



# SIMPLIFIED MFG DAC1 HDMI 18Gbps Audio Extractor with Audio Downmix User Manual

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**SIMPLIFIED MFG DAC1 HDMI 18Gbps Audio Extractor with Audio Downmix**



### **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**

The DAC1 contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shocks, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

### **Introduction**

The DAC1 Audio Extractor extracts audio signals from any HDMI-compliant source to digital optical or analog stereo L/R audio outputs. The DAC1 also supports bitstream audio down-mix to analog stereo output and keeps optical and HDMI out audio pass-through. Further, both input and output HDMI support video resolution up to 4K2K@50/60Hz (YUV444). It supports 10bits HDR (High Dynamic Range) pass-through and HDMI high resolution digital audio formats bypass, LPCM 2CH, Dolby TrueHD, Dolby Digital Plus, Dolby Atmos and DTS-HD Master Audio, and audio sampling rate up to 192 kHz. HDCP 2.2 and CEC bypass are supported.

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### **Features**

- HDMI 2.0b (18Gbps), HDCP 2.2 and DVI compliant
- Video resolutions up to 4K2K@50/60Hz (YUV444)
- Extracts HDMI audio to multi-channel optical (SPDIF) or L/R analog audio
- HDMI Pass-through audio input to HDMI and optical audio output
- Supports bitstream audio down-mix to L/R analog output
- Optical audio supports LPCM 2CH, Dolby Digital 2/5.1CH, DTS 2/5.1CH
- Support HDMI High Bit Rate (HBR) audio pass-through
- Audio sample rates up to 96kHz
- 10bits HDR (High Dynamic Range) pass-through
- Support CEC pass-through

Package Contents

- 1× HDMI 18Gbps Audio Extractor
- 1× 5V/1A Power Adapter
- 1× User Manual

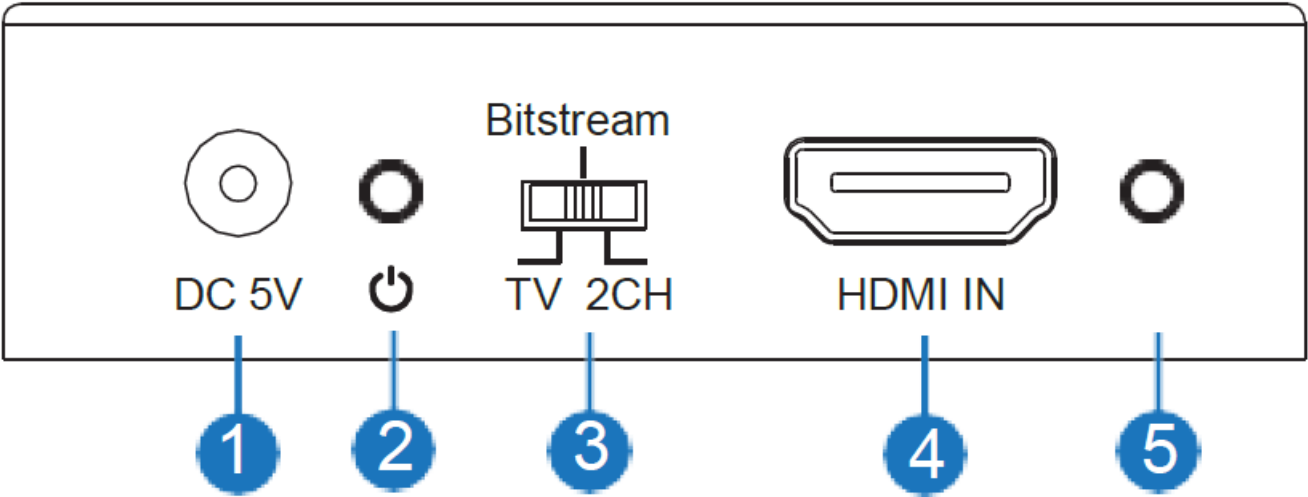
Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2 and HDCP 1.4
Video Bandwidth	18Gbps
Video Resolutions	Up to 4K2K@50/60Hz(YUV4:4:4), 4K2K@30Hz,1080P@120Hz, and 1080P 3D@60Hz
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2
Color Depth	10-bit, 12-bit
HDMI Audio Formats (Pass-through)	LPCM 2/5.1/7.1CH, Dolby Digital, DTS 5.1, Dolby Digital+, Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos, DTS:X
Optical Audio Formats	LPCM 2CH, Dolby Digital 2/5.1 CH, DTS 2/5.1CH
L/R Audio Formats	Analog Stereo 2CH
ESD Protection	Human body model — ±8kV (air-gap discharge) & ±4kV (contact discharge)

