4K 60Hz 8x8 Professional Seamless HDMI Matrix

Model: CH8880K

Ultra HD 4K@60Hz Transmission | 8x8 HDMI I/O | Seamless Switching | Multi-View & Video Wall | Flexible Control

一、 Product Overview

CH8880K is a professional-grade 8×8 HDMI seamless matrix device designed to deliver stable signal distribution between 8 HDMI input sources (e.g., PCs, 4K players, cameras) and 8 HDMI display devices (e.g., monitors, projectors, TVs). Compliant with HDMI 2.0b standard and supporting 18Gbps video bandwidth, it enables lossless transmission of 4K@60Hz 4:4:4 ultra-high-definition audio and video signals, while synchronously transmitting multi-channel digital and analog audio.

Equipped with advanced seamless switching technology, it eliminates screen freezes, blackouts, or flickers during source switching. Built-in multi-view display and video wall stitching functions make it ideal for critical scenarios such as command centers, multi-screen conference rooms, high-end home theaters, and commercial exhibition halls, ensuring smooth and reliable audio-visual experiences.

二、 Key Feature Highlights

1. **4K Ultra HD HDMI Transmission**

   ◦ Complies with HDMI 2.0b standard, supporting maximum resolution of 4K@60Hz 4:4:4 (8/10/12-bit color depth) and 18Gbps video bandwidth.

   ◦ Backward compatible with lower resolutions (1080P@60/30Hz, 720P, 480P) to match mainstream display devices.

   ◦ Each output port supports independent resolution adjustment for flexible matching with different display specifications.

1. **8×8 HDMI I/O & Versatile Audio Output**

   ◦ 8 HDMI input ports (Type A, 19-pin female) and 8 HDMI output ports (Type A, 19-pin female) for simultaneous signal distribution.

   ◦ Dual audio output options: 8 optical S/PDIF digital audio outputs (lossless transmission) and 8 balanced analog audio outputs (3.5mm Phoenix Terminal, strong anti-interference).

   ◦ Supports a wide range of audio formats, including LPCM, Dolby (Digital/Plus/EX, True HD, Atmos), DTS (including DTS-HD Master Audio), and DSD.

1. **True Seamless Switching & Copyright Protection**

   ◦ "Zero-interruption" seamless switching: No flicker, freeze, or blackout during source transitions, ensuring smooth presentations and viewing.

◦ HDCP 2.2 compliance (backward compatible with HDCP 1.4) with three flexible modes: "Follow TV", "Follow Source", and "User-defined", ensuring normal decoding of encrypted content.
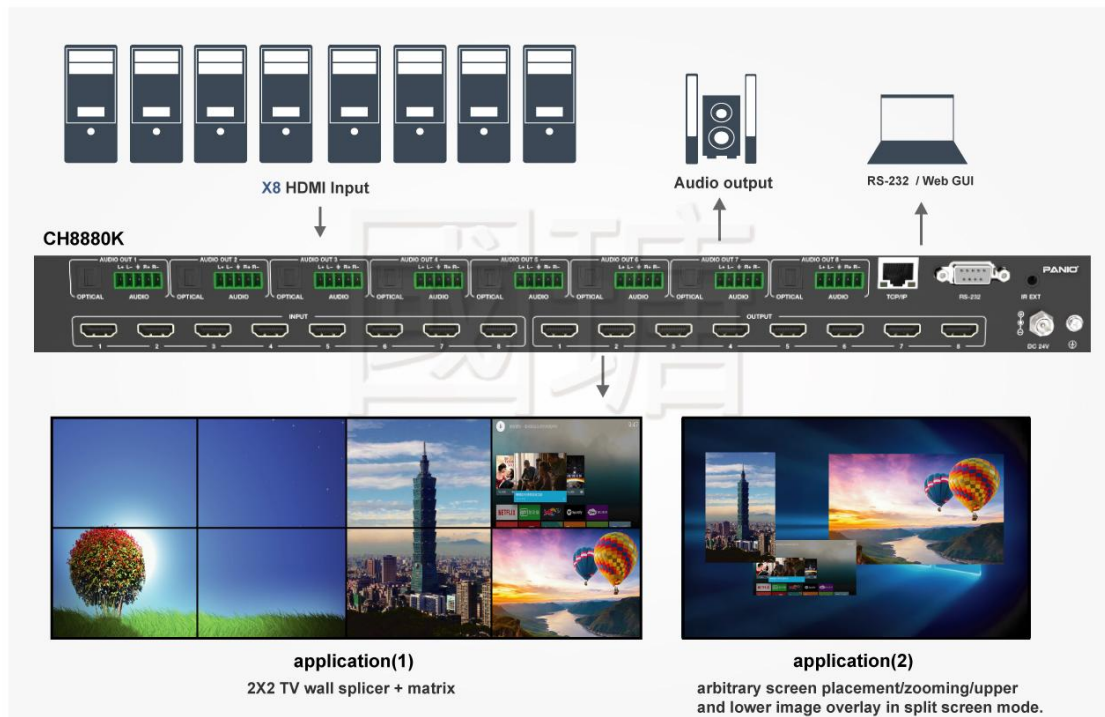
1. **Multi-View Display & Video Wall Stitching**

   ◦ 12 preset multi-view modes: Single screen, PIP (Picture-in-Picture), 2-screen, 3-screen (3 variants), 4-screen (3 variants), and user-defined (3 variants).

