

16x16 4K 60Hz HDMI 2.0 Matrix Switcher

Model: CH1620K_B

Ultra HD 4K@60Hz Transmission | 16x16 HDMI I/O | Multi-Control Options (APP/Web/RS-232) | Audio Embedding/Extraction | HDR10+ & HLG Support

一、Product Overview

CH1620K_B is a professional-grade 16×16 HDMI 2.0 matrix switcher engineered to enable stable, high-performance signal distribution between 16 HDMI input sources (e.g., PCs, 4K Blu-ray players, Apple TVs, notebooks) and 16 HDMI display devices (e.g., 4K monitors, projectors, large-screen TVs).

Compliant with HDMI 2.0 and HDCP 2.2 standards, it supports a 18Gbps video bandwidth, delivering lossless transmission of 4K@60Hz YUV4:4:4 ultra-high-definition audio and video signals. It also integrates advanced visual technologies including HDR10, HLG, and Dolby, ensuring superior color accuracy and dynamic range.

Equipped with versatile audio functions (external audio embedding/independent audio de-embedding) and multiple control interfaces, it is ideal for critical scenarios such as corporate conference centers, command and control rooms, high-end home theaters, and commercial exhibition spaces—guaranteeing seamless, reliable audiovisual experiences.

二、Key Feature Highlights

1. 4K Ultra HD HDMI Transmission

Complies with HDMI 2.0 standard, supporting maximum resolution of 4K@60Hz YUV4:4:4 and 18Gbps video bandwidth.

- Supports advanced visual technologies: HDR10, HLG, and Dolby for enhanced contrast, color depth, and immersive viewing.
- Backward compatible with lower resolutions (1080P@60/30Hz, 720P, 480P) to match mainstream display devices.
- Each output port supports 4K-to-1080P down-conversion, enabling simultaneous use of 4K and 1080P displays.

2. 16×16 HDMI I/O & Versatile Audio Functions

16 HDMI input ports (Type A, female) and 16 HDMI output ports (Type A, female) for simultaneous multi-source signal distribution.

- Dedicated audio interfaces: 16×3.5mm audio input ports (for external audio embedding) and 16×3.5mm audio output ports (for independent audio de-embedding to external speakers).
- Enables audio overlay onto silent video content via external audio embedding, enhancing flexibility for custom audiovisual setups.

3. Multiple Intelligent Control Options

Comprehensive control methods to adapt to different operational needs:

- APP control: Dedicated apps for Android and iOS devices, enabling wireless remote operation.
- Web UI control: Accessible via TCP/IP (RJ45 port) through a web browser for remote configuration and management.
- Dual RS-232 interfaces: Supports bidirectional control of downstream devices or cascaded systems via industry-standard serial protocols.
- Button & IR remote control: Local operation via front-panel buttons and IR remote (10m+ control range).

4. Advanced Image & System Protection

- 3D image optimization: Features 3D image frequency doubling restoration, adjacent pixel repetition, and 3D de-interlacing for sharp, smooth 3D visuals.
- Load protection: Integrated circuit protection to minimize the risk of equipment damage from voltage fluctuations or overloads.
- Power-off memory: Automatically stores system settings and restores the last working state upon power recovery, reducing reconfiguration efforts.

5. Rack-Mountable & Durable Design

19-inch rack-mountable chassis (compatible with standard server racks) for space-efficient installation.

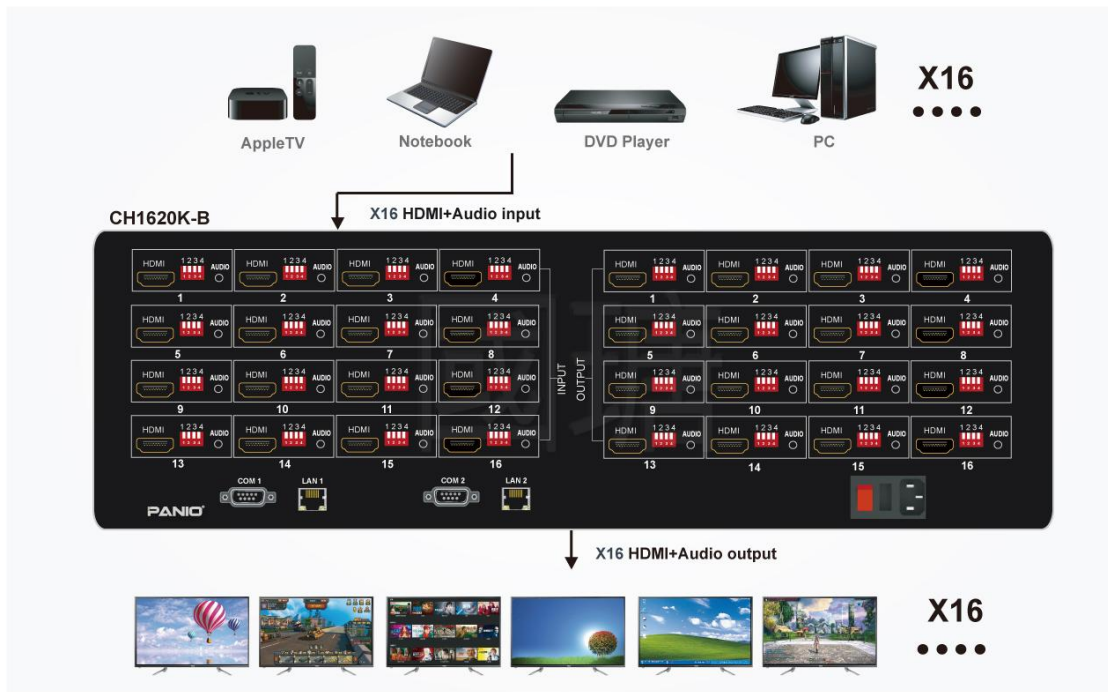
- High-quality metal construction: Enhances EMI (Electromagnetic Interference) resistance and heat dissipation, ensuring long-term operational stability.