Connections	
Inputs	1x HDMI Type A [19-pin female]
Outputs	1x HDMI Type A [19-pin female] 1x L/R Audio Out [RCA] 1x Optical Out [S/PDIF]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	73.5mm[W] x 60.7mm[D] x 20mm[H]
Weight	135g
Power Supply	Input: AC100 – 240V 50/60Hz Output: DC 5V/1A (US/EU standards, CE/FCC/UL certified)
Power Consumption	1.25W (Max)
Operation Temperature	32 – 104°F / 0 – 40°C
Storage temperature	-4 – 140°F / -20 – 60°C
Relative Humidity	20 – 90% RH (no condensation)

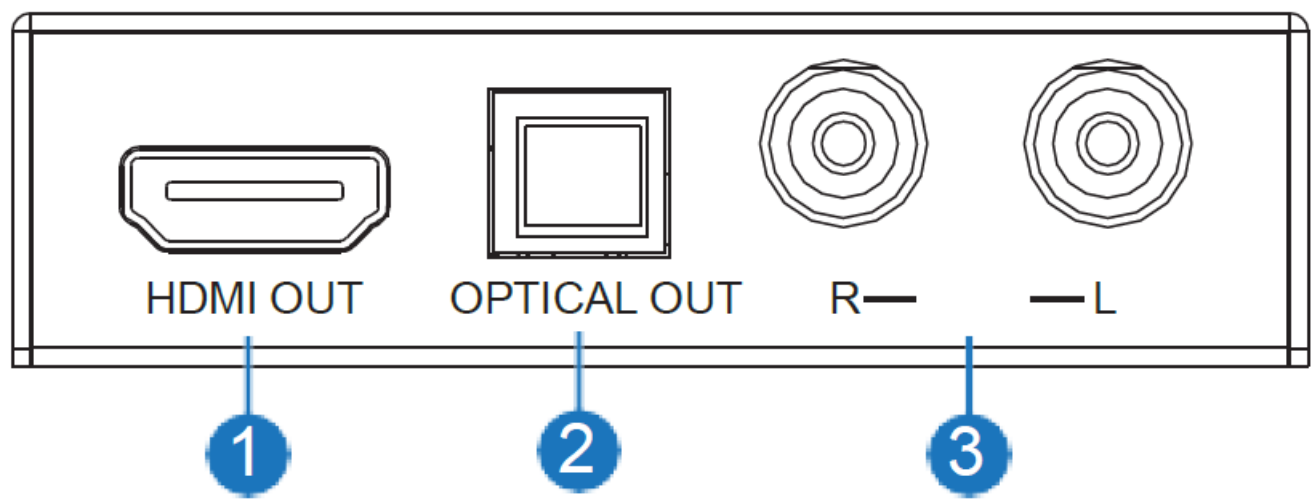
### Operation Controls and Functions

#### Front Panel



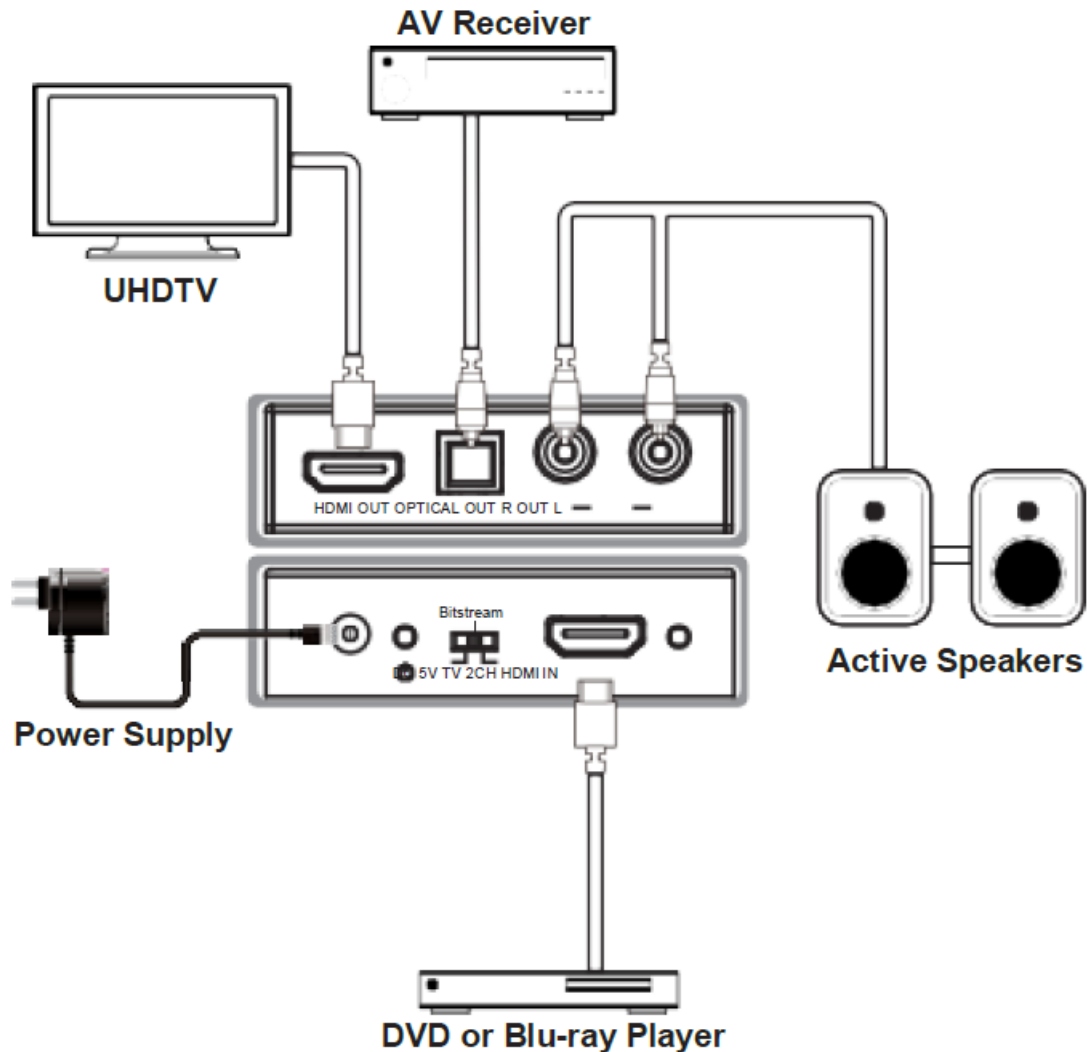
Number	Name	Function Description
1	DC 5V	Connect 5V/1A adapter to AC wall outlet for power supply.
2	Power LED	System power indicator.
3	TV/Bitstream /2CH	<p>The user allows to select audio format according to Copy TV, Bitstream or 2CH.</p> <p>TV: Copy EDID from TV. Bitstream: Multi channel audio up to six channels.</p> <p>2CH: 2 channel Stereo PCM.</p>
4	HDMI IN	HDMI video input.
5	Status LED	<p>Red illuminated: PCM decoder</p> <p>or No signal Red blinking: Dolby decoder Green blinking: DTS decoder</p>

Rear Panel



Number	Name	Function Description
1	HDMI OUT	HDMI output for display connectivity.
2	OPTICAL Out	Toslink digital audio output (mirrors HDMI).
3	R/L OUT	Stereo RCA analog audio output.

## Application Example



## Warranty

Should you feel your product does not function adequately due to defects in materials or workmanship, we (referred to as "the warrantor") will, for the length of the period indicated below (starting from the original date of purchase) either: a) Repair the product with new or refurbished parts. or b) Replace it with a new or refurbished product.

