User Manual

HDMI Audio Embedder and De-Embedder 4K (60Hz 4:4:4)

Model PT-C-HDAEDE

Designed in Germany

VersionV1.0

Preface

Read this user manual carefully before using this product. Pictures shown in this manual are for reference only. Different model layouts and specifications are subject to the physical product.

This manual is for operation instructions only, not for any maintenance usage.

In the constant effort to improve our product, we reserve the right to make changes in functions or parameters without prior notice or obligation.

Trademarks

Product model and logo are trademarks. Any other trademarks mentioned in this manual are acknowledged as the properties of the trademark owner. No part of this publication may be copied or reproduced without the prior written consent.

FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.

REACH | 2020/171/EU

ROHS | 2011/65/EU

PureLink hereby declares that this product **PureTools PT-C-HDAEDE** complies with Directives 2020/171/EU und 2011/65/EU.

EMC / LVD (Electro Magnetic Compatibility / Low Voltage Directive)

PureLink GmbH hereby declares that this product **PureTools PT-C-HDADE** complies with Directives 2014/30/EU and 2014/35/EU. The full text of the EU Declaration of Conformity is available at the following Internet address:

http://www.purelink.de/ce/4251364727263_CE.pdf

CE

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SAFETY PRECAUTIONS

To ensure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

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Introduction to PT-C-HDAEDE

The PT-C-HDAEDE is an Audio Embedder / De Embedder supporting 4K@60Hz (4:4:4) HDMI.   It enables the complex manipulation of Audio signals including Mic/Line In mixing, and/or replacement of an HDMI audio signal. As well as headless audio output of HDMI audio and balanced / digital de-embedding of all audio signals.

Features

- Supports one way HDMI 2.0 input and output up to 4K60Hz (4:4:4) Video Bandwidth 18Gbps, HDR, Deep color 12bit
- Supports 48V MIC, MIC, audio line in, Audio bypass mode
- Supports HDMI Audio De-Embed to 2 CH audio balance and S/PDIF 5.1 audio output
- Supports LPCM up to 7.1/24 - bit / 96 kHz, Dolby Atmos and DTS-X panoramic sound passthrough
- HDCP2.2/1.4 Compliant
- Support HDMI video Down-Scaler 4k to 1080P
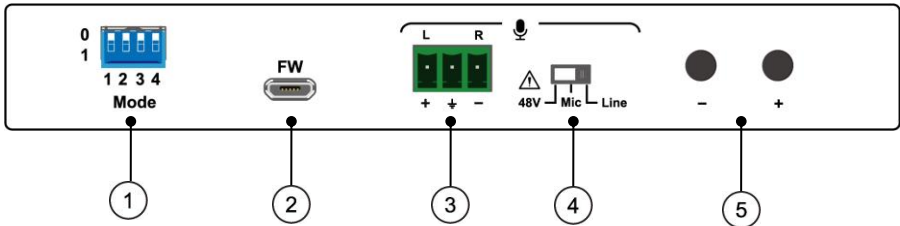- Support CEC, ARC Pass through
- Firmware updating and USB port

Package Contents

Please take an inventory of the package contents to ensure you have all the items listed below. If anything is missing or damaged, please contact your distributor for a replacement.

- 1 x PT-C-HDAEDE
- 1 x 5-pin Phoenix Connector
- 1 x 3-pin Phoenix Connector

- 1 x Power Adaptor (5V 1A)
- 2 x fixings
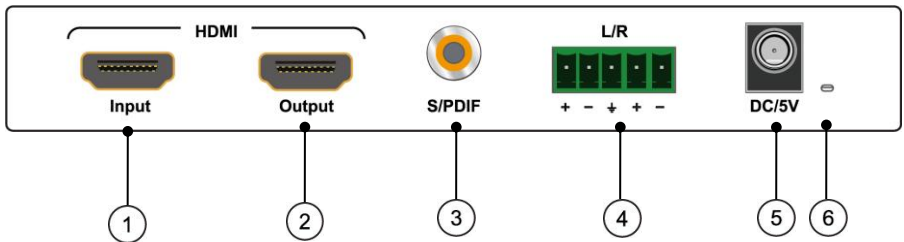- 1 x User Manual

