

INSTALLATION & SPECIFICATIONS

AH-101CAT

4K HDMI 2.0 Audio Extractor and Embedder



Import, Manufacturing and Distribution by

vuefec.tv UG (haftungsbeschränkt)

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HDMI Audio Extractor and Embedder

The next generation AH-101CAT HDMI Audio De-embedder and Embedder is a high performance processor to support the HDMI 2.0 specification.

What separates the AH-101CAT from the many one-way devices on the market is its dual functionality as both an audio extractor/de-embedder and an audio embedder/insert. Audio can be extracted to both L/R analog stereo audio (3.5mm) and S/PDIF digital audio (Toslink). These same outputs are offered on the input side for embedding audio into the HDMI 2.0 stream making it ideal for presenters.

Video support includes HDR 4K2K@60Hz (4:4:4) in addition to audio support for PCM and Dolby 5.1.

The AH-101CAT is a very practical equipment and easy to install. It can be used in different applications like broadcast, surveillance, conference room, meeting halls and other places.

Industrial controlled and precision design, the small size, the power consumption is less than 10 W, offers an easy and energy efficient installation.

Features

- 2-in-1 unit can either extracts audio from a HDMI source or embeds the external audio to the outgoing HDMI video signal.
- Supports HDMI input & output up to 4Kx2K@60Hz (4:4:4)
- HDMI 2.0a/1.4 & HDCP 2.2/1.4 compliant
- Support audio de-embedding or embedding via analog 3.5 mm or digital optical
- Extracts audio from HDMI source and output to analog stereo or digital optical. At audio extract mode, the digital Toslink port can support up to 192Khz sampling rate
- Embeds the external analog stereo audio or digital optical audio to the outgoing HDMI video signal
- Support ARC extraction. The ARC audio can output by the analog stereo and optical (analog audio can only output when the ARC audio source is LPCM 2.0 audio format)
- Control through DIP switch configuration
- Support EDID management
- Support CEC and HDR
- Plug and play, easy installation

Includes

- 1 HDMI Audio Extractor and Embedder
- 1 universal Power Supply, 12 V DC / 2 A

The Hardware

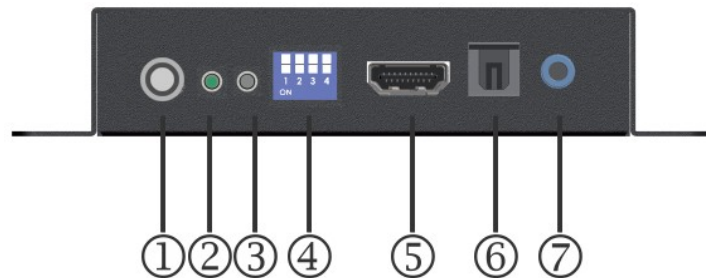
The HDMI Audio Extractor and Embedder hardware features;

- Support resolution 4K2K@60 (4:4:4 8bit / 4:2:0 12bit)
- HDCP1.4 / HDCP2.2 compliant
- Supports HDR
- Audio de-embedder (extractor) supports analog stereo and digital (optical)
- Audio embedder supports analog stereo and digital (optical)
- Supports ARC extraction to stereo and optical output
- Supports EDID management

Hardware I/Os

Inputs

All Inputs are placed on the front panel for easy installation.



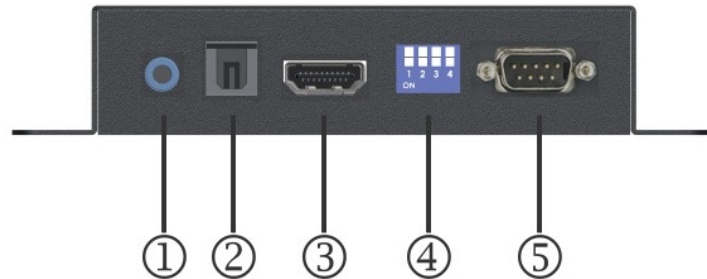
Port 1	DC Power In (12 V DC)
Port 2	Power Indicator, lit green when OK
Port 3	Reset key
Port 4	DIP-Switch Mode #1
Port 5	HDMI Input
Port 6	Digital Audio Input (Toslink)
Port 7	Analog Audio Input (3,5 mm TRS)

Mode Switch #1

Pin 1	Pin 2	Mode	Pin 3	Mode	Pin 4	Mode
OFF	N/A	EDID Copy TV	OFF	HDMI Mute Off	OFF	N/A
ON	OFF	Audio Analog In	ON	HDMI Mute On	ON	N/A
ON	ON	Audio Digital In				

Outputs

All Outputs are placed on the rear panel for easy installation.



