

# 4K HDMI Audio Embedder

Insert Optical or Analog Audio into Any HDMI 2.0 Signal

**Surge Protection Recommended.** This product contains sensitive electrical components that may be damaged by electrical spikes, surges, or lightning strikes. Use of surge protection systems is highly recommended to protect and extend the life of your equipment.

The KanexPro HAECOAX4 is a professional 4K HDMI audio embedder designed for integrators who need to insert external audio from digital optical or analog stereo sources directly into an HDMI signal chain. Supporting 18Gbps HDMI 2.0b bandwidth with 4K@60Hz 4:4:4 and 10-bit HDR pass-through, it accepts audio from a Toslink S/PDIF input or 3.5mm analog line input and seamlessly embeds it into the outgoing HDMI stream — without affecting video quality, frame rate, or HDR metadata.

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## 1. Introduction

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## 2. Features

- Embeds multi-channel optical (S/PDIF) or analog stereo Line audio into HDMI output
- HDMI 2.0b (18Gbps), HDCP 2.2 and DVI 1.0 compliant
- Video resolutions up to 4K@50/60Hz (YUV 4:4:4), 4K@30Hz, 1080P@120Hz
- 10-bit HDR (High Dynamic Range) pass-through
- HDMI High Bit Rate (HBR) audio pass-through from HDMI source
- Optical audio: LPCM 2CH, Dolby Digital 2/5.1CH, DTS 2/5.1CH
- Analog audio: PCM 2.0CH stereo input via 3.5mm mini-jack
- Supports CEC bypass for transparent device control
- Front-panel dial switch: HDMI / Optical / Line audio source selection
- Audio sampling rates up to 192kHz for highest fidelity
- Compact metal enclosure: 73.5×60.7×17mm, 122g

## 3. Package Contents

1× HAECOAX4 18Gbps Audio Embedder

1× 5V/1A Power Adapter

1× User Manual



## 4. Specifications

| Video                  |   |
|------------------------|---|
| HDMI Compliance        | HDMI 2.0b   |
| HDCP Compliance        | HDCP 2.2 and HDCP 1.4   |
| Video Bandwidth        | 18Gbps  |
| Video Resolution       | 4K@50/60Hz (YUV 4:4:4); 4K@30Hz; 1080P@120Hz; 1080P 3D@60Hz   |
| Color Space            | RGB, YCbCr 4:4:4, YCbCr 4:2:0   |
| Color Depth            | 10-bit, 12-bit  |
| HDR                    | 10-bit HDR pass-through   |
| Audio                  |   |
| HDMI Audio (Pass-thru) | LPCM 2/5.1/7.1CH, Dolby Digital, DTS 5.1, Dolby Digital+, Dolby TrueHD, DTS-HD MA, Dolby Atmos, DTS:X |
| Optical Audio Input    | LPCM 2CH, Dolby Digital 2/5.1CH, DTS 2/5.1CH  |
| Line Audio Input       | Analog Stereo 2CH   |
| Audio Sampling Rate    | Up to 192kHz  |
| Connections            |   |
| Input Ports            | 1× HDMI Type A<br>1× Line In [3.5mm Stereo Mini-jack]<br>1× Optical In [S/PDIF]                       |
| Output Ports           | 1× HDMI Type A  |
| Mechanical             |   |
| Dimensions             | 73.5mm [W] × 60.7mm [D] × 17mm [H]  |
| Weight                 | 122g  |
| Housing                | Metal Enclosure — Black   |
| Power Supply           | DC 5V/1A — Input: AC 100–240V 50/60Hz (CE/FCC/UL)   |
| Power Consumption      | 1.25W   |
| ESD Protection         | ±8kV Air-gap; ±4kV Contact  |
| Environment            |   |
| Operating Temperature  | 0°C – 40°C / 32°F – 104°F   |
| Storage Temperature    | -20°C – 60°C / -4°F – 140°F   |
| Relative Humidity      | 20–90% RH (non-condensing)  |



## 5. Operation Controls and Functions

### FRONT PANEL

| # | NAME       | FUNCTION  |
|---|------------|---|
| 1 | HDMI In    | Connect to HDMI source device (Blu-ray, STB, PC).                   |
| 2 | Line In    | 3.5mm analog audio input — connect to external analog audio source. |
| 3 | Optical In | S/PDIF Toslink optical audio input.                                 |

### REAR PANEL

| # | NAME        | FUNCTION   |
|---|-------------|--|
| 1 | DC 5V       | Connect 5V/1A adapter for power.   |
| 2 | Power LED   | Red LED: system is powered on.   |
| 3 | Dial Switch | Audio source selector: HDMI = pass HDMI audio; Optical = embed Toslink; Line = embed 3.5mm analog. |
| 4 | HDMI Out    | Connect to display (TV, projector, recorder). Carries embedded audio and video.                    |
| 5 | Link LED    | Green LED: HDMI output signal detected.  |

## 6. Application Example



Connect HDMI source to HDMI In. Connect audio source to Optical In or Line In. Use the rear-panel dial switch to select active audio input. The selected audio is embedded into the HDMI output signal.

## 7. Troubleshooting

### Q: No audio on display after switching to Optical?

A: Verify Toslink cable is fully seated. Confirm source outputs a supported format (LPCM 2CH, Dolby Digital, or DTS 5.1CH). TrueHD and DTS-HD are not supported via optical input.

### Q: Video passes but audio is the original HDMI audio?

A: Check the rear-panel dial switch. Ensure it is set to Optical or Line — not HDMI. HDMI mode passes through the original source audio unchanged.

### Q: Link LED is off and no output?

A: Confirm HDMI source is active and cable is seated. Try a different cable. Ensure display is powered on and set to the correct HDMI input.

For further support, contact: [support@kanexpro.com](mailto:support@kanexpro.com) | 888.975.1368 | [www.kanexpro.com](http://www.kanexpro.com)

Warranty: 3-Year Limited. KanexPro™ reserves the right to make changes without prior notice.