Panel Description

Front Panel

Number	Description	Function	
		index	**description**
1	**DIP Switch**	Bit1: **Audio embed control**	0: Mute 3 pin phoenix input
			1: Activate 3 pin phoenix input
		Bit2: **HDMI Input audio control**	0: Mute HDMI input audio
			1: Activate HDMI input audio
		Bit3: **HDMI audio output control**	0: Play HDMI input directly to the output
			1: Play result of Bits 1 and 2 to HDMI output
		Bit4: **SPDIF Output control**	0: Copy Audio EDID from TV
			1: Force to 5.1 audio output
		Note:	
		(1) When Bit4 set to 1. Then audio will be 5.1	
		(2) When Bit4 set to 1, according to Bit2 setting. (Bit2 determines whether HDMI separated audio needs to be mixed)	
		If Bit2 set to 1 (Bit4 set to 1) >> Audio will be 2.0;	
		If Bit2 set to 0 (Bit4 set to 1) >> Audio will be 5.1.	
2	**FW port**	Micro-USB port for updating	

3	**Audio input port**	48V MIC, MIC, Audio Line in
4	**Audio input Switch**	Switching the mode of the audio souce
5	**Volume Button**	"-": Reduce the microphone volume by 1dB each time until it drops to -18dB "+": Increase the microphone volume by 1dB each time until it rises to +24dB

"N.B. When outputting audio to the TV speakers the audio will exhibit additional delay, which is unavoidable and dependent on the brand of TV that is used."

Back Panel

Number	Description	Function
1	HDMI Input port	Support HDMI 2.0 Input
2	HDMI Output port	Support HDMI 2.0 Output
3	SPDIF Audio Output port	Audio sample rate: 96KHz, Max transmission rate: 16Mbps
4	Analog Audio Output port	2.0 Analog Audio port
5	DC/5V Port	Power port
6	Power indicator	Power indicator