Port 1	Analog Audio Output (3,5 mm TRS)
Port 2	Digital Audio Output (Toslink)
Port 3	HDMI Output
Port 4	DIP-Switch Mode #2
Port 5	RS232 (F/W Upgrade)

Mode Switch #2

	OFF	ON
Pin 1	Disable Embedder	Enable Embedder
Pin 2	Embed from Digital Audio Input	Embed from Analog Audio Input
Pin 3	Disable Extractor	Enable Extractor
Pin 4	ARC Off	ARC On

Specifications

Video:

HDMI Compliance	HDMI 1.4 / 2.0a
HDCP Compliance	HDCP 1.4 / 2.2 conform
Resolution	4Kp / 2Kp / 1080p / 1080i / 720p
Frame rate	60 Hz max.
Coding	4.4:4 8 bit / 4:2:0 12 bit
HDR Support	Yes
CEC Support	Yes
Video Input / Output	HDMI-A 1.3

Audio:

Audio Input	Digital: HDMI embedded / Optical Toslink Analog: 3,5 mm TRS
Audio Output	Digital: HDMI embedded / Optical Toslink Analog: 3,5 mm TRS
Sampling rate	self-adaption

Network & Control:

Controls	2x DIP switch
Network port	RS232 com port
Firmware	Upgrade through interface

Electrical & Mechanical:

Input Power Requirements:	DC 12 V @ 1 A
Power Adapter:	AC 90 V~240 V
Power Consumption:	< 5 W
Dimensions:	126 mm × 83 mm × 25 mm
Weight:	310 g

Environmental:

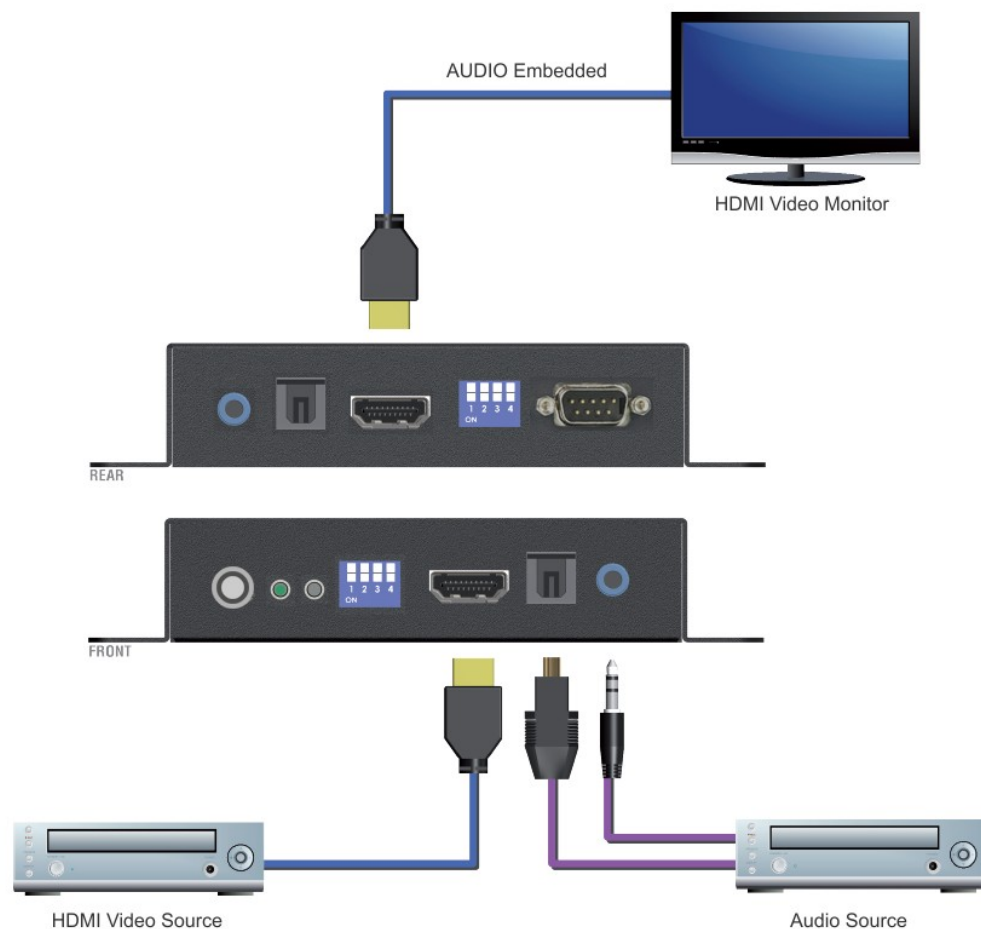
Operating Temperature:	0°C ~ +40°C
Storage Temperature:	-20°C ~ +60°C
Relative Humidity:	20% ~ 90% (non-condensing)
MTBF:	>50,000 hours

Connecting Diagram

The AH-101CAT can be used as Embedder and Extractor. See connecting diagrams below.

