

4K HDMI Extender (50m) with eARC & S/PDIF Audio Return — EXT-HD4KEARC-50M

This 4K60 HDMI extender extends HDMI high-definition signal and bi-directional IR control signal to a distance up to 50m/164ft over CAT6/6a cable, achieving zero-delay, long-distance transmission between the transmitter and the receiver. Video resolution is up to 4K2K@60Hz. It supports both HDMI™ eARC and S/PDIF audio pass-through. CEC pass-through is also supported between eARC input and output for eARC handshake transmission.

For TVs without HDMI™ eARC functions, the extender provides an independent S/PDIF audio channel, in which the S/PDIF audio can be transmitted from the S/PDIF IN port on RX to the S/PDIF OUT port on TX.

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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FEATURES

- ✓ HDMI 2.0b compliant with HDCP 2.2 — supports protected 4K content
- ✓ 18Gbps video bandwidth with resolution up to 4K2K@60Hz 4:4:4 24-bit
- ✓ Extends HDMI signal up to 50m/164ft over a single CAT6/6a cable
- ✓ Dual-mode audio return: eARC (PCM 7.1 192KHz, Dolby Atmos, DTS:X) and ARC/S/PDIF (PCM 2.0, Dolby 5.1, DTS 5.1)
- ✓ S/PDIF optical audio path for TVs without eARC — RX S/PDIF IN to TX S/PDIF OUT
- ✓ CEC pass-through and bi-directional wideband IR (20K–60KHz)
- ✓ HDR, HDR10, HDR10+, Dolby Vision, and HLG pass-through
- ✓ Advanced EDID management via 4-mode DIP switch (copy sink, 4K60 2.0CH, 4K60 5.1CH, copy sink video + S/PDIF audio)

PACKAGE CONTENTS

1× 4K60 HDMI Extender (TX) • 1× 4K60 HDMI Extender (RX) • 1× IR Blaster Cable (1.5m) • 1× IR Wideband Receiver Cable (1.5m) • 2× 5V/2A Multinational Power Supply • 4× Mounting Ear • 8× Machine Screw (KM3*4) • 1× User Manual