三、 Detailed Specification Table

Model Name	CH1620K_B
Compliance	HDMI 2.0, HDCP 2.2, EDID Management
Video Bandwidth	18Gbps (for 4K@60Hz YUV4:4:4)
Supported Resolutions	Max. 4K@60Hz YUV4:4:4; Backward compatible with 1080P@60/30Hz, 720P, 480P
Visual Technologies	HDR10, HLG, Dolby
Color Depth	24-bit, 30-bit, 36-bit, 48-bit

Audio Functions	External audio embedding (3.5mm input); Independent audio de-embedding (3.5mm output)
HDMI I/O	16×HDMI Input (Type A, female); 16×HDMI Output (Type A, female)
Audio I/O	16×3.5mm Audio Input; 16×3.5mm Audio Output
Control Interfaces	1×RS-232 (Male), 1×RS-232 (Female), 1×RJ45 (TCP/IP)
Control Modes	Button (front-panel), IR Remote, Android/iOS APP, Web UI, Dual RS-232
Chassis Material/Color	Metal (anti-EMI, high heat dissipation) / Black
Dimensions	482mm × 405mm × 138mm (L×W×H)
Weight	13kg
Power Supply	Input: AC 110V–240V 50/60Hz
Power Consumption	Max. 34W
IR Remote Range	10m+ (batteries not included)
Chipset	Quad-core, quad-link chipset; Max. processing rate: 32Gbps
Operating Temperature	0–40°C (32–104°F)
Storage Temperature	-20–60°C (-4–140°F)
Relative Humidity	20–90% RH (non-condensing)
Cable Length Limit	Input/output single cable max. 5m; Total input+output length <10m (use optical HDMI for longer distances)
Protection Features	Load protection, EMI resistance, power-off memory

Diagram



四、 Important Notes for Use

1. Cable Requirement for 4K@60Hz: To ensure stable 4K@60Hz signal transmission, use **certified HDMI 2.0 cables**. Uncertified or inferior cables may cause signal distortion, screen freezes, or no signal.
2. Cable Length Management: Single HDMI input/output cables should not exceed 5m; total input+output length must be <10m. For distances beyond this limit, use an HDMI extender (for short distances) or optical HDMI cable (for long distances).
3. Third-Party Device Restriction: Do not use uncertified third-party devices (e.g., switchers, distributors, converters) with the matrix—this may compromise system stability or cause compatibility issues.
4. Power Adapter Requirement: Use only the **original manufacturer-certified power adapter** to avoid equipment damage from voltage mismatches or unstable power supply.
5. Remote Control Batteries: Batteries are not included with the IR remote control (per shipping safety regulations). Please purchase compatible batteries separately.
6. Compatibility Consultation: Prior to integrating the matrix with other audiovisual equipment, consult the support team to mitigate potential compatibility risks.
7. Save Settings: Although the device has power-off memory, manually save critical scene settings via Web UI or front panel to prevent accidental parameter loss.

五、 Package Contents

Item	Quantity	Remarks
CH1620K_B Matrix Unit	1 unit	
IR Remote Control	1 unit	Batteries not provided
Power Cord	1 unit	
User Manual	1 piece	

Core Advantages Summary

- ✓ 4K@60Hz YUV4:4:4 transmission with 18Gbps bandwidth + HDR10/HLG/Dolby for premium visuals
- ✓ 16×16 HDMI I/O + 3.5mm audio embedding/de-embedding for flexible multi-source distribution
- ✓ Multi-control options (APP, Web UI, dual RS-232, IR) for convenient local/remote operation
- ✓ Advanced 3D image processing, load protection, and power-off memory for system reliability
- ✓ 19-inch rack-mountable metal chassis (anti-EMI, heat dissipation) for professional installations
- ✓ 4K-to-1080P down-conversion to support mixed 4K/1080P display setups