

CMDPH-1A

Mini-DisplayPort to HDMI Converter

Operation Manual



CMDPH-1A

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Version 1.0 October 2009

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Safety Precautions

Please read all instructions before attempting to unpack or install or operate this equipment, and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through module openings or empty slots, as you may damage parts.
- Do not attach the power supply cabling to building surfaces.
- Do not allow anything to rest on the power cabling or allow it to be abused by persons walking on it.
- To protect the equipment from overheating, do not block the slots and openings in the module housing that provide ventilation.

Revision History

<i>Version No</i>	<i>Date</i>	<i>Summary of Change</i>
<i>V1</i>	<i>20100607</i>	<i>Preliminary release</i>

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1. Introduction

The external Mini-DisplayPort to HDMI Converter is a high-speed device that can be configured into 1 or 2 lanes and has a 1.62/2.7 Gbit/s data rate. This device features differential input signals to HDMI, current-steering differential output signals and the ability for both PCIe and Mini DisplayPort to use the same I/O because they are electrically compatible. Also because this converter has level-shifting it is able to convert signals directly from Mini-DisplayPort to HDMI.

2. Application

- Mini DP to HDMI signal conversion
- Display PC content on an HDTV

3. Package Content

- Mini DP to HDMI Signal Converter
- Operation Manual

4. System Requirements

Input DP source equipment with USB output and an output HDTV or monitor.

5. Features

- Compliant with HDMI v1.2, HDCP1.1 and DVI1.0
- Supports EDID bypass
 - Link rate: either 2.7Gbit/s or 1.62 Gbit/s per lane, based on link quality
 - Flexible number of lanes, 1 or 2 depending on device capability
 - Freely trade pixel depth with resolution and frame rate
- Supports pixel rates from 25MHz to 165MHz
 - DTV resolutions: 480p ~ 1080p@60 & VGA ~ WUXGA 8 bits
 - PC resolutions: 480p ~ 1080p@60 & VGA ~ WUXGA 8 bits
- Supports 8/10 bits per color RGB color format
- Supports 8/10 bits YCbCr 4:4:4 & YCrCb 4:2:2
- Supports audio sample rate from 32 ~ 192 kHz and sample size from 16 ~ 24 bits
- Supports hot plug detection
- Supports HDCP
- Fail safe outputs for backdrive protection
- No re-timing or configuration required
- Integrated display data channel (DDC) level shifters

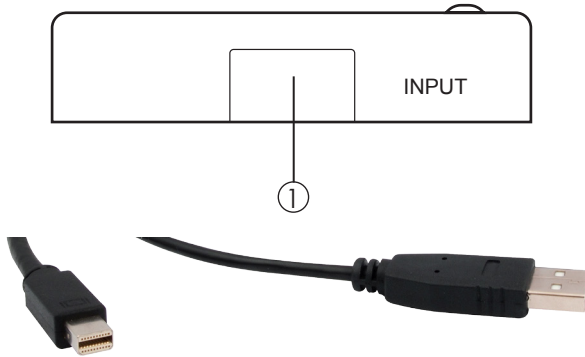
- Level shifter and configurable output for HPD signals received through the HDMI/DVI connector
- Power and audio sent and received through the USB port, no power supply is required
- Easy to install and operate

6. Specifications

TMDS Clock Frequency	2.7Gbps
Input ports	1 x Mini-DisplayPort (Male type), 1 x USB
Output port	1 x HDMI (Female type)
Input Resolution	480i ~ 1080p, VGA ~ UXGA
Output Resolution	480i ~ 1080p, 1920 x 1200@60Hz, VGA~WUXGA
I/O Audio Sample Rate	32 ~ 192 kHz
I/O Audio Support	PCM 2CH
ESD Protection	Human Body model: $\pm 8\text{kV}$ (air-gap discharge) $\pm 4\text{kV}$ (contact discharge)
Dimensions (mm)	81 (W) x 25 (D) x 11 (H)
Weight(g)	22
Chassis Material	Plastic
Silkscreen Color	Black
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Relative Humidity	20~90% RH (non-condensing)