All Simplified MFG products are covered by a 3-year PARTS and LABOR warranty. During this period, there will be no charge for unit repair, replacement of unit components or replacement of products if necessary. The decision to repair or replace will be made by the warrantor. The purchaser must mail in the product during the warranty period. This limited warranty only covers the product purchased as new and is extended to the original purchaser only. It is non-transferable to subsequent owners, even during the warranty period. A purchase receipt or other proof of original purchase date is required for the limited warranty service.

This Limited Warranty **ONLY COVERS** failures due to defects in materials or workmanship and **DOES NOT COVER** normal wear and tear or cosmetic damage. The limited warranty also **DOES NOT COVER** damage that occurs in shipment or failures caused by products not supplied by the warrantor, failures resulting from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, incorrect installation, set-up adjustment, implementation of/to consumer controls, improper maintenance, power line surge, lightening damage, modification, service by anyone other than a manufacturer-approved service center or factory authorized personnel, or damage attributable to acts of God.

There are no express warranties except as listed under "limited warranty coverage." The warrantor is not liable for incidental or consequential damage resulting from the use of this product or arising out of any breach of this warranty. For example: damages for lost time, the cost of having a person remove or re-install previously installed equipment, travel to and from service location, loss of or damage to media, images, data or other recorded/stored

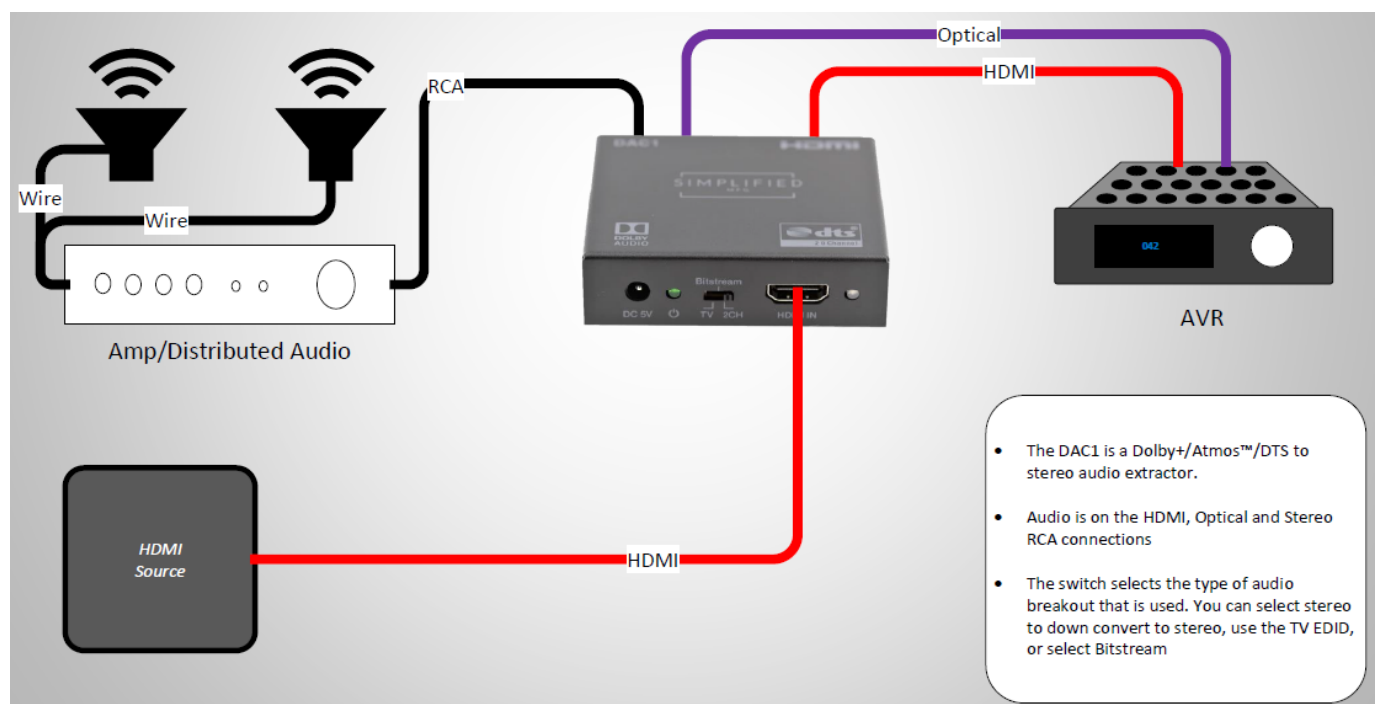
content. The items listed here are not exclusive, but are for illustration only. Parts and service not covered by this limited warranty are not the responsibility of the warrantor and should be considered the responsibility of the individual.

