

PANIO CH4400K

4 in 4 out 4K 60Hz HDMI 2.0 Matrix Switch

Support ARC, CEC, Audio Extraction, RS-232 & TCP/IP Control

Product Overview

The CH4400K is a professional 4x4 HDMI 2.0 matrix switch engineered for seamless distribution of ultra-high-definition (UHD) audio and video signals—ideal for home theaters, conference rooms, AV automation systems, and professional presentation setups. It centralizes control of up to 4 signal sources (e.g., PCs, laptops, Blu-ray players, PTZ cameras) and routes content to 4 displays (e.g., 4K TVs, laser projectors) with zero signal loss, enabling multi-user simultaneous operation (e.g., separate presentations in a split-conference room or multi-zone home viewing).

With an 18Gbps bandwidth, the CH4400K delivers 4K@60Hz resolution with YUV 4:4:4 chroma subsampling—ensuring crisp, true-to-life visuals free of motion blur—while supporting HDR formats (HDR10+, Dolby Vision, HLG) for enhanced contrast and vibrant color depth. It integrates user-centric features: ARC (Audio Return Channel) for bidirectional audio (e.g., sending TV streaming audio to a soundbar), CEC for one-touch control of connected devices (e.g., powering on the matrix when the TV is activated), and independent coaxial audio extraction for external sound systems. Versatile control options (front panel, IR remote, RS-232, TCP/IP, Web GUI) and 4K-to-1080p downscaling ensure compatibility with mixed-resolution setups, making it a flexible solution for both consumer and professional AV environments.

Product Features

- **4x4 HDMI 2.0 Matrix Switching:** Enables flexible routing of 4 HDMI sources (PC, NB, Blu-ray Player, PTZ Camera) to 4 HDMI displays (4K TV, Laser Projector), supporting simultaneous signal distribution without compromising signal quality—no manual cable swapping required.
- **4K@60Hz UHD & HDR Compatibility:** Delivers maximum resolution of 3840×2160@60Hz with YUV 4:4:4 chroma subsampling; supports HDR10+, Dolby Vision, and HLG for cinematic contrast and vivid color reproduction. Ideal for UHD content playback (e.g., 4K movies, high-frame-rate gaming) with zero latency.
- **Independent 4K-to-1080p Downscaling:** Each HDMI output features dedicated downscaling, converting 4K signals to 1080p to match older 1080p displays—eliminating the need for external converters and reducing setup costs.
- **ARC & CEC Smart Integration:** ARC (Audio Return Channel) enables bidirectional audio transmission (e.g., TV app audio → soundbar); CEC (Consumer Electronics Control)

allows centralized device management (e.g., turning off the Blu-ray player when the TV is powered down) to simplify operation.

- **Multi-Interface Audio Extraction:** Equipped with 4 coaxial (RCA) and 4 3.5mm L/R audio outputs, extracting audio from HDMI signals to support external sound systems (amplifiers, soundbars, headphones). No reliance on display-built-in speakers, enhancing audio flexibility.
- **Comprehensive Control Options:**
 - Front panel buttons: For quick local operation (source/display selection, volume adjustment).
 - IR remote: 8-meter effective range, 360° coverage for convenient distance control.
 - RS-232 serial: Integrates with AV control systems (e.g., Crestron, AMX) for automated workflows.
 - TCP/IP: Enables network-based management (LAN/Wi-Fi) for remote monitoring.
 - Web GUI: Intuitive browser-based interface (supports mobile/desktop) for setup and configuration.
- **Broad Compatibility & Compliance:** Compliant with HDMI 2.0 (18Gbps) and HDCP 2.2 (secure content playback, e.g., Netflix 4K, Blu-ray); backward compatible with DVI 1.0. Supports all major audio codecs: PCM 2.0/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby TrueHD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, and DSD.
- **Robust Durability & Protection:**
 - ESD protection ($\pm 8\text{kV}$ air-gap discharge / $\pm 4\text{kV}$ contact discharge) shields against electrostatic damage in dry or industrial environments.
 - Compact dimensions (220×105×44mm) and lightweight design (792g): Simplifies 19-inch rack mounting (with included accessories) or desktop placement.