Specification
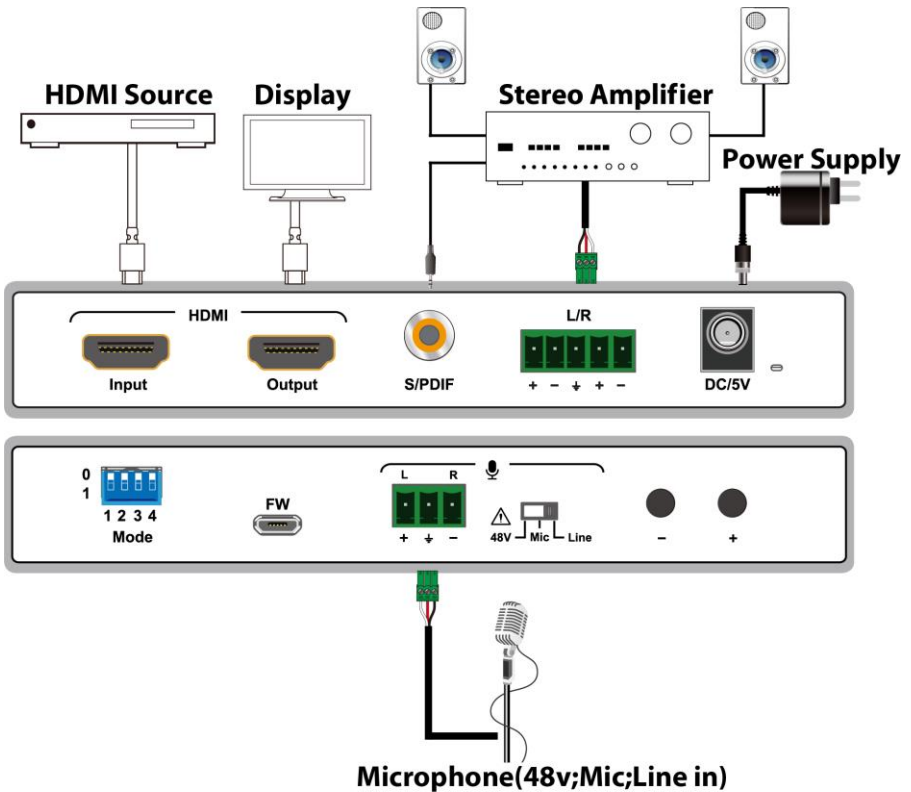
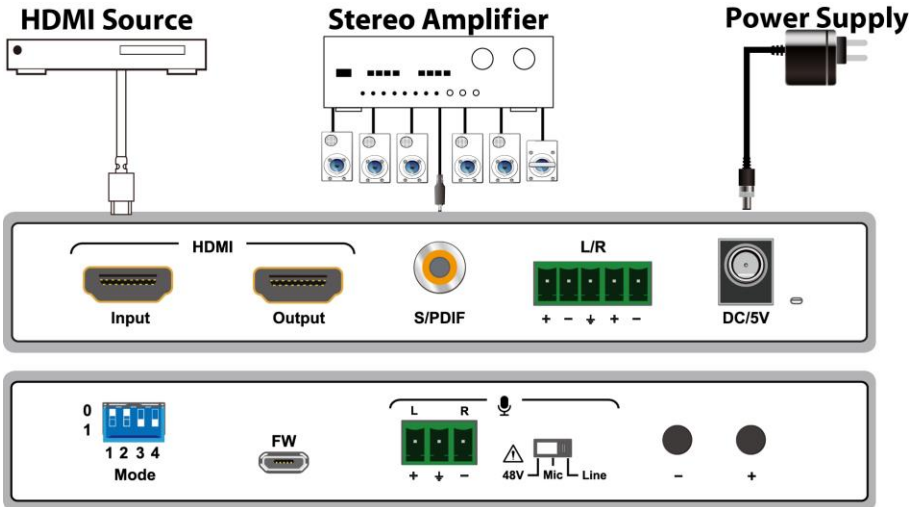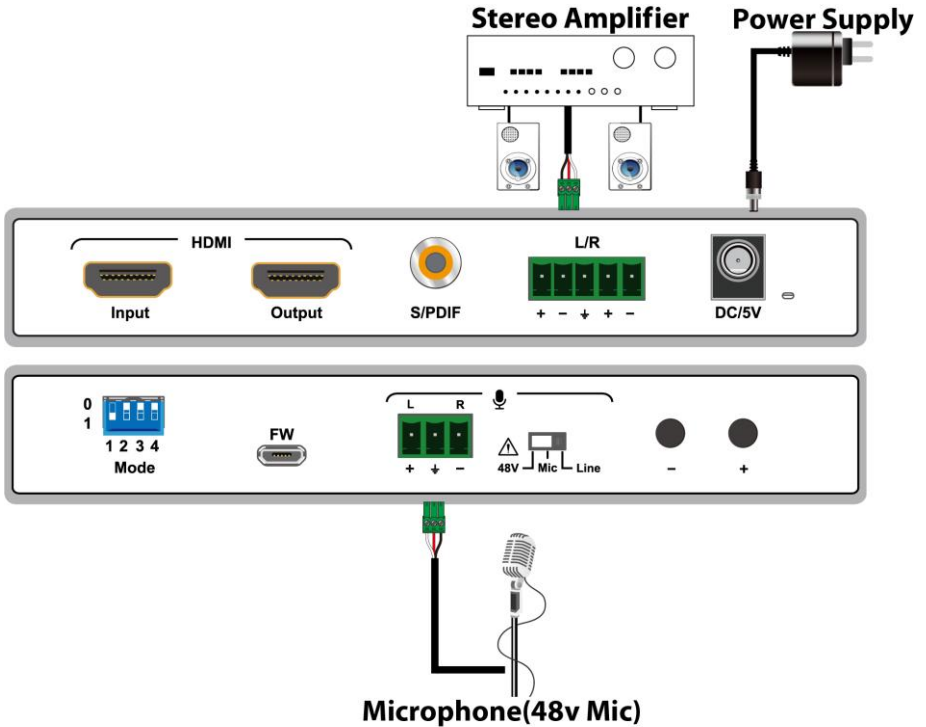| Video	
Input	
Input Connector	HDMI DC lockable barrel 5V Micro USB for Firmware 3 pin Phoenix port for audio
Output	
Output Connector	HDMI S/PDIF for digital audio 5 pin Phoenix port for balanced audio
Audio Format	LPCM up to 7.1/24 - bit / 96 kHz, Dolby Atmos and DTS-X panoramic sound
Max data rate	Video Bandwidth 18Gbps, HDR, Deep color 12bit
Max Resolution	HDMI 2.0 b input and output upto 4K60Hz (4:4:4)
Temperature	-5 to +40℃(+23 to +104℉)
Reference Humidity	5 to 90%RH (No Condensation)
Power Consumption	5W (Maximum)
Power Supply	DC 5V1A
Dimension (W*H*D)	151x93.5x21mm
Net Weight	360g

