8K HDMI Audio De-Embedder with ARC

Extract Audio from Any 8K HDMI Source or ARC TV to Optical and Analog Outputs



Need audio from an 8K source or a TV to reach an amplifier, DSP or mixer that has no HDMI input? The KanexPro AUD-DEBED-8K is an HDMI 2.1 audio de-embedder that sits between the source and the display. Video passes through at up to 48Gbps FRL: 8K@60Hz 4:2:0 12-bit or 4K@120Hz 4:4:4 12-bit, HDCP 2.3, with VRR, ALLM, QMS, QFT and SBTM, plus HDR10, HDR10+, Dolby Vision and HLG. At the same time, audio is de-embedded to two outputs: S/PDIF optical (PCM 2.0CH, Dolby or DTS 5.1CH) and a 3.5mm L/R analog jack (PCM 2.0CH stereo only). Something that surprises people: Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio and DTS:X pass through to the display over HDMI, but the optical and analog outputs do not carry them. Set the EDID DIP switch to a 2.0CH or 5.1CH mode so the source sends a format your amplifier can play. In ARC mode the unit takes the audio an ARC-enabled TV returns on the TV(ARC) OUT port, with CEC handling the handshake. Eight DIP-switch EDID modes (copy the display's EDID, or force an FRL bandwidth and 2.0CH/5.1CH audio) and a USB-C service port for firmware updates come in a compact 95 × 68 × 18mm metal enclosure for home theater and commercial AV.

Surge Protection Recommended — This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, or lightning strikes. Use of surge protection systems is highly recommended.

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1. Features

- ✓ HDMI 2.1 and HDCP 2.3 compliant — supports 48Gbps FRL and 18Gbps TMDS video bandwidth
- ✓ Video resolution up to 8K@60Hz 4:2:0 12-bit and 4K@120Hz 4:4:4 12-bit
- ✓ HDMI 2.1 advanced features: VRR, ALLM, QMS, QFT, and SBTM supported
- ✓ HDR pass-through: HDR, HDR10, HDR10+, Dolby Vision, and HLG
- ✓ Audio pass-through: LPCM 7.1CH, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio, DTS:X
- ✓ Dual audio output: S/PDIF Optical (PCM 2.0CH, Dolby, DTS 5.1CH) + L/R Analog (PCM 2.0CH)
- ✓ ARC mode: extracts TV return audio via ARC-enabled HDMI output port with CEC control
- ✓ Advanced 8-mode DIP EDID management — EDID copy, FRL/TMDS modes, 2.0CH/5.1CH selection
- ✓ USB-C service port for firmware updates and debug
- ✓ Compact metal enclosure: 95×68×18mm, 178g — ideal for rack-adjacent or in-wall installation

2. Specifications

VIDEO	
HDMI Compliance	HDMI 2.1
HDCP Compliance	HDCP 2.3
Video Bandwidth	48Gbps FRL and 18Gbps TMDS
Video Resolution	Up to 8K@60Hz 4:2:0 12-bit; 4K@120Hz 4:4:4 12-bit
Color Space	RGB, YCbCr 4:4:4, 4:2:2, 4:2:0
Color Depth	8/10/12-bit
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG
HDMI 2.1 Features	VRR, ALLM, QMS, QFT, SBTM
AUDIO	
HDMI Audio (Pass-through)	LPCM, Dolby Digital/Plus/EX, Dolby TrueHD, Dolby Atmos, DTS, DTS-HD Master Audio, DTS:X, DSD
Optical Out	PCM 2.0CH, Dolby, DTS 5.1CH
L/R Out	PCM 2.0CH Analog Stereo
CONNECTIONS	
Input	1× Source IN [HDMI Type A, 19-pin female]
Output	1× TV(ARC) OUT [HDMI Type A, 19-pin female] 1× L/R [3.5mm Stereo mini-jack] 1× OPTICAL [S/PDIF, female]
Control	1× SERVICE [USB Type C, update/debug port]
MECHANICAL	
Dimensions	95mm [W] × 68mm [D] × 18mm [H]
Weight	178g
Housing	Metal Enclosure — Black
Power Supply	Input: AC 100–240V 50/60Hz; Output: DC 5V/1A (CE/FCC/UL certified)
Power Consumption	4W (Max)
ESD Protection	±8kV Air-gap discharge; ±4kV Contact discharge

continued

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)

3. Surge Protection

This product contains sensitive electrical parts that electrical spikes, surges and lightning strikes can damage. We strongly recommend a surge protection system to protect the unit and extend its life.