## Contact

### Sales and Tech Support

- Telephone: 1-833-HDMI-411 (436-4411)
- Email: [info@simplifiedmfg.com](mailto:info@simplifiedmfg.com)
- Email: [tech@simplifiedmfg.com](mailto:tech@simplifiedmfg.com)
- Website: [www.simplifiedmfg.com](http://www.simplifiedmfg.com).

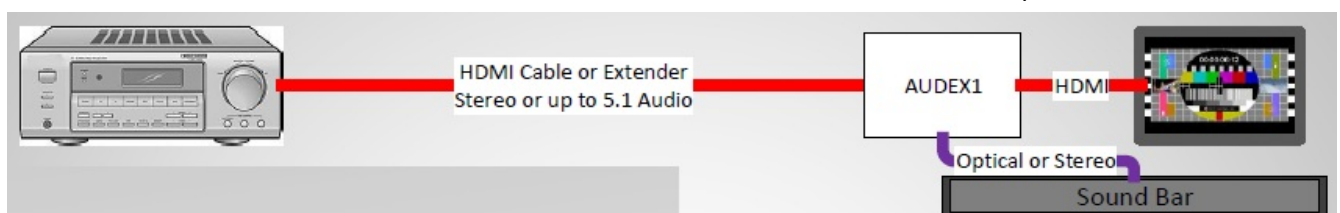
### DAC1 Quick Start Guide



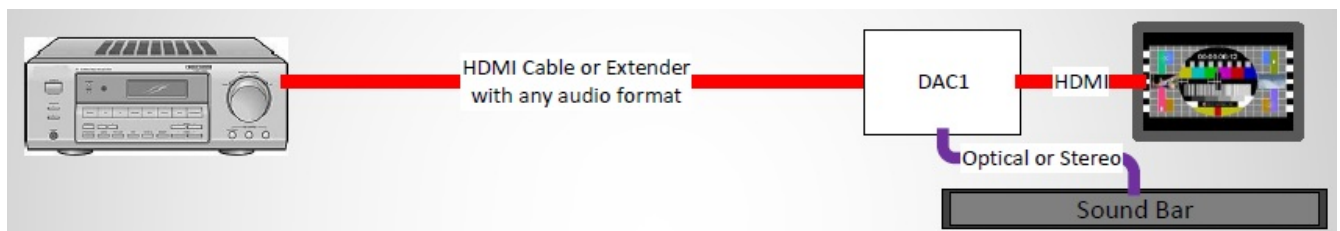
- The DAC1 is a Dolby+/Atmos™/DTS to the stereo audio extractor.
- Audio is on the HDMI, Optical and Stereo RCA connections
- The switch selects the type of audio breakout that is used. You can select stereo to down-convert to stereo, use the TV EDID, or select Bitstream

### How to extract audio from HDMI

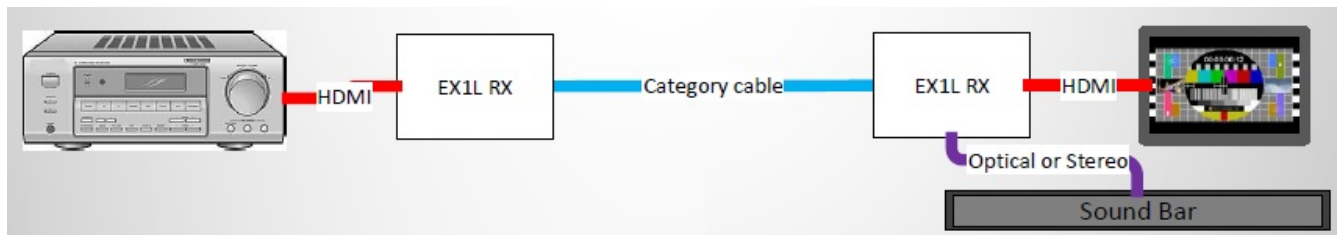
1. Audio Extraction with no conversion. AUDEX1 extracts the audio in the format sent up to 5.1