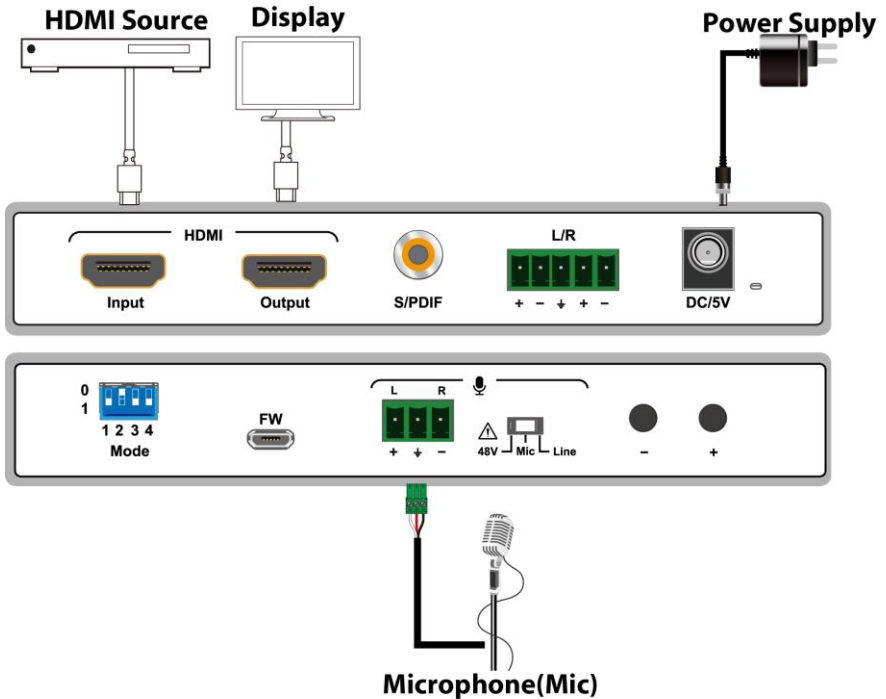# Application Diagrams

Equipment connection layout:

Application Diagram 1： Headless **5.1** HDMI Audio extraction (Bit:0011) - HDMI in but no HDMI out, with S/PDIF extraction
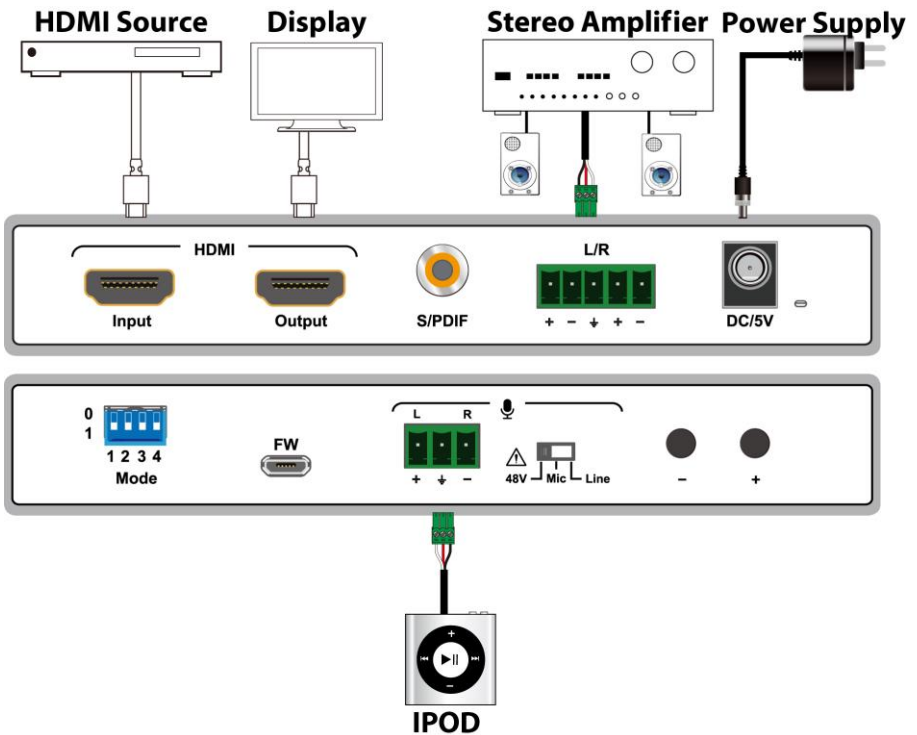
Application Diagram 2 : PreAmp with Phantom power - No HDMI in or out - Phantom Power MIC in and 5pin audio out to Amp (Bit:1000)

