avoids display errors.

五、 Package Contents

Item	Quantity
CH4420K_B Matrix Unit	1 unit
DC Power Adapter (12V/1.5A)	1 unit
IR Remote Control	1 unit
User Manual	1 piece

Core Advantages Summary

- ✓ 4K@60Hz with YUV 4:4:4, HDR10+, and Dolby Vision for ultra-vivid, cinema-like visuals
- ✓ 4×4 HDMI I/O + independent L/R/SPDIF audio outputs for flexible AV distribution
- ✓ 16 built-in EDIDs & HDCP 2.2 to eliminate compatibility issues with diverse devices
- ✓ Multi-control options (buttons/IR/RS-232) for on-site and remote operation convenience
- ✓ Power-off memory & anti-static design for reliable, low-maintenance performance
- ✓ Compact size (280×117.5×44mm) for easy installation in small spaces