



40Gbps HDMI Audio Embedder

VLHA-H21EMR



User Manual

VER 1.0

Thank you for purchasing this product

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lighting strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Table of Contents

1. Introduction.....	1
2. Features.	1
3. Package Contents.....	2
4. Specifications.....	2
5. Operation Controls and Functions.	4
6. Application Example.....	6

1. Introduction

Introducing our HDMI eARC Audio to Soundbar Adapter, meticulously crafted for seamlessly extracting audio signals from HDMI sources or ARC/eARC-enabled TVs to transmit HDMI audio to your Soundbar. With support for data rates up to 48Gbps, compliant with HDMI 2.1 and HDCP 2.3 standards, it effortlessly manages UHD TV 8K@60Hz resolutions.

Packed with convenient features like EDID management and cable equalization, this adapter ensures effortless integration into your HDMI setup. It offers a hassle-free solution for routing audio signals to your Soundbar, simplifying HDMI installations. Plus, enjoy seamless CEC control from your TV to both the source and Soundbar, enhancing your overall audiovisual experience.

Features

- ☆ HDMI 2.1 and HDCP 2.3 compliant
- ☆ Support 48Gbps FRL and 18Gbps TMDS video bandwidth
- ☆ Support video resolution up to 8K@60Hz 4:2:0 12bit, 4K@120Hz 4:4:4 12bit
- ☆ HDMI 2.1 protocols: VRR, ALLM, QMS, QFT, SBTM are supported
- ☆ HDR, HDR 10, HDR 10+, Dolby Vision, HLG pass-through
- ☆ LPCM 7.1CH, Dolby TrueHD, Atmos and DTS-HD Master, DTS:X Audio pass-through
- ☆ HDMI input audio or TV eARC audio de-embedded to any Soundbar
- ☆ Full audio up to Dolby Atmos/DTS:X from eARC TV to SONOS ARC & Beam or any eARC Soundbar
- ☆ Support CEC control from TV to the source and Soundbar
- ☆ Support CEC volume control from TV to any sound system
- ☆ Advanced EDID management

2. Package Contents

- ① 1 × 48Gbps HDMI eARC Audio to Soundbar Adapter
- ② 1 × 5V/1A Multinational Power Supply
- ③ 1 × User Manual

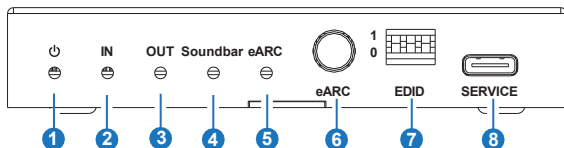
3. Specifications

Technical	
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 12bit, 4K@120Hz 4:4:4 12bit
Audio Latency	No Latency
Video Latency	No Latency
Color Depth	8/10/12bit
Color Space	RGB_4:4:4, YCbCr_4:4:4, YCbCr_4:2:2, YCbCr_4:2:0
Audio Formats	HDMI IN/OUT: LPCM, Dolby Digital/Plus/EX, Dolby True HD, Dolby Atmos, DTS, DSD, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DTS:X eARC AUDIO OUT: LPCM, Dolby Digital/Plus/EX, Dolby True HD, Dolby Atmos, DTS, DSD, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DTS:X
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge) & ±4kV (Contact discharge)

Connection				
Input	1 × Source IN [HDMI Type A, 19-pin female]			
Output	1 × TV(eARC) OUT [HDMI Type A, 19-pin female] 1 × Soundbar eARC OUT [HDMI Type A, 19-pin female]			
Control	1 × SERVICE [USB Type C, Update port]			
Mechanical				
Housing	Metal Enclosure			
Color	Black			
Dimensions	95mm [W] × 68mm [D] × 18mm [H]			
Weight	178g			
Power Supply	Input: AC 100-240V 50/60Hz, Output: DC 5V/1A (US/EU standards, CE/FCC/UL certified)			
Power Consumption	4.13W (Max)			
Operation 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)			
Recommended HDMI Cable				
Video Resolution	8K60	4K60	4K30	1080P
HDMI Cable Length (HDMI IN / OUT)	2m/6.6ft ~ 3m/10ft (Ultra HDMI 2.1)	5m/16ft	10m/33ft	15m/49ft
The use of “Premium High Speed HDMI” cable is highly recommended.				

