4K 60Hz DP/KVM 150M HDBaseT Extender

Model: PANIO KD8000_W

1. Product Overview

The KD8000_W is a high-performance DP/KVM extender designed for ultra-high-definition signal extension over long distances. It enables the extension of DisplayPort signals, bi-directional IR control signals, bi-directional RS - 232 signals, and USB KVM signals up to 328ft/100m for 4K60 signals or 492ft/150m for 1080P signals via a single CAT6 cable.

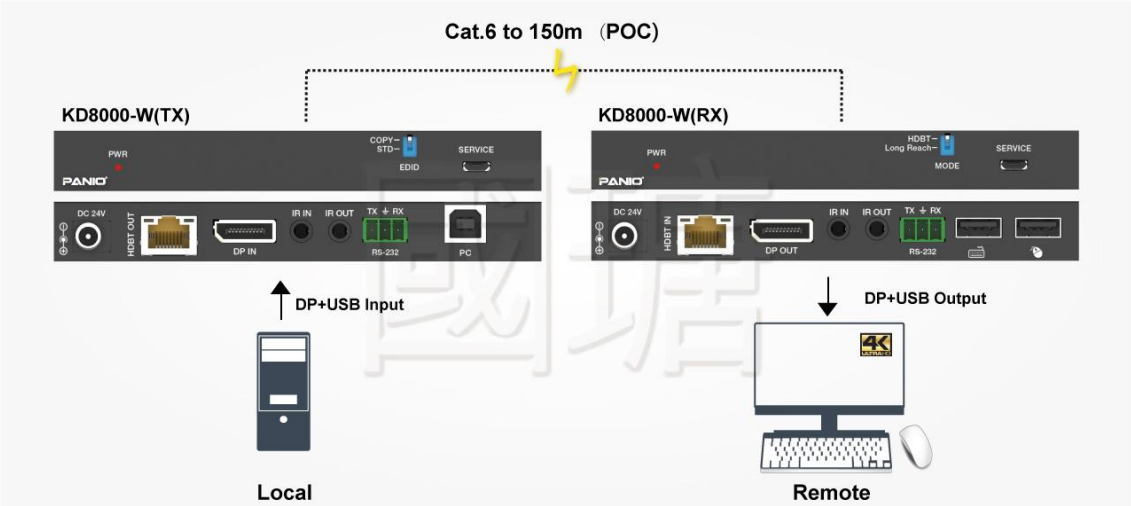
Compliant with DP 1.2a and HDCP 2.2 standards, it features advanced EDID management and supports bi-directional Power over Cable (POC) functionality. Its compact metal housing design ensures durability and efficient heat dissipation, making it ideal for digital signage, conference rooms, control rooms, medical imaging systems, and other professional AV installations requiring reliable long-distance signal transmission.

2. Key Features

- Ultra HD Long - Distance Transmission: Extends 4K@60Hz YUV 4:4:4 signals up to 100m (328ft) and 1080P@60Hz signals up to 150m (492ft) via a single CAT6 cable, maintaining pristine signal quality with 21.6Gbps video bandwidth.
- Comprehensive Standard Compliance: Adheres to DisplayPort 1.2a and HDCP 2.2 specifications, ensuring seamless compatibility with modern AV equipment and secure content protection for premium media sources.
- Advanced EDID Management: Features an EDID DIP switch with COPY and STD modes. COPY mode replicates the EDID from the display device to the source, while STD mode provides default 1080P 2CH settings for flexible system configuration.
- Bi - directional Power over Cable (POC): Supports power delivery over the single CAT6 cable connection, allowing either the transmitter or receiver to be powered while the other unit draws power through the cable, simplifying installation and reducing cable clutter.
- Full KVM Functionality: Enables complete control of a DisplayPort PC from a remote location using keyboard and mouse via USB 1.1 connectivity, perfect for securing valuable equipment in controlled environments while maintaining full user access.
- Professional Control Integration: Supports bi - directional IR pass - through (20K - 60KHz wideband) for remote control of source and display devices, plus RS - 232 connectivity for integration with professional control systems and automation protocols.
- Premium Audio Support: Compatible with high - quality audio formats including LPCM 2.0 (96KHz), Dolby Digital Plus 5.1CH, and DTS - HD Master 7.1CH, delivering immersive sound alongside stunning visuals.
- Robust Construction: Features a high - quality metal enclosure that provides excellent EMI/RFI shielding, efficient heat dissipation, and protection against physical damage with

ESD protection rated at ±8kV (air discharge) and ±4kV (contact discharge).

Diagram



3. Technical Specifications

Model Name	4K60 DP/KVM 150M HDBaseT Extender (KD8000_W)
Compliant Standards	DisplayPort 1.2a, HDCP 2.2
Video Specifications	Resolution: Up to 4K@60Hz YUV 4:4:4 Bandwidth: 21.6Gbps Color Depth: 8/10/12 - bit Color Space: RGB, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0 HDR Support: HDR, HDR10, HDR10+, Dolby Vision, HLG
Audio Specifications	Supported Formats: LPCM 2.0 (96KHz), Dolby Digital Plus 5.1CH, DTS - HD Master 7.1CH
Transmission Distance	4K@60Hz: Up to 100m (328ft) via CAT6 cable 1080P@60Hz: Up to 150m (492ft) via CAT6 cable Maximum recommended CAT6 cable length: 150m (492ft)
Port Configuration	Transmitter: 1× DP IN [20 - pin female]; 1× HDBT OUT [RJ45, 8 - pin female]; 1× IR IN [3.5mm Stereo Mini - jack]; 1× IR OUT [3.5mm Stereo Mini - jack]; 1× RS - 232 [3 - pin Phoenix Connector]; 1× PC [USB - B, 4 - pin female]; 1× SERVICE [Micro USB]; 1× DC 24V Power Input Receiver: 1× DP OUT [20 - pin female]; 1× HDBT IN [RJ45, 8 - pin female]; 1× IR IN [3.5mm Stereo Mini - jack]; 1× IR OUT [3.5mm Stereo Mini - jack]; 1× RS - 232 [3 - pin Phoenix Connector]; 2× USB 1.1 [USB - A, 4 - pin female]; 1× SERVICE