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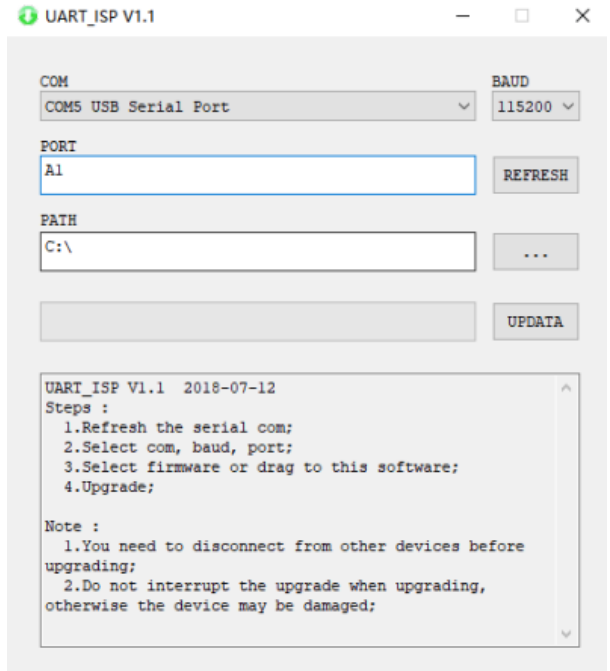**Application Diagram 3** : Mic Overlay on to TV (Bit:1011) - HDMI pass through with MIC mixed on TV output

Application Diagram 4: Mixed audio to balance output - HDMI output With audio & Line in and HDMI audio routed to 5 pin output (Bit: 1111)

FW update

- Download the UART SW and the latest FW version from the PureLink website under the download section for this product.

- Connect a USB A to USB mirco cable between a PC and the PT-C-HDAEDE.

- Open the software UART_ISP.exe on PC, select the correct port and baud rate 115200, enter "A1" in Port, then select the path of the program in PATH (XXX. Bin), and click UPDATA to complete the upgrade

Debug

To analyze the system behavior, or when a service representative requests that you do so, please attach a USB cable between your PC and the device and open a terminal session under baud rate 115200 8N1.

The information gained from debug is complex and requires support. If you are having problems with your device, contact support first before running a debug session.

After-Sales Service

If there appear some problems when running the product, please check and deal with the problems referring to this user manual. Any transport costs are borne by the users during the warranty.

1) **Product Limited Warranty:** This product will be free from defects in materials and workmanship for **two years** (The purchase invoice shall prevail).
   Proof of purchase in the form of a bill of sale or receipted invoice which is evidence that the unit is within the Warranty period must be presented to obtain warranty service.

2) **What the warranty does not cover (servicing available for a fee):**
   - Warranty expiration.
   - Factory applied serial number has been altered or removed from the product.
   - Damage, deterioration or malfunction caused by:
     - Normal wear and tear.
     - Use of supplies or parts not meeting our specifications.
     - No certificate or invoice as the proof of warranty.
     - The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
     - Damage caused by force majeure.
     - Servicing not authorized by distributor.
     - Any other causes which does not relate to a product defect.
   - Delivery, installation or labor charges for installation or setup of the product.

3) **Technical Support:** For any questions or problems, contact your distributor or reseller and tell them the respective product name and version, the detailed failure situation as well as the formation of the cases.

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Asking for Assistance

Technical Support:
Phone: +49 5971 800299 - 0
Fax: +49 5971 800299 – 99

Technical Support Hours:
8:30 AM to 5:00 PM Monday thru Thursday
8:30 AM to 4:00 PM Friday

Write to:
PureLink GmbH
Von-Liebig-Straße 10
D - 48432 Rheine
www.purelink.de
info@purelink.de