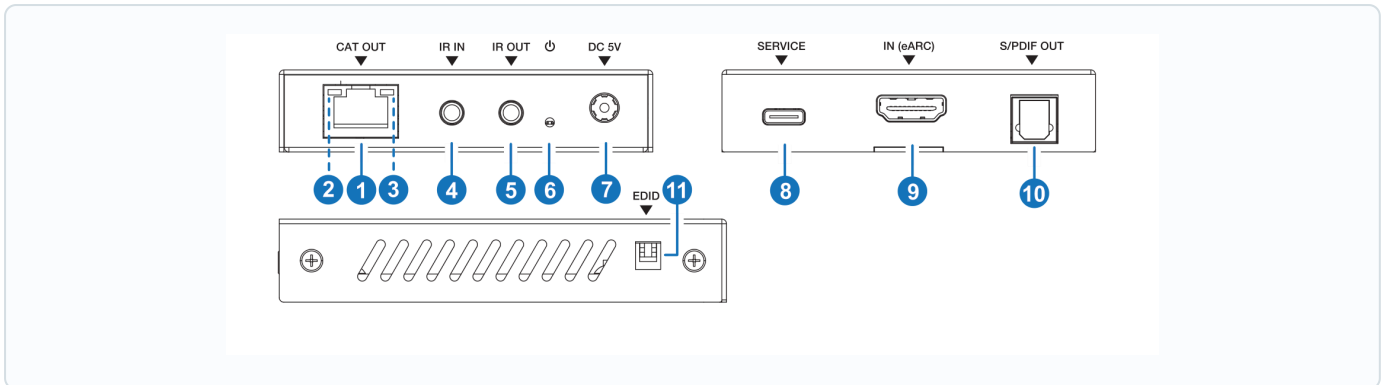
Specifications

Technical	
HDMI Compliance	HDMI™ 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18 Gbps
Video Resolution (Input & Output)	480i60, 576i50, 480p60, 576p50, 720p50/60, 1080i50/60, 1080p24/25/30/50/60, 4K2K 24/25/30, 4K2K50/60 4:2:0, 4K2K50/60 4:4:4; 640×480@60, 1024×768@60, 1280×768@60, 1280×800@60, 1280×1024@60, 1360×768@60, 1440×900@60, 1680×1050@60, 1920×1200@60RB
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2, YUV 4:2:0
Color Depth	8/10/12-bit
Audio Formats	HDMI™ eARC Audio: PCM 7.1CH 192KHz, Dolby Atmos, DTS:X ARC/S/PDIF Audio: PCM 2.0, Dolby 5.1CH, DTS 5.1CH
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG
CEC	Supported
IR Level	5Vp-p
IR Frequency	Wideband 20K–60KHz
Transmission Distance	50m/164ft for 4K2K@60Hz over CAT6/6a cable
ESD Protection	IEC 61000-4-2: ±8kV (air-gap discharge), ±4kV (contact discharge)
Connection	
Transmitter	Input: 1× IN (eARC) [HDMI™ Type A, 19-pin female] Output: 1× S/PDIF OUT [S/PDIF optical] • 1× CAT OUT [RJ45] Control: 1× SERVICE [USB-C, firmware upgrade] • 1× IR IN [3.5mm audio jack] • 1× IR OUT [3.5mm audio jack]
Receiver	Input: 1× S/PDIF IN [S/PDIF optical] • 1× CAT IN [RJ45] Output: 1× OUT (eARC) [HDMI™ Type A, 19-pin female] Control: 1× SERVICE [USB-C, firmware upgrade] • 1× IR IN [3.5mm audio jack] • 1× IR OUT [3.5mm audio jack]
Mechanical	
Housing	Metal Enclosure, Black
Dimensions	TX / RX: 97mm (W) × 82mm (D) × 18mm (H)
Weight	TX: 199g • RX: 196g
Power Supply	DC 5V/2A (per unit — 2 included)
Power Consumption	TX: 4.75W (max) • RX: 3.5W (max)
Operating Temperature	0°C–40°C / 32°F–104°F
Storage Temperature	-20°C–60°C / -4°F–140°F
Operating Humidity	20%–80% RH (non-condensing)
Storage Humidity	10%–90% RH (non-condensing)



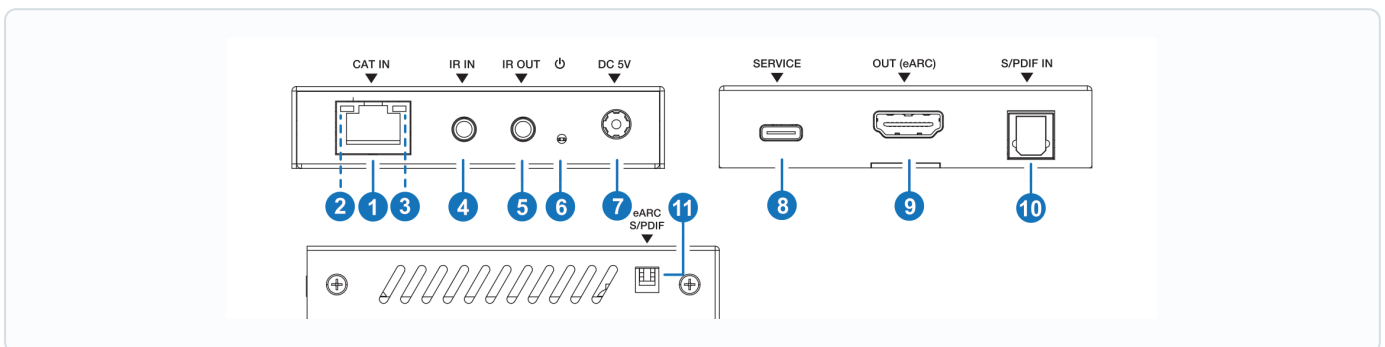
Operation Controls and Functions

TRANSMITTER PANEL



NO.	NAME	FUNCTION DESCRIPTION
1	CAT OUT	Connects to the CAT IN port on Receiver with CAT cable.
2	Link Status (Green)	Light on: TX and RX are connected normally. Light off: not connected.
3	Signal Indicator (Yellow)	Light on: HDMI signal with HDCP. Light flashing: HDMI signal without HDCP. Light off: no HDMI signal.
4	IR IN	IR signal input port, connected to 5V IR wideband receiver.
5	IR OUT	IR signal output port, connected to 5V IR blaster.
6	Power LED	Green LED indicates Transmitter is powered on.
7	DC 5V	DC 5V/2A power input port.
8	SERVICE	USB-C port for firmware upgrade.
9	IN (eARC)	HDMI signal input port. Connect to source device (DVD, PC, Blu-ray, game console) with HDMI cable.
10	S/PDIF OUT	Optical audio output port. Connect to amplifier if needed.
11	EDID DIP Switch	[DIP]=11: Copy sink EDID from RX HDMI output (factory default). [DIP]=10: 4K60, 2.0CH. [DIP]=01: 4K60, 5.1CH. [DIP]=00: Copy sink video from RX HDMI output and audio from TX S/PDIF OUT.