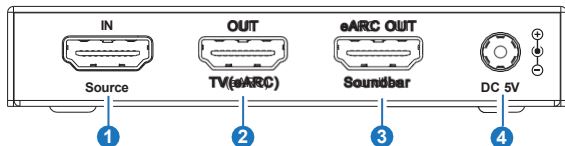
4. Operation Controls and Functions

Front Panel



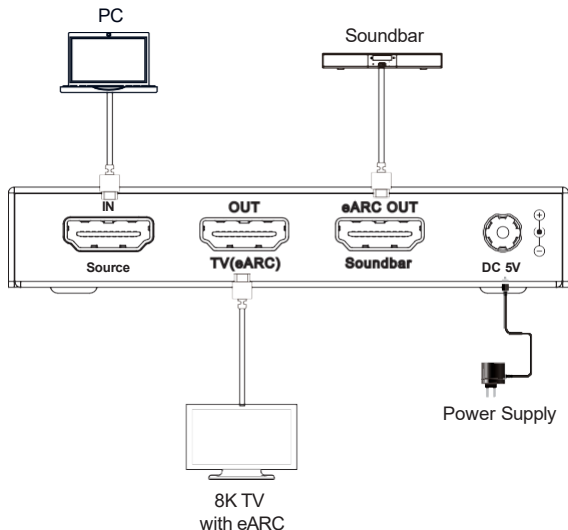
No.	Name	Function Description
1	Power LED	When the device is powered on, the red LED will be on.
2	IN LED	When the input signal is detected, the green LED will be on.
3	OUT LED	When the OUT port connects to a TV, the green LED will be on.
4	Soundbar LED	When the eARC OUT port connects to a soundbar, the green LED will be on.
5	eARC LED	<ul style="list-style-type: none">▪ On: The ARC/eARC function is turned on. CEC communication and ARC/eARC is working properly.▪ Flashing: The ARC/eARC function is turned on. CEC communication and ARC/eARC is not working properly.▪ Off: The ARC/eARC function is turned off.
6	eARC button	Press this button to enable or disable the eARC function.
7	EDID DIP switch	Use the DIP switch to set EDID. [DIP]=111: Copy OUT port sink video and audio EDID [DIP]=110: Copy OUT port sink video EDID, Audio 7.1CH [DIP]=101: FRL12G_8K_HDR, 2.0CH [DIP]=100: FRL12G_8K_HDR, 5.1CH [DIP]=011: FRL12G_8K_HDR, 7.1CH [DIP]=010: FRL10G_8K_HDR, 2.0CH [DIP]=001: FRL10G_8K_HDR, 5.1CH [DIP]=000: FRL10G_8K_HDR, 7.1CH
8	SERVICE	Firmware update and debug port.

Rear Panel



No.	Name	Function Description
1	Source IN port	HDMI signal input port, connected to HDMI source device such as DVD, PS5 or 8K computer host with an HDMI cable.
2	TV(eARC) OUT port	HDMI signal output port, connected to TV (ARC/eARC) with an HDMI cable. It can be used as an ARC/eARC audio channel when the ARC function is enabled.
3	Soundbar eARC OUT	HDMI audio output port, connected to a soundbar with an HDMI cable.
4	DC 5V	DC 5V/1A power input port.

5. Application Example



Note: When eARC function is turned on, the audio signal of Soundbar is the audio returned from 8K TV. When eARC function is turned off, the audio signal of Amplifier is from the HDMI input source.



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