	[Micro USB]; 1× DC 24V Power Input
EDID Management	DIP Switch Selection: • COPY: Copies EDID from the Receiver's DP OUT port • STD: Default 1080P 2CH settings
Power Requirements	Input: DC 24V/1A (locking power supply) Bi - directional POC function: Power either transmitter or receiver unit only Power Consumption: 13.2W (Max.)
Operating Environment	Temperature: 0°C - 40°C (32°F104°F) Humidity: 20%~90% RH (non - condensing)
Storage Environment	Temperature: - 20°C~60°C (- 4°F~140°F) Humidity: 20%~90% RH (non - condensing)
Physical Dimensions	Transmitter/Receiver: 140mm (Width) × 65mm (Depth) × 18mm (Height) Transmitter Weight: 241g Receiver Weight: 253g Housing: Metal (Black, anti - scratch and corrosion - resistant)
Protection Design	ESD Protection: ±8kV (air discharge), ±4kV (contact discharge) Surge protection recommended for all installations

4. Important Installation Notes

1. Cable Connection Requirements: The KD8000_W requires the use of UTP (Unshielded Twisted Pair) connectors. Always connect using the direct interconnection method (T568B standard) and never cross - connect cables. For optimal performance, use high - quality CAT6 or better cables with proper shielding.
2. Power Configuration: This extender supports bi - directional Power over Cable (POC) functionality. Only one power supply is needed for the entire system—power either the transmitter or receiver unit, but not both simultaneously. Using two power supplies may cause equipment damage.
3. Installation Environment: Do not install this product in environments with excessive dust, moisture, extreme temperatures, corrosive gases, or high electromagnetic interference. Ensure adequate ventilation around both units to prevent overheating, especially when installed in equipment racks.
4. Cable Length Considerations: For 4K@60Hz signals, maximum transmission distance is 100m (328ft). For 1080P@60Hz signals, maximum distance is 150m (492ft). Performance may vary based on cable quality, environmental conditions, and source/display compatibility. Always test with actual equipment before finalizing installation.
5. ESD Protection: Before handling the extender units, discharge any static electricity by touching a grounded metal object. Use anti - static wrist straps when installing in dry environments to prevent electrostatic damage to sensitive components.
6. Control System Integration: When connecting RS - 232 control systems, ensure proper pin

configuration and voltage levels. The RS - 232 interface uses a 3 - pin Phoenix connector with standard TX, RX, and GND configuration. Maximum cable length for RS - 232 connections should not exceed 15m (49ft).

7. IR Signal Configuration: For optimal IR performance, position the IR receiver within line - of - sight of the remote control. The effective transmission distance is 0 - 5 meters at ±45° angles and 0 - 8 meters at ±90° angles from the receiver. Use the included IR blaster cable to control source equipment located in cabinets or enclosures.
8. Firmware Updates: The SERVICE ports (Micro USB) on both transmitter and receiver units are exclusively for firmware upgrades. Contact technical support before attempting firmware updates, as improper procedures may damage the equipment.

5. Package Contents

Item	Quantity
4K60 DP Extender (Transmitter Unit)	1 unit
4K60 DP Extender (Receiver Unit)	1 unit
IR Blaster Cable (1.5m)	1 piece
IR Wideband Receiver Cable (1.5m)	1 piece
3 - pin Phoenix Connectors	2 pieces
USB 2.0 Cable (USB - A to USB - B, 1.5m)	1 piece
Mounting Ears	4 pieces
Machine Screws (KM3×4)	8 pieces
24V/1A Locking Power Supply	1 piece
User Manual	1 piece

6. Safety Instructions

- Electrical Safety: This product contains sensitive electronic components. Always disconnect power before making or changing any connections. Use only the provided 24V/1A power supply or an equivalent replacement with identical specifications. Never modify the power connector or attempt to use incompatible power sources.
- Installation Environment: Install in a well - ventilated area away from heat sources, moisture, and direct sunlight. Maintain at least 5cm (2 inches) of clearance around each unit for proper heat dissipation. Do not place heavy objects on the extender units or block ventilation openings.

- Cable Management: Route cables carefully to avoid pinching, cutting, or excessive bending. Keep signal cables away from power cables and high - voltage equipment to minimize electromagnetic interference. Use cable ties or management systems to secure cables and prevent accidental disconnection.
- Lightning Protection: During electrical storms, disconnect equipment from power sources and signal inputs if possible. Consider installing surge protectors or lightning arrestors on all signal and power lines entering the building. The manufacturer is not responsible for damage caused by lightning strikes or power surges.
- Maintenance: Clean the exterior of the units with a soft, dry cloth only. Never use liquid cleaners, solvents, or abrasive materials. If the units become excessively dusty, use a soft brush or compressed air to gently remove debris. Do not attempt to open the housing or repair the units yourself—contact authorized service personnel for all repairs.
- Warning Symbols: Pay attention to all warning symbols and labels on the product and in this manual. These indicate potential hazards that could result in personal injury or equipment damage. If you are unsure about any aspect of installation or operation, contact technical support before proceeding.