



User Manual

HDBaseT 3.0 Extender set with USB and Audio breakout

Model PT-HDBT-1010

Designed in Germany

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 | 1907/2006/EU

ROHS | 2011/65/EU

PureLink hereby declares that this product **PureTools PT-HDBT-1010** complies with Directives 1907/2006/EU und 2011/65/EU.

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

PureLink GmbH hereby declares that this product **PureTools PT-HDBT-1010** 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/4251364727249_CE.pdf



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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Product Introduction

Thanks for choosing Purelink PT-HDBT-1010, which consists of a transmitter and a receiver. It can extend 4K or 1080p video to distance up to 328 feet (100 meters) over a single CAT6A cable without compression. It supports audio de-embedding and ARC. It also supports bi-directional IR, USB and RS232 pass-through control and Ethernet extension. 24V PoC feature allows the transmitter and the receiver can be powered from each other and only one power adapter is needed in system.

Feature

- 18Gbps high bandwidth, HDMI V2.0.
- HDMI video resolution up to 4K@60Hz 4:4:4, HDR10, Dolby Vision.
- Supports HDCP bypass and HDCP 2.2 compliant.
- HDBaseT 3.0 solution which supports extending signal without compression.
- Extends 4K or 1080p video signals to distances up to 328 feet (100 meters) over a single SFTP CAT6A cable.
- Bi-directional IR, USB and RS232 pass-through control and Ethernet extension.
- Supports bi-directional 24V PoC.
- Supports audio de-embedding and ARC (Audio Return Channel).
- Provides HDMI loop out on transmitter.

Package List

- 1x PT-HDBT-1010-TX Transmitter
- 2x TX Mounting Ears with 2 Screws
- 4x Plastic Cushion
- 1x Power Adapter (24V DC 1.25A)
- 1x PT-HDBT-1010-RX Receiver
- 2x RX Mounting Ears with 2 Screws
- 4x Plastic Cushion
- 1x User Manual

Note: Please contact your distributor immediately if any damage or defect in the components is found.

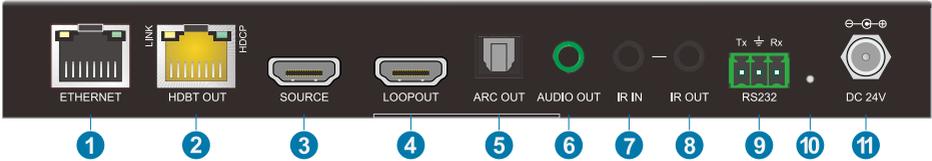
Panel Description

Transmitter Front Panel



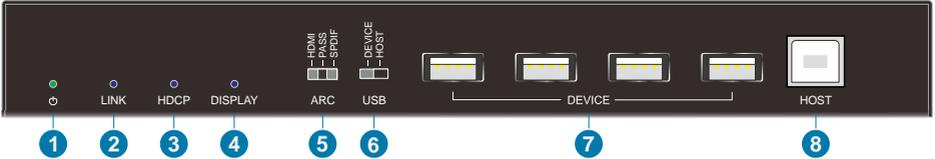
No.	Name	Description
①	POWER LED	Illuminates green when power is applied, or blinks when in firmware upgrade mode.
②	LINK LED	Illuminates when there is a valid HDBaseT link between the transmitter and the receiver.
③	HDCP LED	Illuminates when the video contains HDCP content, or blinks when the video has no HDCP content.
④	SOURCE LED	Illuminates when there is an HDMI source device is connected to HDMI input port.
⑤	LOOPOUT LED	Illuminates when both HDMI source device and HDMI display device (HDMI loop out port) are connected.
⑥	USB	DIP switch for DEVICE or HOST mode selection. DEVICE: The USB devices at transmitter position are used to control the HOST PC at receiver position. HOST: The HOST PC at transmitter position is controlled by the USB devices at receiver position.
⑦	DEVICE	Four type-A USB 2.0 ports for USB devices (e.g. Mouse, Keyboard and Camera) connection to control the PC which is connected to the HOST port of receiver.
⑧	HOST	Type-B USB 2.0 port for PC connection. The PC can be controlled by the USB devices which are connected to type-A USB 2.0 ports of receiver.

Transmitter Rear Panel



No.	Name	Description
①	ETHERNET	Used for Ethernet extension together with the ETHERNET port of receiver.
②	HDBT OUT	RJ45 port to connect the HDBT input port of receiver by CAT6A Ethernet cable. The LINK LED illuminates when there is a valid HDBaseT link between the transmitter and the receiver. The HDCP LED illuminates when the video contains HDCP content.
③	SOURCE	Connects to HDMI source device.
④	LOOPOUT	Connects to HDMI display device.
⑤	ARC OUT	Connects to audio player (e.g. amplifier) for ARC audio output.
⑥	AUDIO OUT	Connects to audio player (e.g. amplifier) for audio de-embedding from HDMI input.
⑦	IR IN	Connects to the IR receiver for IR pass-through.
⑧	IR OUT	Connects to the IR emitter for IR pass-through.
⑨	RS232	Connects to RS232 control device (e.g. PC) or a third-party device for RS232 control.
⑩	FIRMWARE UPGRADE BUTTON	Press the button with paper clip or other sharp tool for 3s to enter firmware upgrade mode. Press the button for 3s again can exit the mode.
⑪	DC 24V	DC connector for the power adapter connection.

