HDMI eARC w/ S/PDIF Audio over CAT Extender 100m POC

The KanexPro AUD-EXT-EARC100M transmits both HDMI™ eARC and S/PDIF audio signals over a single CAT cable up to 100m/328ft. It supports CEC pass-through between HDMI eARC input and eARC output ports for handshake during eARC transmission. For TVs without HDMI eARC, the extender provides an independent S/PDIF audio pass-through channel from the transmitter's S/PDIF IN port to the receiver's S/PDIF OUT port.

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.

TABLE OF CONTENTS

FEATURES

- ✓ Extend HDMI™ eARC or S/PDIF audio up to 100m/328ft over a single CAT cable
- ✓ eARC supports PCM 2.0/5.1/7.1ch, DD, DD+, DTS, Dolby TrueHD, DTS-HD MA, Dolby Atmos
- ✓ S/PDIF fallback for TVs without eARC — PCM 2.0ch, Dolby 5.1ch, DTS 5.1ch
- ✓ CEC pass-through when HDMI eARC mode is enabled
- ✓ Bi-directional PoC (Power over Cable) for flexible installation
- ✓ IEC 61000-4-2 ESD protection: ±8kV air-gap, ±4kV contact
- ✓ Compact metal enclosure (90mm × 72mm × 20mm, 184g per unit)
- ✓ CE, FCC, and UL certified (US/EU standard power supply)

PACKAGE CONTENTS

1× HDMI™ Audio Extender (Transmitter) • 1× HDMI™ Audio Extender (Receiver) • 1× 12V/1A Locking Power Adapter • 1× User Manual

Specifications

TECHNICAL	
Supported Audio Formats	**eARC:** PCM 2.0/5.1/7.1ch, DD, DD+, DTS, Dolby TrueHD, DTS-HD MA, Dolby Atmos **ARC:** PCM 2.0CH, Dolby 5.1CH, DTS 5.1CH **S/PDIF:** PCM 2.0CH, Dolby 5.1CH, DTS 5.1CH
Transmission Distance	100m / 328ft
ESD Protection	IEC 61000-4-2: ±8kV (air-gap) & ±4kV (contact)

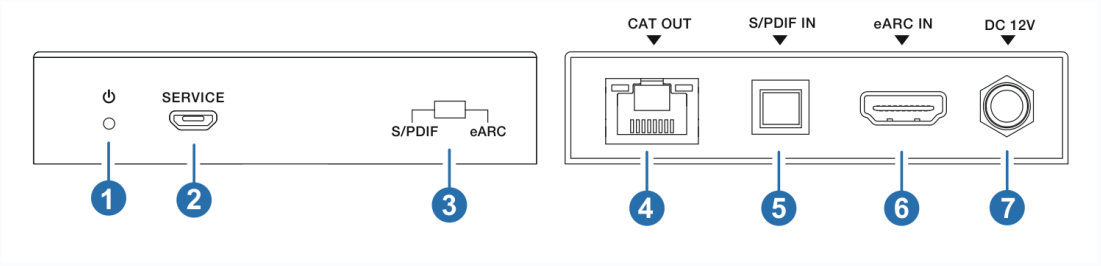
CONNECTION	
Transmitter — Input	1× S/PDIF IN [Optical Audio Jack] 1× eARC IN [HDMI™ Type A, 19-pin female]
Transmitter — Output	1× CAT OUT [RJ45, female]
Transmitter — Control	1× SERVICE
Receiver — Input	1× CAT IN [RJ45, female]
Receiver — Output	1× S/PDIF OUT [Optical Audio Jack] 1× eARC OUT [HDMI™ Type A, 19-pin female]
Receiver — Control	1× SERVICE

MECHANICAL	
Housing	Metal Enclosure, Black
Dimensions	90mm (W) × 72mm (D) × 20mm (H) — TX & RX each
Weight	184g (TX/RX each)
Power Supply	AC 100–240V 50/60Hz → DC 12V/1A (CE/FCC/UL certified)
Power Consumption	5.65W (Max)
Operating Temp	0–40°C / 32–104°F
Storage Temp	−20–60°C / −4–140°F
Humidity	20–90% RH (non-condensing)