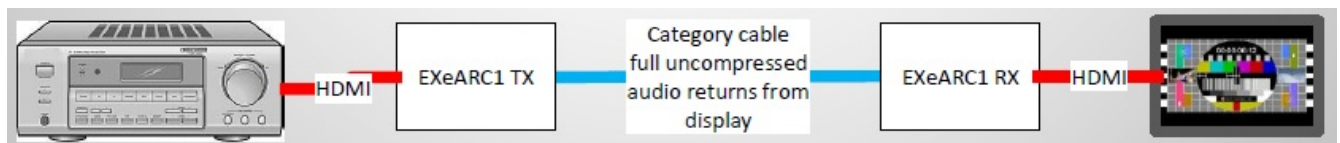
2. Audio Extraction with down conversion. DAC1 extracts the audio from any format and down converts it to stereo



3. Audio Extraction with no conversion via audio breakout on RX of EX1L HDMI Extender



4. Fully uncompressed audio extraction from display back to AVR via eARC (including Atmos)



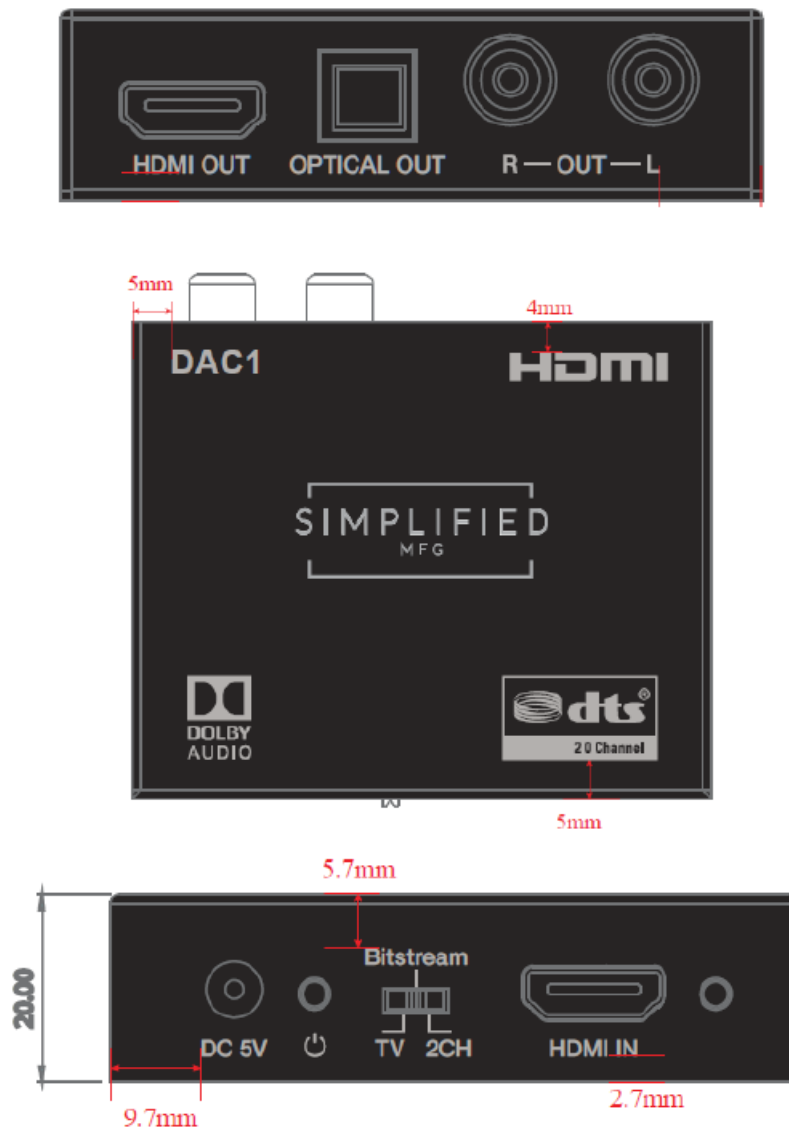
5. Several sources, no AVR audio extraction at the display to the soundbar via SW4:1