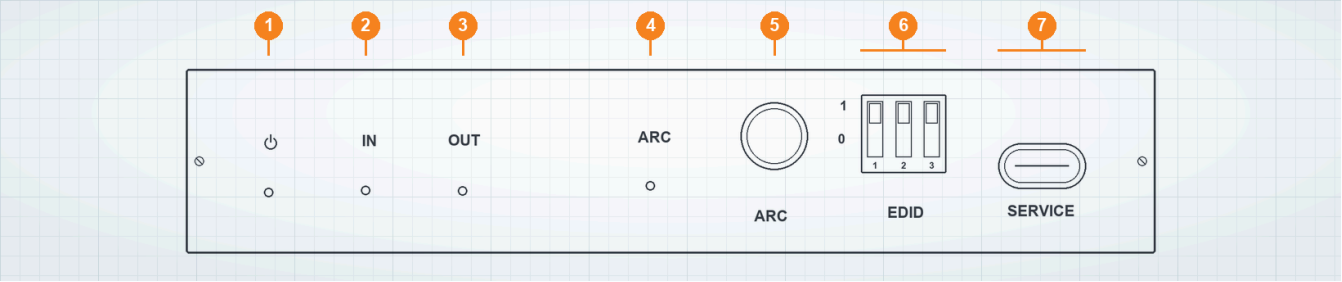
4. Introduction

The KanexPro AUD-DEBED-8K is a professional HDMI 2.1 audio de-embedder for integrators. It extracts high-fidelity audio from 8K sources or ARC-enabled displays without reducing video quality. It supports 48Gbps FRL bandwidth and full HDMI 2.1 compliance, including VRR, ALLM, QMS, QFT and SBTM. Video passes through unchanged at up to 8K@60Hz and 4K@120Hz. At the same time, the unit de-embeds audio to an S/PDIF optical output and an analog L/R output.

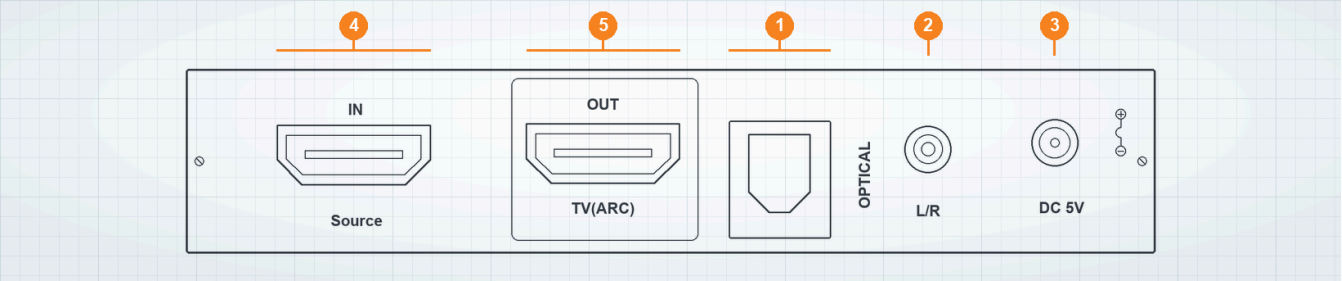
5. Certifications

The manual marks the supplied power supply CE, FCC and UL. It does not state any certifications for the AUD-DEBED-8K unit itself.

6. Panel Descriptions



Front Panel



Rear Panel

FRONT PANEL

No.	Name	Function
1	Power LED	Lights red when the unit is powered on.
2	IN LED	Lights green when an HDMI source is connected and active.
3	OUT LED	Lights green when a display is connected to the TV(ARC) OUT port.
4	ARC LED	On: ARC is enabled and CEC is working normally. Flashing: ARC is enabled but there is a CEC error. Off: ARC is disabled.

continued

No.	Name	Function
5	ARC Button	Press to turn the ARC function on or off.

REAR PANEL

No.	Name	Function
1	OPTICAL	S/PDIF optical audio output.
2	L/R	3.5mm stereo analog audio output.
3	DC 5V	Power input. Connect the supplied DC 5V/1A power supply here.
4	HDMI IN	Connect your HDMI 2.1 source here, such as a PC, games console or media player.
5	TV(ARC) OUT	Connect your TV or display here. When ARC mode is on, the TV's return audio comes back through this port.
6	EDID DIP Switch	Three-switch DIP that selects one of eight EDID modes. See the EDID DIP Switch Reference below.
7	SERVICE	USB Type-C port for firmware updates and debug.

7. EDID DIP Switch Reference

The EDID DIP switch on the rear panel sets the EDID the unit reports to your source. That EDID tells the source which video formats and audio channels it can send. Read the three digits in the table in the order SW3, SW2, SW1.