CERTIFICATIONS	
Regulatory	CE, FCC, UL

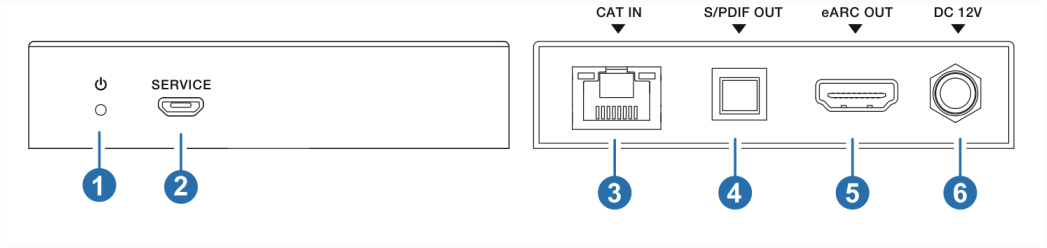
Operation Controls

5.1 TRANSMITTER PANEL



No.	Name	Function Description
1	**Power LED**	Red LED indicates the transmitter is powered on.
2	**SERVICE**	Firmware update port.
3	**S/PDIF / eARC Switch**	Selects audio pass-through channel. **S/PDIF:** S/PDIF OUT outputs optical audio from S/PDIF IN. **eARC:** eARC OUT outputs HDMI eARC audio from eARC IN.
4	**CAT OUT**	Connect to receiver CAT IN with CAT6/6a/7 cable.
5	**S/PDIF IN**	Optical fiber audio input port, connected to an optical digital audio source.
6	**eARC IN**	HDMI audio signal input port, connected to a TV with ARC/eARC function for audio and CEC pass-through.
7	**DC 12V**	DC 12V power input port.

5.2 RECEIVER PANEL



No.	Name	Function Description
1	**Power LED**	Red LED indicates the receiver is powered on.
2	**SERVICE**	Firmware update port.
3	**CAT IN**	Connect to transmitter CAT OUT with CAT6/6a/7 cable.
4	**S/PDIF OUT**	Optical fiber audio output port, connected to an amplifier or speaker with Optical Toslink cable.
5	**eARC OUT**	HDMI audio signal output port, connected to an HDMI audio device with ARC/eARC function such as a soundbar.
6	**DC 12V**	DC 12V power input port.

Application Examples

Situation 1: eARC Mode

HDTV with ARC/eARC → eARC IN → TX AUD-EXT-EARC100M → CAT6 → RX AUD-EXT-EARC100M → eARC OUT → Soundbar or AVR