RECEIVER PANEL



NO.	NAME	FUNCTION DESCRIPTION
1	CAT IN	Connects to the CAT OUT port on Transmitter with CAT cable.
2	Link Status (Green)	Light on: TX and RX are connected normally. Light off: not connected.
3	Signal Indicator (Yellow)	Light on: HDMI signal with HDCP. Light flashing: HDMI signal without HDCP. Light off: no HDMI signal.
4	IR IN	IR signal input port, connected to 5V IR wideband receiver.
5	IR OUT	IR signal output port, connected to 5V IR blaster.
6	Power LED	Green LED indicates Receiver is powered on.
7	DC 5V	DC 5V/2A power input port.
8	SERVICE	USB-C port for firmware upgrade.
9	OUT (eARC)	HDMI signal output port. Connect to TV with eARC function via HDMI cable.
10	S/PDIF IN	Optical audio input port. In S/PDIF mode, connect to the S/PDIF port on TV.
11	eARC / S/PDIF Dial Switch	Switch to x1: eARC mode is enabled. Switch to x0: S/PDIF mode is enabled. "x" is the first number and can be 0 or 1.

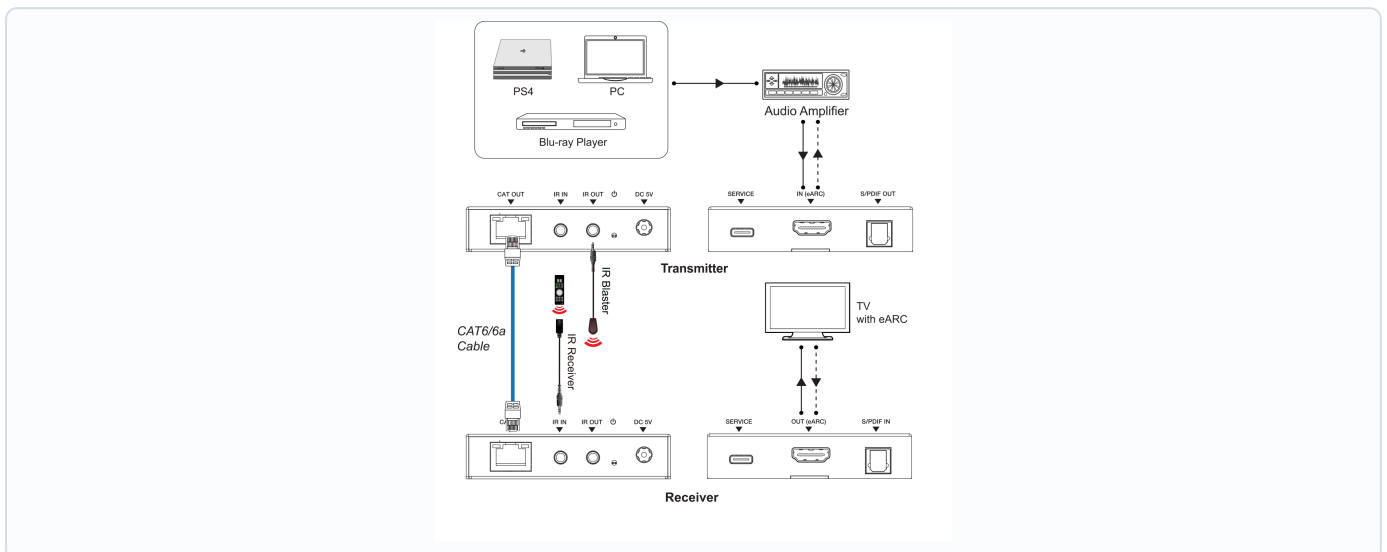
IR PIN DEFINITION

IR Receiver (3-pin 3.5mm): Pin 1 = IR Signal • Pin 2 = Power • Pin 3 = Grounding

IR Blaster (3-pin 3.5mm): Pin 1 = IR Signal • Pin 2 = Power • Pin 3 = NC

Application Examples

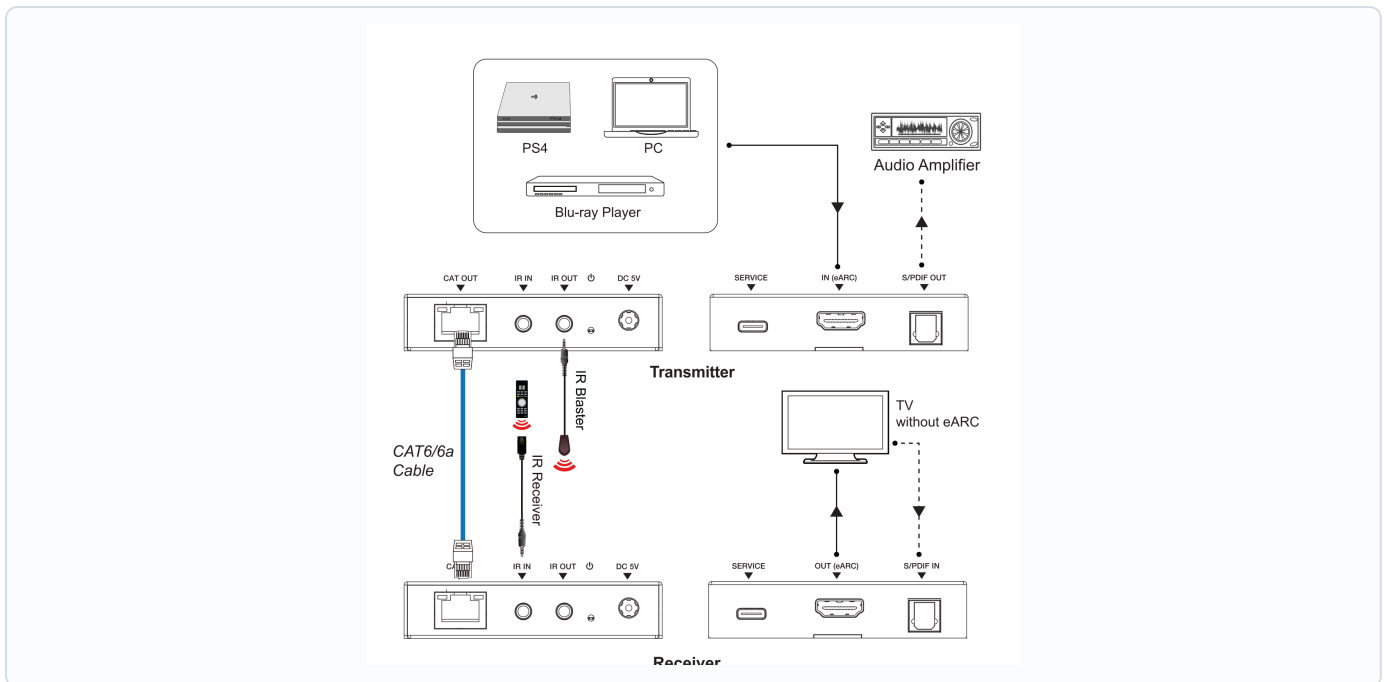
EARC MODE



How it works (eARC Mode): Connect HDMI sources to TX IN (eARC). Video extends over CAT6/6a to RX OUT (eARC), which connects to a TV with eARC. The TV returns eARC audio (Dolby Atmos / DTS:X) back through CAT cable to TX S/PDIF OUT for an amplifier or AVR. Bi-directional IR allows source control from the display side. Set RX dial switch to x1.



S/PDIF MODE