Embedder

Using the AH-101CAT as HDMI Embedder follow the instructions.



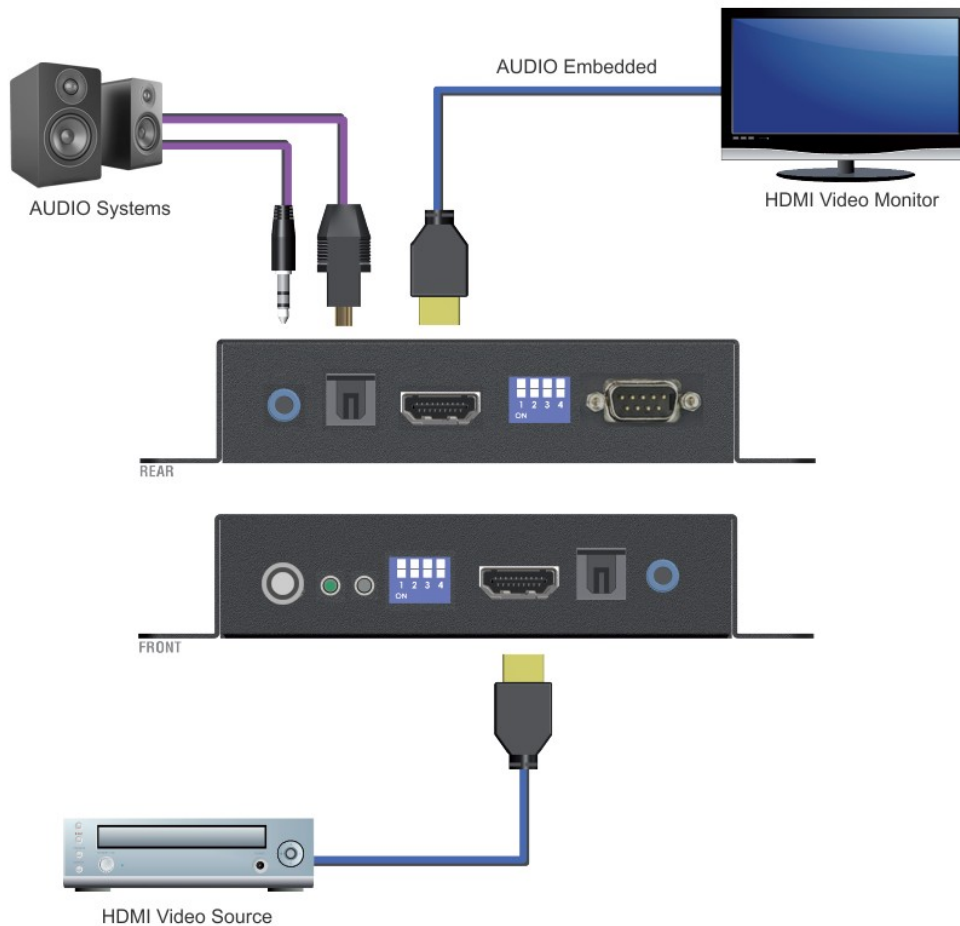
Connect the HDMI Video source and the Audio source at the front panel ports. Select using Mode Switch #1 the type of the Audio source.

Enable the Embedder mode setting the Pin 1 at Mode Switch #2 ON.

Connect a HDMI Monitor device (or similar) to the HDMI Output. The HDMI Output will feed a Video signal having Audio embed.

Extractor (De-Embedder)

Using the AH-101CAT as HDMI De-Embedder follow the instructions.



Connect the HDMI Video source at the front panel ports.

Enable the De-Embedder mode setting the Pin 3 at Mode Switch #2 ON.

Connect a HDMI Monitor device (or similar) to the HDMI Output and a Audio System to the analog and or digital Audio Outputs. The HDMI Output will feed a Video signal having Audio embed.

When using the ARC function (Mode Switch #2 Pin 4 ON) the Audio is extract to the analog Audio port (TRS 3,5 mm).