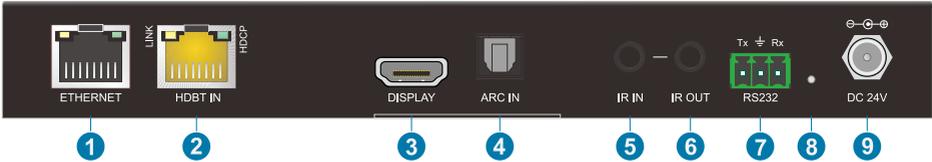
Receiver Front Panel



No.	Name	Description
①	POWER LED	Illuminates green when power is applied, or blinks when in firmware upgrade mode.
②	LINK LED	Illuminates when there is a valid HDBaseT link between the transmitter and the receiver.
③	HDCP LED	Illuminates when the video contains HDCP content, or blinks when the video has no HDCP content.
④	DISPLAY LED	Illuminates when there is a HDMI display device is connected to HDMI output port and when input source is detected.
⑤	ARC	DIP switch for ARC mode selection HDMI: The ARC input via HDMI output port of receiver. PASS: Supports CEC & ARC pass-through. SPDIF: The ARC input via SPDIF input port of receiver.
⑥	USB	DIP switch for DEVICE or HOST mode selection. DEVICE: The USB devices at receiver position are used to control the HOST PC at transmitter position. HOST: The HOST PC at receiver position is controlled by the USB devices at transmitter position.
⑦	DEVICE	Four type-A USB 2.0 port for USB devices (e.g. Mouse, Keyboard and Camera) connection to control the PC which is connected to the HOST port of transmitter.
⑧	HOST	T Type-B USB 2.0 ports for PC connection. The PC can

be controlled by the USB devices which are connected to type-A USB 2.0 ports of transmitter.

Receiver Rear Panel



No.	Name	Description
①	ETHERNET	Used for Ethernet extension together with the ETHERNET port of transmitter.
②	HDBT IN	RJ45 port to connect the HDBT output port of transmitter by CAT6A Ethernet cable. The LINK LED illuminates when there is a valid HDBaseT link between the transmitter and the receiver. The HDCP LED illuminates when the video contains HDCP content.
③	DISPLAY	Connects to HDMI display device.
④	ARC IN	Connects to ARC audio source device (e.g.TV).
⑤	IR IN	Connects to the IR receiver for IR pass-through.
⑥	IR OUT	Connects to the IR emitter for IR pass-through.
⑦	RS232	Connects to RS232 control device (e.g. PC) or a third-party device which is to be controlled.
⑧	FIRMWARE UPGRADE BUTTON	Press the button with paper clip or other sharp tool for 3s to enter firmware upgrade mode. Press the button for 3s again can exit the mode.
⑨	DC 24V	DC connector for the power adapter connection.

Specification

	Transmitter	Receiver
Video		
Input	(1) SOURCE	(1) HDBT IN
Input Connector	(1) Type-A female HDMI	(1) RJ45
Input Resolution	Up to 4K@60Hz 4:4:4	Up to 4K@60Hz 4:4:4
Output	(1) HDBT OUT, (1) LOOP OUT	(1) DISPLAY
Output Connector	(1) RJ45, (1) Type-A female HDMI	(1) Type-A female HDMI
Output Resolution	Up to 4K@60Hz 4:4:4	Up to 4K@60Hz 4:4:4
Audio		
Input	-	(1) ARC IN
Input Connector	-	(1) Toslink Connector
Output	(1) ARC OUT, (1) AUDIO OUT	-
Output Connector	(1) Toslink connector (1) 3.5mm jack	-
Audio Format	Toslink (ARC): PCM, Dolby Digital, DTS 5.1CH 3.5mm Audio: PCM 2CH	
Frequency Response	20Hz ~ 20KHz, ± 3 dB	
Max Output Level	2.0Vrms ± 0.5 dB. 2V = 16dB headroom above -10dBV (316mV) nominal consumer line level signal	
THD+N	< 0.05% (-80dB), 20Hz-20KHz bandwidth, 1kHz sine at 0dBFS level (or max level)	
SNR	> 85dB, 20Hz-20kHz bandwidth	
Crosstalk Isolation	> 70dB, 10kHz sine at 0dBFS level (or max level before clipping)	
L-R Level Deviation	< 0.3dB, 1kHz sine at 0dBFS level (or max level before clipping)	
Frequency Response Deviation	< ± 0.5 dB, 20Hz – 20kHz	
Output Load Capability	1K Ω and higher (Supports 10x paralleled 10K Ω loads)	
Stereo Channel Separation	> 70dB@1KHz	
Control		
Control Part	(4) DEVICE, (1) HOST, (1) USB Switch, (1) IR IN, (1) IR OUT, (1) RS232,	(4) DEVICE, (1) HOST, (1) ARC Switch, (1) USB Switch, (1) IR IN, (1) IR OUT, (1) RS232,

