HD6300K HDMI 8K 40Gbps HDBaseT 3.0 Extender with USB2.0

Break Through Transmission Limits, Build a Seamless AV Ecosystem

Product Features

Centered on HDBaseT 3.0 technology, the HD6300K integrates 8K ultra-clear video, multi-channel surround audio, intelligent control, and 90m lossless long-distance transmission. It is widely applicable to home AV entertainment, commercial display spaces, and industrial monitoring systems, delivering a highly efficient and stable all-in-one solution for professional AV transmission.

1. High-Definition Video Transmission

- Supports uncompressed video formats: 8K@30Hz 4:4:4 10bit, 4K@120Hz 4:4:4 10bit, and 4K@60Hz, fully compliant with the HDMI 2.1 standard.

- Compatible with HDCP 2.3, and fully supports high dynamic range (HDR) technologies including HDR10, HDR10+, Dolby Vision, and HLG.

- Equipped with VRR (Variable Refresh Rate), FreeSync/FlashSync vertical synchronization, and ALLM (Auto Low Latency Mode) to ensure smooth, tear-free imaging.

2. Versatile Audio Support

- eARC/ARC Audio Return: Directly connect to an AV amplifier or receiver via HDMI cable to enable bidirectional audio transmission.

- Native multi-channel passthrough: Supports professional audio formats such as Dolby Atmos, Dolby TrueHD, and DTS-HD Master Audio.

- Analog audio interface: Features a 3.5mm connector for flexible connection to external audio devices.

3. Multi-Interface Expansion

- USB 2.0 Dual Modes: Supports Host/Device switching with a transmission rate of 350Mbps, compatible with peripherals like keyboards, mice, and USB flash drives.

- 1GbE Ethernet: Auto-adapts to Gigabit/Fast Ethernet for stable connection to routers or PCs.

- Intelligent Control System: RS-232 remote debugging + bidirectional infrared (IR) control. Includes a free IR cable for seamless operation.

4. Long-Distance Uncompressed Transmission

- 90m extension via CAT6A/7 cable: Transmits uncompressed signals over a single cable with zero latency and no signal loss.

- POC (Power over Cable) Technology: Powers both the transmitter and receiver from a single end, simplifying wiring complexity.

5. Intelligent Configuration & Compatibility

- Dual DIP Switch Design:

◦ EDID DIP Switch: Automatically matches display specifications to optimize resolution and audio output.

◦ CONFIG DIP Switch: Configures RS-232 functions (passthrough/upgrade/debugging) and IR power supply voltage (5V/12V).

- Full Resolution Compatibility: Covers resolutions from VGA to 8K, suitable for home theaters, conference systems, and multimedia broadcasting.
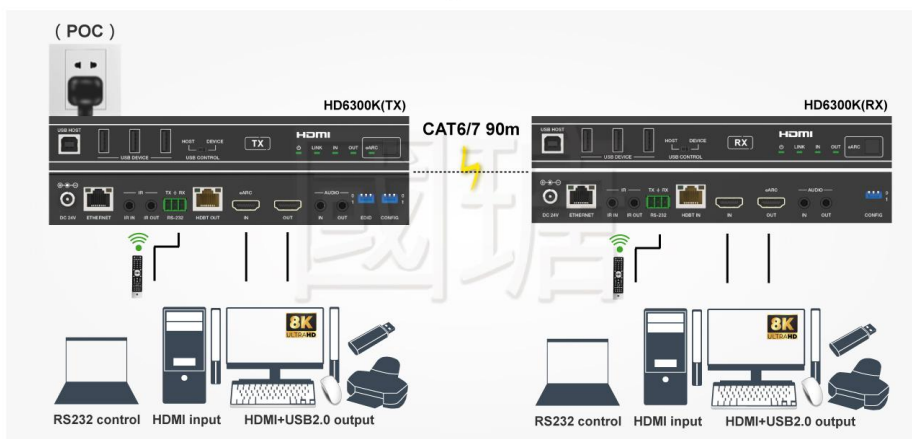
6. Easy Installation & Expansion

- Industrial-Grade Design: Metal casing provides anti-static and high-temperature resistance, ideal for commercial environments.

- Plug-and-Play Experience: Supports hot-swapping; no drivers required for quick deployment.

- Energy Efficiency: Total power consumption in POC mode is only 20.4W, with even lower standby power.

7. Bi-directional Signal Switching

- This extender features bi-directional signal switching, allowing users to toggle transmission direction from either the transmitter or receiver side.

- Flexible deployment, simplified integration.

Diagram

Technical Specifications

Item	Detailed Specifications
HDMI Compatibility	HDMI 2.1
HDCP Compatibility	HDCP 2.3
Video Bandwidth	Up to 40Gbps FRL and 18Gbps TMDS
Resolution	8K@30Hz 4:4:4 10bit, 4K@120Hz 4:4:4 10bit
USB Bandwidth	Up to 350Mbps
HDR Support	HDR10, HDR10+, Dolby Vision, HLG
Color Space	RGB 4:4:4, YCbCr 4:4:4/4:2:2/4:2:0
Color Depth	8/10/12-bit
HDMI Audio Formats	PCM2.0, LPCM5.1/7.1, Dolby Atmos, Dolby TrueHD, DTS-HD Master Audio, etc.
Analog Audio Format	PCM 2.0 48K
IR Frequency	20K-60KHz
Transmission Distance	CAT6: 60m / CAT6A/7: 90m
ESD Protection	IEC 61000-4-2: ±8kV (Air Discharge) / ±4kV (Contact Discharge)
Interface Configuration	Transmitter (TX): HDMI IN/OUT, HDBT OUT, 3.5mm Audio, IR/RS-232/USB/Ethernet / Receiver (RX): Same as TX, plus HDBT IN
Dimension / Weight	200×100×30mm / 571g (per unit)
Power Supply / Consumption	DC 24V/2.7A / POC Mode: 20.4W / Full-Load TX: 9.36W / RX: 9.84W

Operating Temperature	0°C~40°C (Storage: -20°C~60°C)
Recommended HDMI Cable Length	8K30: 3m / 4K24: 5m / 1080P60: 10m / 4K60: 20m (Premium High-Speed Cable)

Installation Notes

1. Function Key Confirmation: Before operation, check the eARC/ARC function key status (On/Off) of the transmitter and receiver.

2. Cable Requirements: Use high-quality CAT6A/7 cables for long-distance transmission to ensure signal stability.