Power Supply

The unit is powered by the 12 V DC 1 Amp universal voltage [100 V - 240 V AC 50/60 Hz input range] AC power adapters, similar to the shown power supply below.



Note:

The AH-101CAT features environmentally conscious packaging material to protect the AH-101CAT system during transportation and can be used for temporary storage when better forms of storage are not available.



SAFETY PRECAUTIONS

- To prevent fire or shock hazard, do not expose this equipment to an environment of high humidity and/or dust. Do not use in an unprotected outdoor installation or any area classified as overly damp or wet.
- The temperature for installation should be kept between 0°C - 60°C. Avoid direct sunlight exposure or extreme changes of temperature over a short period of time.
- Do not disassemble the unit or put it on an unstable base.
- Do not drop it and avoid heavy impact.
- Ventilation: Any openings in the enclosure are provided for ventilation and to ensure reliable operation of the unit and to protect it from overheating. These openings, if any, must not be blocked or covered. This unit should not be placed in a built-in installation unless proper ventilation is provided.
- Cleaning: Unplug the unit from the mains outlet before cleaning. Do not use liquid cleaners or aerosol cleaners, only use a damp cloth.
- **Do not overload outlets and extension cords as this may result in a risk of fire or electric shock.**
- Enclosure Entry of any kind is dangerous. Never push objects of any kind, including liquids, into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.
- Service: Do not attempt to open or service this unit yourself as opening or removing covers may expose you to dangerous voltage of other hazards.
- There are no user-serviceable parts inside the unit. If the unit requires service please contact your authorized dealer, or an authorized repair service company.

Conformity Declaration

to EMV guideline (89/336/EC) and to low-voltage guideline (73/23/EC chapter 10)

The importer/manufacturer: vuetec.tv UG, Hasselbusch 124a, 24558 Henstedt-Ulzburg

declares hereby, that the product:

- Product name: HDMI Embedder / De-Embedder
- Model number: AH-101CAT
- Year of construction: 2018

corresponds to the regulations of the guidelines described above:

The following harmonized norms were used:

- **EN 55011** ISM Equipment, Group 1, Class A
- **EN 55022** Conducted Emissions, Class B
- **EN 50081-2** Generic standard interference transmission, industry area
- **EN 50082-2** Generic standard interference immunity, industry area
- **prEN55103-1** EMV product family norm for Audio-, Video and audio-visual facilities as well as for studio light control facilities for the professional usage, -Part 1: Limiting values and measurement procedure for disturbing emissions
- **prEN55103-2** EMV product family norm for Audio-, Video and audio-visual facilities as well as for studio light control facilities for the professional usage, -Part 2: Requirements on the interference immunity
- **EN 61000-3-2** Power Factor Harmonic Correction
- **EN 61000-3-3** Flicker & Voltage Fluctuation Limits
- **EN 61000-4-2** Electrostatic Discharge Immunity
- **EN 61000-4-3** Radiated Electromagnetic Fields
- **EN 61000-4-4** Fast Transients-Burst Immunity
- **EN 61000-4-5** Input Surge Immunity
- **EM 61000-4-6** Conducted RFI
- **EN 61000-4-11** Voltage Dips

The following national or international norms (or parts/clauses from this) and specifications were used:

- **DIN EN 6099** Verbindungsmaterial für Niederspannungsstromkreise für Haushalt und ähnliche Zwecke; Teil 1: Allgemeine Anforderungen
- **IEC 127-6** Geräteschutzsicherungen

Henstedt-Ulzburg, 29.09.2019

Dipl. Ing. Erwin W. Lissy

Limited Warranty

Your DIVAR unit was hand built, inspected and tested to ensure a high quality of workmanship and reliability.

The MANUFACTURER warrants the AH-101CAT HDMI 2.0a Audio Extractor & Embedder to be free from defects in the material and workmanship for 24 month from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 1 year warranty period,

The MANUFACTURER, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse or any unauthorized modifications including static discharge and power surge. This warranty is offered by the manufacturer for its BUYER with direct transaction only. This warranty is void if the warranty seal on the metal housing is broken.

Unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customers agree to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

The warranty is in lieu of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.

Proof of sale may be required in order to claim warranty. Customers outside the US are responsible for shipping charges to and from the SELLER. Cables are limited to a 30 day warranty and cable must be free from any markings, scratches, and neatly coiled.

The content of this manual has been carefully checked and is believed to be accurate. However, The SELLER assumes no responsibility for any inaccuracies that may be contained in this manual. The SELLER will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. Also, the technical information contained herein regarding the device features and specifications is subject to change without further notice.

General

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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