

1×17 HDMI Video Distribution & Extension System (4K 60Hz 18Gbps)

Model: PANIO HD1810K

1. Product Overview

The HD1810K is a high-performance 1×17 HDMI video distribution & extension system specifically designed for large-scale multi-screen display scenarios. Fully compliant with HDMI 2.0b and HDCP 2.2/1.4 standards, it features an ultra-high bandwidth of 18Gbps. Innovatively integrating a "transmitter + receiver" architecture, the product enables long-distance transmission of 4K@60Hz signals up to 60 meters via a single CAT6/6a/7 cable, and supports one-way POC (Power over Cable) technology, significantly simplifying wiring complexity. Additionally, it comes with built-in intelligent EDID management, 3.5mm audio extraction, and bidirectional IR passback functions, compatible with various high-definition audio and video formats. It is an ideal solution for large retail stores, control rooms, exhibition halls, commercial broadcasting, and other scenarios.

2. Key Features

- **17-Channels Synchronized Display Architecture:** The transmitter includes 1 local loop-out port, paired with 8 dual-output receivers, totaling 17 high-efficiency synchronized transmission channels to meet large-scale multi-screen requirements.
- **Full Support for 4K High Resolution & HDR:** Maximum support for 4K@60Hz (4:4:4) resolution, backward compatible with multiple resolutions; compatible with HDR, HDR10, HDR10+, and HLG, with color depth up to 8/10/12-bit, restoring delicate dynamic range.
- **Stable Long-Distance Transmission:** Via CAT6/6a/7 cables, transmission distance reaches up to 60 meters for 4K@60Hz and 100 meters for 4K@30Hz; built-in digital balancing technology ensures lag-free and distortion-free images.
- **One-Way POC (Power over Cable) Technology:** Only need to connect a 12V power supply to the transmitter, which can power 8 receivers via the cable, significantly saving socket resources and construction costs.
- **3.5mm Audio Extraction & Separation:** Independent analog audio output port on the transmitter, which can de-embed HDMI digital audio tracks into analog signals for easy connection to broadcasting systems, power amplifiers, or monitoring speakers.
- **Intelligent EDID Management & Bidirectional IR Passback:** Built-in 10 EDID modes to solve display compatibility issues; bidirectional IR passback function allows direct control of signal sources at the display end.
- **Efficient Heat Dissipation & 24/7 Operation:** The transmitter is equipped with professional heat dissipation holes, supporting 24/7 non-stop operation; metal chassis ensures long-term stable and durable use.
- **Flexible & Simplified Wiring:** No need for additional transformers for receivers; single cable integrates audio, video, and power supply, greatly reducing construction difficulty.