The first three modes copy the EDID from the display connected to TV(ARC) OUT. Use one of them when you want the source to follow that display's capabilities. Of these three, the first copies the display's video and audio EDID unchanged. The second and third copy the display's video EDID but report 2.0CH or 5.1CH audio. The remaining five modes report a fixed EDID: 8K HDR at FRL12G or FRL10G, or 1080P, each with either 2.0CH or 5.1CH audio.

Set the switch to match the audio device on the optical or L/R output. If your amplifier or receiver handles only stereo, choose a 2.0CH mode. If it decodes 5.1-channel Dolby or DTS, choose a 5.1CH mode.

DIP (SW3-SW1)	EDID MODE
111	Copy OUT port sink video and audio EDID
110	Copy OUT port sink video EDID, Audio 2.0CH
101	Copy OUT port sink video EDID, Audio 5.1CH
100	FRL12G_8K_HDR, 2.0CH
011	FRL12G_8K_HDR, 5.1CH
010	FRL10G_8K_HDR, 2.0CH
001	FRL10G_8K_HDR, 5.1CH
000	1080P, 2.0CH

8. Troubleshooting

THERE IS NO AUDIO FROM THE OPTICAL OUTPUT

Check that the EDID DIP switch is set to a mode that matches your amplifier's audio capability. Make sure the optical cable is fully seated at both ends. Then confirm that the source is actually sending audio over HDMI.

THE ARC LED IS FLASHING

A flashing ARC LED means ARC is enabled but CEC communication is not working properly. Turn on HDMI-CEC in the TV's settings, and make sure the TV is connected to the TV(ARC) OUT port.

NO 8K SIGNAL IS PASSING THROUGH

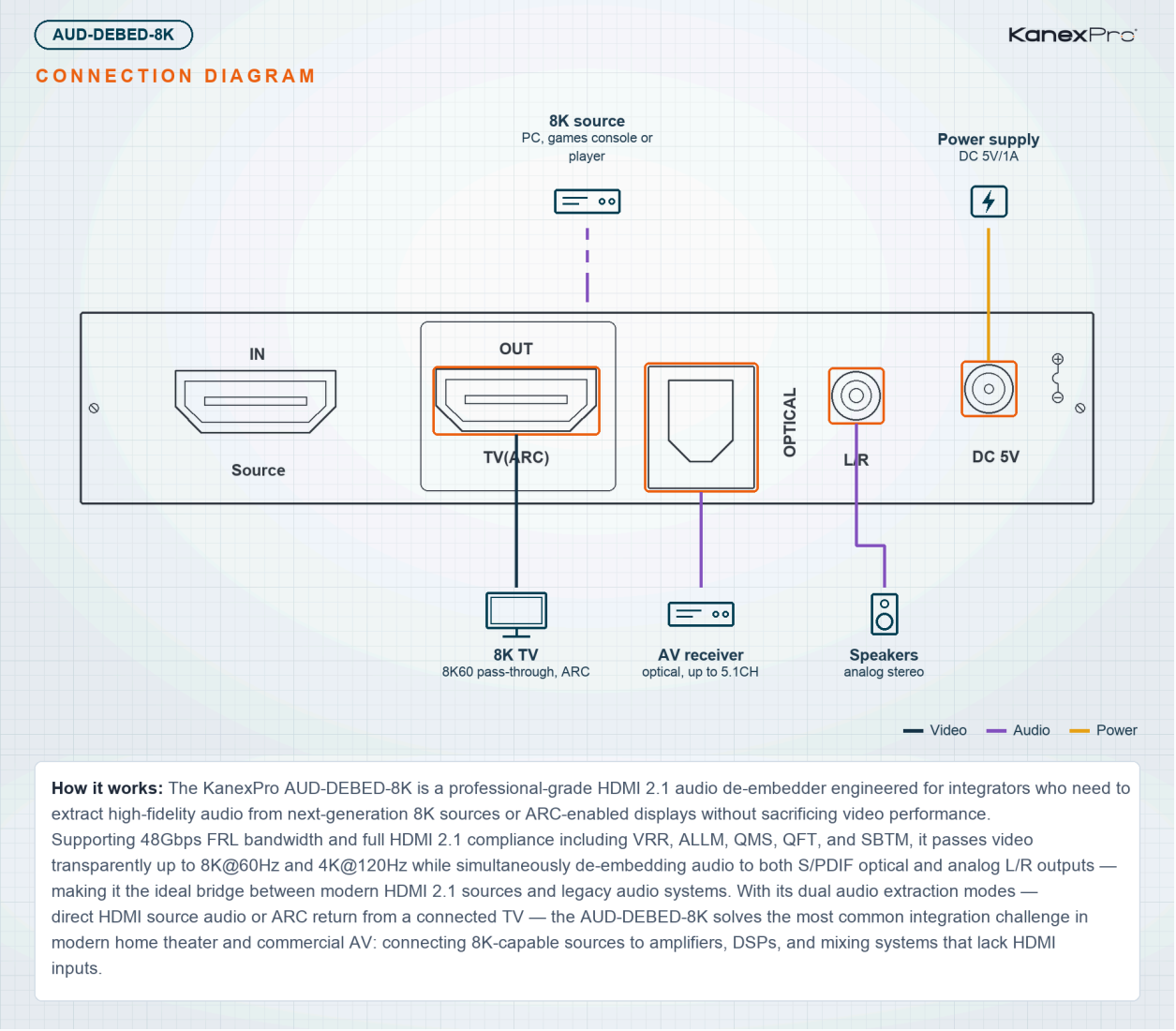
Use Ultra High Speed HDMI 2.1 cables rated for 48Gbps. For 8K60, keep each cable to 6.5–10 ft (2–3m). Confirm that both the source and the display are HDMI 2.1 compatible.