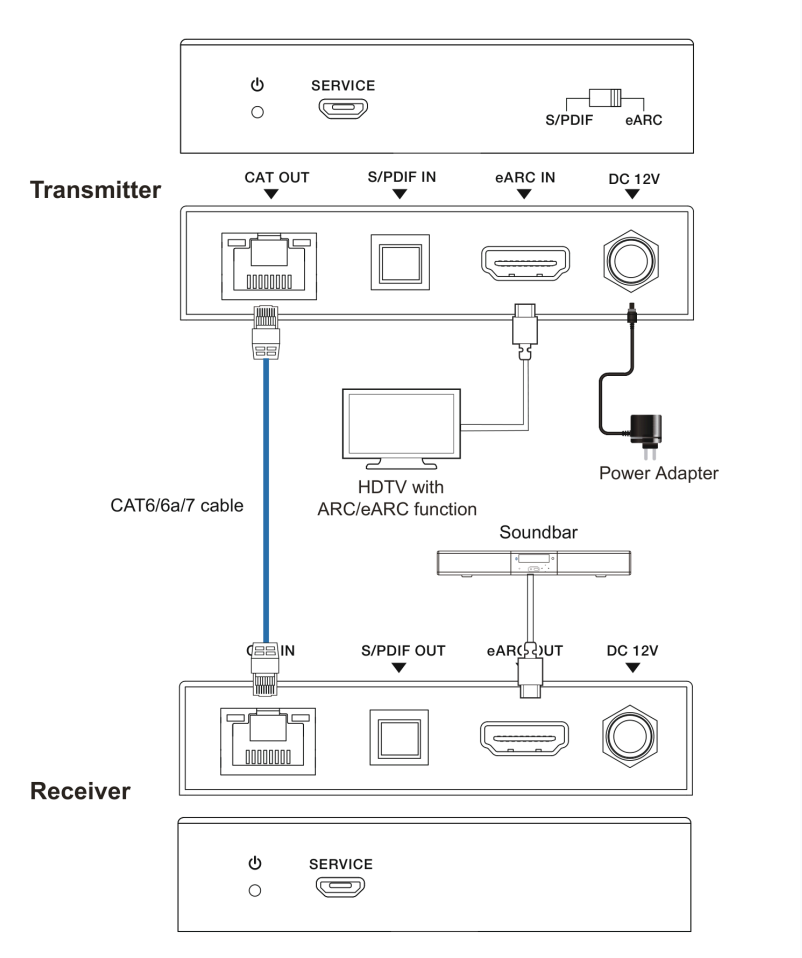
How it works: Connect the TV's eARC/ARC HDMI port to the transmitter's eARC IN. Set the switch to eARC mode. The transmitter sends full-resolution audio (up to Dolby Atmos / DTS-HD MA) over CAT cable to the receiver. The receiver outputs audio via the eARC OUT HDMI port to a soundbar or AVR. CEC pass-through is active in this mode. Bi-directional PoC allows powering from either end.

Situation 2: S/PDIF Pass-through Mode

TV Optical Out → S/PDIF IN → TX AUD-EXT-EARC100M → CAT6 → RX AUD-EXT-EARC100M → S/PDIF OUT → Amplifier or Speaker

How it works: For TVs without eARC, connect the TV's optical (Toslink) output to the transmitter's S/PDIF IN port. Set the switch to S/PDIF mode. Audio (PCM 2.0, Dolby Digital 5.1, DTS 5.1) is transmitted over CAT cable to the receiver's S/PDIF OUT port, connected to an amplifier or powered speaker via Toslink.

CONNECTION DIAGRAM — EARC MODE



eARC Mode — source manual reference diagram

Troubleshooting

Q: No audio output from the receiver?

A: Verify the S/PDIF / eARC switch on the transmitter matches the connection type. In eARC mode, the TV must have ARC or eARC enabled in its settings. In S/PDIF mode, confirm the optical cable is securely connected. Check that the CAT cable is Cat6 or higher and does not exceed 100m.

Q: CEC commands are not passing through?

A: CEC pass-through is only available in eARC mode. Verify the switch is set to eARC and that both the TV and the receiving device (soundbar/AVR) have CEC enabled. Some TV brands label CEC differently (Anynet+, BRAVIA Sync, SimpLink).

Q: Audio drops or intermittent signal?

A: Use solid-core Cat6/6a/7 cable rated for structured wiring. Avoid patch cables for permanent runs. Verify all RJ45 connectors are properly terminated using T568B wiring (direct connection, not crossover). Keep cable runs away from high-voltage power lines.

Q: Power LED not illuminating on one unit?

A: PoC (Power over Cable) is bi-directional — only one power adapter is required. Connect the 12V adapter to either the transmitter or receiver. If the remote unit's LED does not light, check the CAT cable continuity. For runs exceeding 80m, powering from both ends may improve stability.

CABLE REQUIREMENTS

Required: Cat6, Cat6a, or Cat7 UTP/STP cable with direct interconnection (T568B at both ends).

Maximum Distance: 100m / 328ft

Note: Do not use crossover cables. Shielded (STP) cable is recommended for environments with high electromagnetic interference.

WARRANTY & SUPPORT

For warranty information and technical support, contact KanexPro at 888.975.1368 or support@kanexpro.com. Visit kanexpro.com for product documentation and firmware updates.