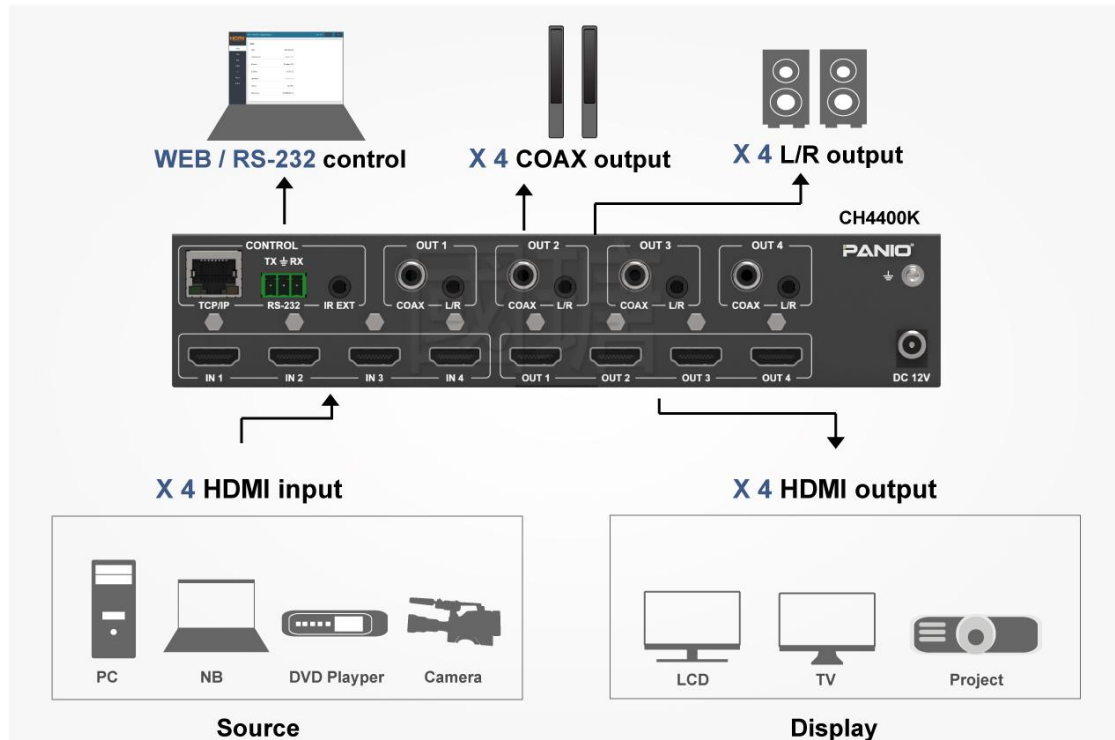
Specification

Parameter	Details
Model Name	CH4400K
Input Ports	4 × HDMI (Type A Female, HDMI 2.0), 1 × IR Extension Port (3.5mm)
Output Ports	4 × HDMI (Type A Female, HDMI 2.0), 4 × Coax Audio (RCA), 4 × 3.5mm L/R Audio
Max Resolution	4K@60Hz (3840×2160), YUV 4:4:4; Backward compatible with 1080p/720p

HDMI Audio Formats	PCM 2.0/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby TrueHD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD (2.8MHz/5.6MHz)
Coaxial Audio Formats	PCM 2.0, Dolby Digital/Plus (up to 5.1CH), DTS 2.0/5.1
L/R Audio Format	PCM 2.0CH (24-bit/192kHz)
Protocol Standards	HDMI 2.0, HDCP 2.2, DVI 1.0 (backward compatible via HDMI-DVI adapter)
Bandwidth	18Gbps (full HDMI 2.0 bandwidth)
Color Space	RGB, YCbCr 4:4:4 / 4:2:2 / 4:2:0
Color Depth	8-bit, 10-bit, 12-bit (supports wide color gamut: BT.2020)
HDR Formats	HDR10, HDR10+, Dolby Vision (profile 5/7), HLG (Hybrid Log-Gamma)
ESD Protection	Human body model—±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Max Cable Length	5 meters (recommended: HDMI 2.0 certified 24AWG shielded cables)
Control Modes	Front Panel Buttons, IR Remote (8m range), RS-232 (9600bps/8N1), TCP/IP (10/100Mbps), Web GUI (Chrome/Firefox/Safari)
Power Supply	DC 12V/2.5A (Single-channel Power Supply, 100-240V AC adapter included)
Power Consumption	10W (Max, standby: <1W)
Dimensions	220 × 105 × 44mm (L×W×H)
Item Weight	792g (net weight, 不含包装)

Connection Diagram

Diagram



Package Contents

- 1 × CH4400K 4x4 HDMI 2.0 Matrix Switch
- 1 × IR Remote Control (2 × AAA batteries not included, per international shipping regulations)
- 1 × RS-232 Cable
- 1 × DC 12V/2.5A Power Adapter (100-240V AC, with regional plug options)
- 1 × IR Extension Cable
- 2 × Rack Mount Accessories
- 1 × User Manual