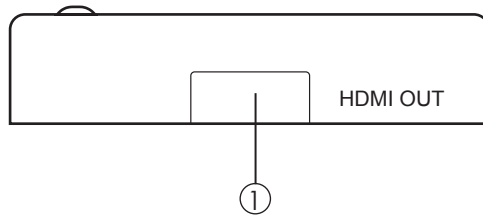
7. Operation Control and Functions

7.1 Front Panel



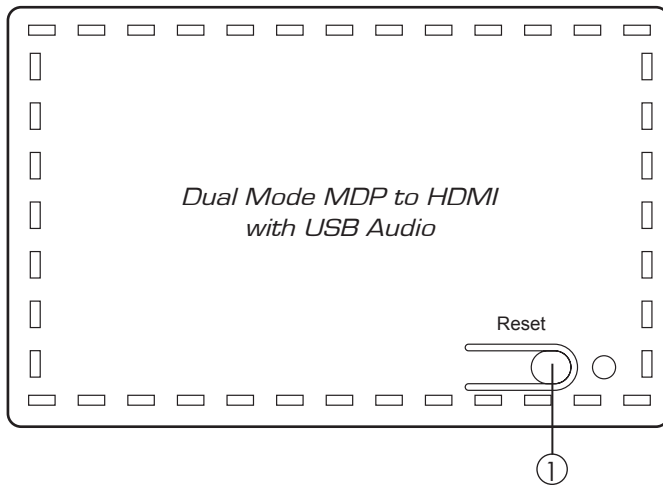
- ① MDP & USB INPUT: Connect these cables to your input sources output ports in order to send and receive a signal as well as receive power.

7.2 Rear Panel



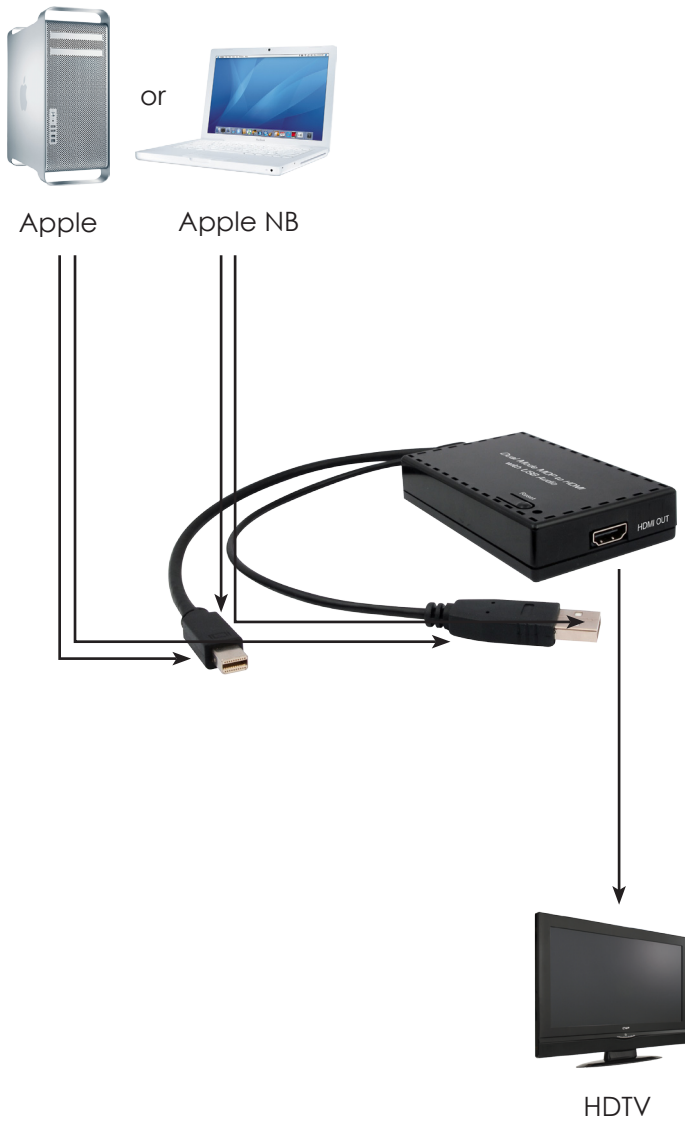
- ① HDMI OUT: This slot is to connect to the output display such as an HDTV or a monitor with an HDMI cable.

7.3 Top Panel



- ① RESET: Press this key only when the image is not displayed. Press it repeatedly until the image turns off.

8. Connection and Installation





Acronyms

Acronym	Complete Term
HDCP	High-bandwidth Digital Content Protection
MDP	Mini DisplayPort