3. Technical Specifications

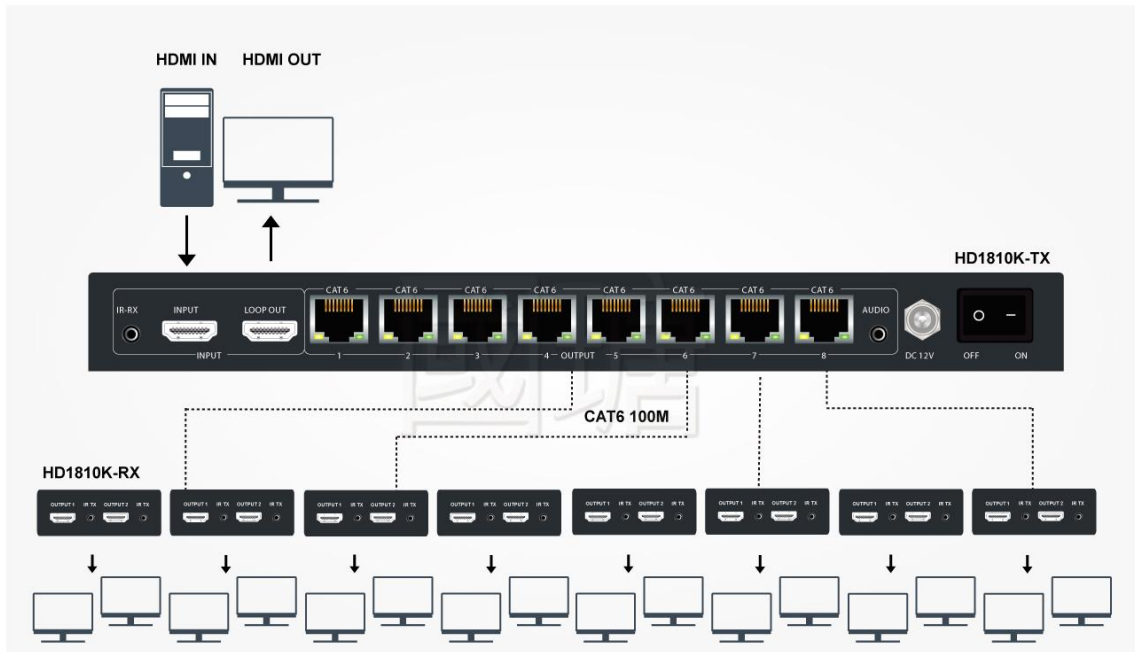
Compliance Standards	HDMI 2.0b (18Gbps), HDCP 2.2 / 1.4
Video Specifications	<p>Resolution: Max 4K2K@60Hz (4:4:4), backward compatible with multiple resolutions</p> <p>Color Depth: 8-bit (4K60); 8/10/12-bit (1080P)</p> <p>HDR Support: HDR, HDR10, HDR10+, HLG
Color Space: YUV 4:4:4</p>
Audio Specifications	Supports LPCM 2.0/2.1/5.1/7.1CH, Dolby Digital, DTS 5.1, Dolby TrueHD, DTS-HD Master Audio, etc.
Port Configuration	<p>Transmitter (Tx): 1×HDMI IN (Type A), 1×HDMI LOOP OUT (Type A), 8×CAT6 Network Output Ports, 1×3.5mm Audio Output, 1×IR-RX Port, 1×DC 12V Power Input</p> <p>Receiver (Rx): 2×HDMI OUT (Type A), 1×CAT6 Network Input Port, 2×IR-TX Port</p>
Transmission Distance	<p>4K@60Hz: Up to 60 meters (CAT6/6a/7 cables)</p> <p>4K@30Hz: Up to 100 meters (CAT6/6a/7 cables)</p> <p>Total HDMI Cable Length Limit: 10 meters</p>
Power Requirements	Input: DC 12V/3A; Power Supply Method: Powered by Tx end, Rx supports POC (Power over Cable)
Physical Specifications	<p>Dimensions (Tx): 267.5(L) × 103(W) × 27(H) mm</p> <p>Material: Metal Chassis (with heat dissipation holes)</p> <p>Operating Temperature: 0°C ~ 40°C</p>

4. Important Installation Notes

- Cable Recommendation: Use pure copper CAT6 or higher-grade cables to ensure stable 4K long-distance transmission; the total length of HDMI cables shall not exceed 10 meters.
- Power Operation: Supports POC power supply; complete all cable connections before turning on the transmitter power; only use the original 12V/3A power adapter provided.
- EDID Settings: Before installation, confirm that the EDID DIP switch on the transmitter is set to the mode matching the display.
- Environment Maintenance: Operate the device in an environment of 0°C ~ 40°C, avoiding humidity, high temperature, or conductive dust; ensure the transmitter's heat dissipation holes are well-ventilated.

- **Wiring Taboos:** Avoid running network cables parallel to or in the same conduit as high-power cables such as air conditioning or motor cables to prevent signal interference.
- **No Hot-Swapping:** Turn off the device power before connecting or disconnecting HDMI cables, network cables, etc.; hot-swapping may cause circuit damage.

Diagram



5. Package Contents

Item	Quantity
HD1810K_Tx 1×8 Network Transmitter	1 unit
HD1810K_Rx Dual-Output Receiver	8 units
12V/3A Professional Power Adapter	1 piece
IR Transmitter Cable	1 piece
IR Receiver Cables	16 pieces
Rack Mount Ear Kit	1 set
User Manual	1 piece