#### Note:

SW4:1 does not convert audio Can be switched automatically or with IR remote also supports ARC from display

#### HDMI 2.0b (18gbps) 4k Dolby+ To Stereo Converter





The DAC1 is an HDMI 2.0b (18Gbps) 4K HDR audio extractor that will convert Dolby+ Audio to stereo. Features include RCA stereo breakout and SPDIF (Optical) breakout. The HDMI audio is pass-through. All Dolby+ formats, as well as DTS formats, are supported. Manufactured under license from Dolby Laboratories. Manufactured under license from DTS Licensing Limited.

## Features

- HDMI 2.0b (18Gbps)
- HDR 10 Supported
- Audio extraction and conversion to RCA connectors (stereo)
- Audio extraction and conversion to Optical SPDIF (multi-channel)
- Dolby+ (HBR) pass-through on HDMI
- 3-Year Warranty

## Specifications

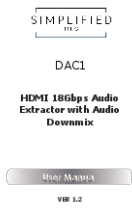
### Technical

<b>HDMI Compliance</b>	HDMI 2.0b
<b>HDCP Compliance</b>	HDCP 2.2 and HDCP 1.4
<b>Video Bandwidth</b>	18 Gbps
<b>Video Resolutions</b>	up to 4K2K@50/60Hz (YUV4:4:4), 4K2K@30Hz, 1080P@120Hz, and 1080P 3D@60Hz
<b>Color Space</b>	RGB, YCbCr 4:4:4, YCbCr 4:2:2
<b>Color Depth</b>	10-bit, 12-bit
<b>HDMI Audio Formats (Pass-through)</b>	LPCM 2/5.1/7.1CH, Dolby Digital, DTS 5.1, Dolby Digital+, Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos, DTS:X
<b>Optical Audio Formats</b>	LPCM 2CH, Dolby Digital 2/5.1 CH, DTS 2/5.1CH
<b>L/R Audio Formats</b>	Analog Stereo 2-Channel
<b>ESD Protection</b>	Human body model — ±8kV (air-gap discharge) & ±4kV (contact discharge)
<b>Connections</b>	
<b>Input</b>	1x HDMI Type A [19-pin female]
<b>Outputs</b>	1x HDMI Type A [19-pin female] 1 x Pair of RCA connectors [L/R] 1 x Optical Output [S/PDIF]
<b>Mechanical</b>	
<b>Housing</b>	Metal Enclosure
<b>Dimensions [RX]</b>	73.5mm [W] x 61mm [D] x 20mm [H] 2.9"x2.4"x0.8"
<b>Weight [RX]</b>	135g 4.8 Oz.
<b>Power Supply</b>	Input: AC100 – 240V 50/60Hz Output: DC 5V/1A (US/EU standards, CE/FCC/UL certified)
<b>Power Consumption</b>	1.25W (Max)
<b>Operation Temperature</b>	32 – 104°F / 0 – 40°C

<b>Storage Temperature</b>	-4 – 140°F / -20 – 60°C
<b>Relative Humidity</b>	20 – 90% RH (no condensation)

- 833-HDMI-411 (436-4411)
- [www.simplifiedmfg.com](http://www.simplifiedmfg.com)
- 550 W Baseline Rd., Ste #102-121 Mesa, AZ 85210.

**Documents / Resources**

	<p><a href="#">SIMPLIFIED MFG DAC1 HDMI 18Gbps Audio Extractor with Audio Downmix</a> [pdf] User Manual</p> <p>DAC1, HDMI 18Gbps Audio Extractor with Audio Downmix, HDMI 18Gbps Audio Extractor, 18Gbps Audio Extractor, Audio Extractor, DAC1, Extractor</p>
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**References**

-  [Patents - DTS](#)
-  [Simplified MFG Cutting Edge HDMI Solutions](#)