9. Support and Warranty

For further support, call KanexPro on 888.975.1368 or visit www.kanexpro.com.

The AUD-DEBED-8K carries a 3-year limited warranty. KanexPro™ reserves the right to make changes without prior notice.

10. Connection Diagram



How it works: The KanexPro AUD-DEBED-8K is a professional-grade HDMI 2.1 audio de-embedder engineered for integrators who need to extract high-fidelity audio from next-generation 8K sources or ARC-enabled displays without sacrificing video performance. Supporting 48Gbps FRL bandwidth and full HDMI 2.1 compliance including VRR, ALLM, QMS, QFT, and SBTM, it passes video transparently up to 8K@60Hz and 4K@120Hz while simultaneously de-embedding audio to both S/PDIF optical and analog L/R outputs — making it the ideal bridge between modern HDMI 2.1 sources and legacy audio systems. With its dual audio extraction modes — direct HDMI source audio or ARC return from a connected TV — the AUD-DEBED-8K solves the most common integration challenge in modern home theater and commercial AV: connecting 8K-capable sources to amplifiers, DSPs, and mixing systems that lack HDMI inputs.

11. Installation FAQ

Q: What connects to each port on the rear panel?

A: Connect the HDMI 2.1 source (PC, games console or media player) to HDMI IN and the TV or display to TV(ARC) OUT. Connect an AV receiver to OPTICAL and speakers to the 3.5mm L/R jack. The supplied 5V/1A power supply goes into DC 5V.

Q: How do I set the EDID DIP switch for the audio system I am installing?
A: Set it to match the audio device on the optical or L/R output: use a 2.0CH mode for a stereo-only amplifier or receiver, or a 5.1CH mode for one that decodes 5.1-channel Dolby or DTS. Read the three switch positions in the order SW3, SW2, SW1.

Q: Which front-panel LEDs confirm the unit is connected correctly?
A: The Power LED lights red when the unit is powered. The IN LED lights green when an HDMI source is connected and active, and the OUT LED lights green when a display is connected to TV(ARC) OUT.

Q: Can the optical and L/R outputs be used at the same time?
A: Yes. The unit sends audio to both outputs at the same time, so you can feed an AV receiver over optical and speakers from L/R together.

Q: Is surge protection recommended for this unit?
A: Yes. Electrical spikes, surges and lightning strikes can damage the unit's sensitive parts, so use a surge protection system to protect it and extend its life.

12. Integration FAQ

Q: Does the TV need HDMI-CEC turned on for ARC to work?
A: Yes. ARC mode uses CEC, so turn on HDMI-CEC in the TV's settings and connect the TV to the TV(ARC) OUT port. When ARC is enabled and CEC is working, the ARC LED stays on.

Q: What sources and displays does the AUD-DEBED-8K pair with?
A: It sits between an HDMI 2.1 source, such as a PC, games console, media player or Blu-ray player, and an 8K TV. Video passes through to the TV at up to 8K@60Hz.

Q: Which EDID setting suits an 8K TV paired with a stereo-only amplifier?
A: Use DIP 110, which copies the video EDID from the display on TV(ARC) OUT but reports 2.0CH audio. The source then follows the TV's video capabilities and sends stereo audio the amplifier can play.

Q: Which EDID setting suits an 8K TV paired with a 5.1 receiver?
A: Use DIP 101, which copies the display's video EDID and reports 5.1CH audio, so the source sends 5.1-channel Dolby or DTS to the optical output. DIP 111 copies the display's video and audio EDID unchanged instead.

Q: Can I set a fixed EDID instead of copying it from the display?
A: Yes. Five modes report a fixed EDID: FRL12G 8K HDR (100 for 2.0CH, 011 for 5.1CH), FRL10G 8K HDR (010 for 2.0CH, 001 for 5.1CH), or 1080P 2.0CH (000).