How it works (S/PDIF Mode): For TVs without eARC, set the RX dial switch to x0. Connect the TV's S/PDIF (optical) output to the RX S/PDIF IN port. The S/PDIF audio signal is transmitted back over the CAT cable to the TX and output via the TX S/PDIF OUT port to an audio amplifier. This mode supports PCM 2.0, Dolby 5.1, and DTS 5.1 audio return.

Troubleshooting

Q: No video on the display connected to the Receiver?

A: Verify the CAT6/6a cable is properly connected between TX CAT OUT and RX CAT IN. Confirm the Link Status LED (green) is lit on both units. Check that the source device is powered on and outputting an HDMI signal (Signal Indicator should be solid yellow). Try a different HDMI cable between the source and TX. For 4K60 4:4:4, use a Premium High Speed HDMI cable. Ensure the CAT cable run does not exceed 50m.

Q: No eARC audio from the amplifier connected to TX S/PDIF OUT?

A: Confirm the RX dial switch is set to x1 (eARC mode). Verify the TV supports eARC and that eARC is enabled in the TV's audio settings. Check that the HDMI cable between RX OUT (eARC) and the TV supports eARC (HDMI 2.1 cable recommended). Try setting the EDID DIP switch to [11] (copy sink EDID from RX HDMI output) for automatic handshake.

Q: No S/PDIF audio in S/PDIF mode?

A: Confirm the RX dial switch is set to x0 (S/PDIF mode). Verify the optical cable is connected from the TV's S/PDIF output to RX S/PDIF IN, and from TX S/PDIF OUT to the amplifier. Check that the TV is set to output audio via optical/S/PDIF in its audio settings.

Q: Picture quality is poor or intermittent?

A: Use shielded CAT6 or CAT6a cable for best signal quality. Avoid running the CAT cable parallel to power cables or near sources of electromagnetic interference. If the display supports only 1080p, try setting the EDID DIP switch to [01] (4K60, 5.1CH) or [10] (4K60, 2.0CH) to force a compatible output.