   ◦ Flexible video wall stitching: Supports 1–8 rows × 1–8 columns (max. 8 screens) and saves 8 groups of preset scenes (with naming, editing, and deletion functions). Stitching windows are automatically marked with different colors for easy management.

1. **Robust Design & Smart Functions**

   ◦ 1U rack-mountable metal chassis: Enhances EMI (Electromagnetic Interference) resistance and heat dissipation, suitable for standard rack installation.

   ◦ Power-off memory function: Automatically restores the last working state and settings after power recovery, reducing reconfiguration efforts.

   ◦ Comprehensive EDID management: 12 built-in standard EDIDs, 2 user-defined EDIDs, and 8 EDID cloning modes for precise matching with display devices.

   ◦ Mirroring function: Supports horizontal, vertical, horizontal+vertical mirroring, or mirroring off for inverted/side-mounted display installations.

Diagram

application(1)
2X2 TV wall splicer + matrix

application(2)
arbitrary screen placement/zooming/upper and lower image overlay in split screen mode.

三、 Detailed Specification Table

Item	Specification Details
Model Name	CH8880K
Compliance	HDMI 2.0b, HDCP 2.2 (backward compatible with HDCP 1.4)
Video Bandwidth	18Gbps / 594MHz (for 4K@60Hz 4:4:4)
Supported Resolutions	Max. 4K@60Hz 4:4:4; Backward compatible with 1080P@60/30Hz, 720P, 480P
Color Space/Depth	RGB, YCbCr 4:4:4/4:2:2, YUV 4:2:0; 8bit/10bit/12bit
Audio Formats	LPCM, Dolby (Digital/Plus/EX, True HD, Atmos), DTS (including DTS-HD Master Audio), DSD
HDMI I/O	8×HDMI Input (Type A, 19-pin female); 8×HDMI Output (Type A, 19-pin female)
Audio Output	8×Optical S/PDIF (digital); 8×Balanced Analog (3.5mm Phoenix Terminal)
Control Interfaces	1×TCP/IP (RJ45, for LAN remote control & Web GUI); 1×RS-232 (D-Sub 9-pin)
IR Level/Frequency	5Vp-p; 20K–60KHz

Item	Specification Details
Chassis Material/Color	Metal (anti-EMI, high heat dissipation) / Black
Dimensions (L×W×H)	440mm × 300mm × 44.5mm
Weight	3.95kg
Power Supply	Input: AC 100–240V 50/60Hz (US/EU plug optional); Output: DC 24V/3.75A (CE/FCC/UL certified)

Power Consumption	Max. 70W (operating); ＜5W (standby)
Operating Temperature	0–40°C (32–104°F)
Storage Temperature	-20–60°C (-4–140°F)
Relative Humidity	20–90% RH (non-condensing)
ESD Protection	IEC 61000-4-2: ±8kV (air discharge); ±4kV (contact discharge)

四、 Important Notes for Use

1. **Cable Requirement for 4K@60Hz**: To transmit 4K@60Hz signals, use HDMI 2.0b "High Speed with Ethernet" cables. Inferior cables may cause screen freezes, distortion, or no signal.

2. **Cable Length & Signal Amplifier**: If HDMI cable length exceeds the recommended limit (e.g., ＞5m for 4K@60Hz), use an HDMI signal amplifier to prevent signal attenuation and ensure display quality.

3. **Video Wall Pre-configuration**: Before video wall stitching, assign corresponding output channels to each window via the right-click menu. This step is mandatory—omission will result in no signal for stitching windows.

4. **Save Settings Before Power Off**: Save current scene settings via Web GUI or front panel before powering off to avoid parameter loss and reduce reconfiguration time.

5. **Rack Installation & Heat Dissipation**: Reserve ≥5cm of heat dissipation space during rack installation. Keep the environment well-ventilated and dust-free to maintain heat dissipation efficiency and extend device lifespan.

五、 Package Contents

Item	Quantity	Remarks
CH8880K Matrix Unit	1 unit	Core device for 8×8 HDMI signal management
DC Power Adapter (24V/3.75A)	1 unit	Certified original adapter for stable power
IR Remote Control	1 unit	With external 3.5mm IR receiver (10m+ range)

RJ45 Network Cable	1 unit	For TCP/IP remote control and Web GUI access
RS-232 Cable (9-pin)	1 unit	For industrial-grade stable control
Quick Start Guide	1 piece	Detailed installations

Core Advantages Summary

✓ 4K@60Hz 4:4:4 ultra HD transmission with 18Gbps bandwidth for lossless visuals

✓ 8×8 HDMI I/O and dual audio outputs (optical/analog) for flexible signal distribution

✓ True seamless switching to eliminate presentation interruptions

✓ 12 multi-view modes and customizable video wall (up to 8 screens) for diverse scenarios

✓ Multiple control methods (front panel, IR, Web GUI, RS-232) for convenience

✓ 1U metal chassis (anti-EMI, power-off memory) for durability and reliability