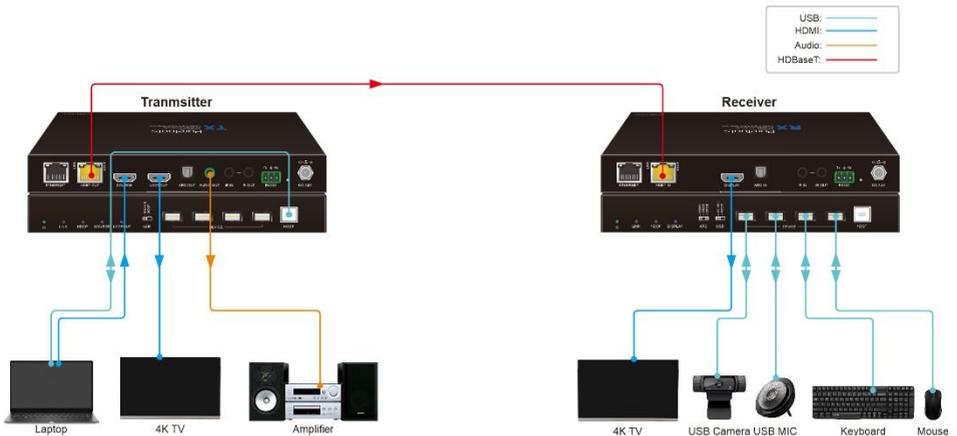
	(1) ETHERNET	(1) ETHERNET
Control Connector	(4) Type-A USB 2.0, (1) Type-B USB 2.0, (1) 2-pin DIP Switch, (2) 3.5mm Jacks, (1) 3-pin Terminal Block, (1) RJ45	(4) Type-A USB 2.0, (1) Type-B USB 2.0, (2) 3-pin DIP Switch, (2) 3.5mm Jacks, (1) 3-pin Terminal Block, (1) RJ45
General		
Bandwidth	18Gbps	
HDMI Standard	2.0	
HDCP Version	Input: HDCP 2.2, HDCP 1.4 compliant Loopout: Follows the display's HDCP version. RX Output: Follows the source's HDCP version.	
CEC	Pass-through (when ARC switch is selected to PASS or SPDIF)	
Bi-directional PoC	Supported	
HDMI V2.0 Cable Length	4K@60Hz 4:4:4 ≤ 5m, 4K@60Hz 4:2:0 ≤ 15m, 1080P ≤ 20m	
Transmission Standard	HDBaseT	
Transmission Distance	4K/1080p ≤ 262 feet (80 meters)	
Operation Temperature	-5 to +55°C (+23° to +131°F)	
Storage Temperature	-25 to +70°C (-13° to +158°F)	
Relative Humidity	10% to 90%, Non-condensing	
Power Supply	Input:100V~240V AC; Output:24V DC 1.25A	
Power Consumption	17W (Max)	
Dimension (W*H*D)	200mm x 25mm x 100mm(Tx) 200mm x 25mm x 100mm(Rx)	
Net Weight	Tx:540g Rx: 540g	

Note:

1. Please use high-qualified HDMI cable fully compliant with HDMI V2.0 for reliable transmission and connection.
2. Suggest to use 80m for installation maximum, if 100m requires high quality SFTP CAT6A cable.

System Diagram

- 1) When ARC switch is selected to HDMI, and the TV supports ARC, the TV audio can be transmitted back to the transmitter via HDMI output port of receiver, and then it will be output by the ARC OUT & HDMI Source port of transmitter. CEC pass-through is not supported in this mode.
- 2) When ARC switch is selected to SPDIF, the audio can be transmitted back to the transmitter via ARC IN port of receiver, and then it will be output by the ARC OUT & HDMI Source port of transmitter. Besides, it also supports CEC pass-through in this mode.
- 3) When ARC switch is selected to PASS, the extender can pass the ARC signal and support CEC pass-through. If the amplifier can work with the TV for ARC function, the ARC audio can be transmitted back to the transmitter via HDMI output port of receiver, and then it will be output by the ARC OUT & HDMI Source port of transmitter.



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.

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:

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