PureTools

User Manual

4K(60Hz 4:4:4), EDID, HDCP, and CEC Manipulation + Downscaling

Model PT-C-HDM

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Preface

Read this user manual carefully before using this pro-
duct. Pictures shown in this manual are for reference
only. Different model layouts and specifications are sub-
ject 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 wit-
hout prior notice or obligation.

Trademarks

Product model and logo are trademarks. Any other trade-
marks 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.

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FCC Statement

This equipment generates, uses and can radiate radio fre-
quency energy and, if not installed and used in accordan-
ce 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, pursu-
ant to part 15 of the FCC Rules. These limits are designed
to provide reasonable protection against harmful interfe-
rence 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 ope-
rate the equipment.

REACH | 1907/2006/EU
ROHS | 2011/65/EU

PureLink hereby declares that this product **PureTools
PT-C-HDM** complies with Directives 1907/2006/EU and
2011/65/EU.

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

PureLink GmbH hereby declares that this product **PureTools PT-C-HDM** 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/4251364735787_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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1. Product Introduction

The PT-C-HDM is a 18Gbps HDMI manager with EDID, HDCP and CEC management functions. It supports up to 4K 60Hz 4:4:4 and HDCP2.2. The product is powered directly from the HDMI port or via USB-C and supports auto-downscaling form 4K to 1080p.

2. Feature

- 18Gps HDMI 2.0 - 4K 60Hz 4:4:4 HDCP2.2
- Supports EDID and HDCP management
- CEC on/off switch
- Auto-downscaling form 4K to 1080p
- Powered via HDMI or USB-C

3. Package

1x PT-C-HDM
1x User Manual

4. Specification

Video Input

Input:	1x HDMI 2.0
Input Connector:	1x Female type-A HDMI
HDMI Input Resolution:	Up to 4K 60Hz 4:4:4

Video Output

Output:	1x HDMI 2.0
Output Connector:	1x Female type-A HDMI
HDMI Output Resolution:	Up to 4K 60Hz 4:4:4

General

Bandwidth:	18Gbps
Power Supply:	5V 1A
Power Consumption:	2.4W(MAX)
Dimension (WxHxD):	54x18x60mm
Net Weight:	85g

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5. Panel Description
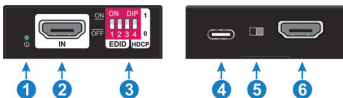
|		
1	**Power LED:**	The LED indicates green when power is on.
2	**HDMI IN:**	HDMI2.0 input, connect to source.
3	**DIP Switch:**	4-pin dip switch for EDID and HDCP management.
4	**USB-C:**	USB-C is used to power the device, upload EDID's and firmware upgrade.
5	**CEC Switch:**	Turn on/off the CEC.
6	**HDMI OUT:**	HDMI 2.0 output, connect to display.

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6. System Connection

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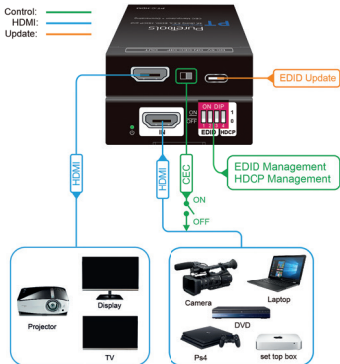
7. EDID&HDCP management

Predefined EDID Setting

Switch Status	Video Resolution	Audio Format
000	Obtain the display EDID	
001	1080p	LPCM
010	1080p	DTS/Dolby
011	3840 2160@30Hz HDR	LPCM
100	3840 2160@30Hz HDR	DTS/Dolby
101	3840 2160@60Hz HDR	LPCM
110	3840 2160@60Hz HDR	DTS/Dolby
111	user defined EDID	

User Defined EDID Setting
1) Rename the user defined EDID according to the following format: **0803C000.DAT**
2) Connect the machine to the PC with USB cable, the PC will automatically detect a U-disk named of "BOOTDISK".
3) Copy the EDID file into the U-disk, and then open the U-disk. If there is a SUCCESS. TXT file, it means that the EDID upload is successful.
4) Remove the USB cable, connect the adapter to power on the machine.

HDCP management

Status	HDCP Function
1	Communicate to source that no HDCP is supported by the device, then the source will send the content without HDCP if the signal format allows it.
0	Switch off HDCP management

8. Firmware Upgrade

1) Rename the upgrade file according the following format: **08009000.APP**
2) Disconnect the HDMI and connect the PT-C-HDM to the PC with USB cable, the PC will detect a U-disk named of "BOOTDISK".
3) Copy the file into the U-disk, and then open the U-disk. If there is a SUCCESS.TXT file, it means upgrade is successful, and if there is an UNKNOW.TXT file, it means fail.

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9. Supported Resolutions

640x480p@ 60, 67, 72, 75Hz
720x400p@ 70Hz
720x480p@ 60Hz
720x480i@ 60Hz
720x576p@ 50Hz
720x576i@ 60Hz
800x600p@ 56, 60, 72, 75Hz
832x624p@ 75Hz
1024x768p@ 60, 70, 75Hz
1280x1024p@ 75Hz
1280x720p@ 50Hz
1152x870p@ 75Hz
1152x864p@ 75Hz
1280x1024p@ 60Hz
1280x960p@ 60Hz
1440x900p@ 60Hz
1600x1200p@ 60Hz
1680x1050p@ 60Hz
1920x1080p@ 50, 60Hz

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1920x1080i@ 50, 60Hz
1920x1200p@ 60Hz
2560x1440p@ 60Hz
3840x2160p@ 24, 30, 60 Hz

10. 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 **three 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 do 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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