CS-HH
HDMI Enhancer

Operation Manual
Disclaimers

The information in this manual has been carefully checked and is believed to be accurate. Cypress Technology assumes no responsibility for any infringements of patents or other rights of third parties which may result from its use. Cypress Technology assumes no responsibility for any inaccuracies that may be contained in this document. Cypress also makes no commitment to update or to keep current the information contained in this document. Cypress Technology reserves the right to make improvements to this document and/or product at any time and without notice.

Copyright Notice

No part of this document may be reproduced, transmitted, transcribed, stored in a retrieval system, or any of its part translated into any language or computer file, in any form or by any means - electronic, mechanical, magnetic, optical, chemical, manual, or otherwise - without express written permission and consent from Cypress Technology.

© Copyright 2011 by Cypress Technology. All Rights Reserved. Version 1.0 April 2011

Trademark Acknowledgments

All products or service names mentioned in this document may be trademarks of the companies with which they are associated.
**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**

<table>
<thead>
<tr>
<th>Version No</th>
<th>Date</th>
<th>Summary of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>VR0</td>
<td>20110610</td>
<td>Preliminary Release</td>
</tr>
<tr>
<td>VR1</td>
<td>20111012</td>
<td>Add Power Main in Sec.8</td>
</tr>
</tbody>
</table>
Table of Contents

1. Introduction ................................................................. 1
2. Applications ............................................................... 1
3. Package Contents ....................................................... 1
4. System Requirements .................................................. 1
5. Features .................................................................. 1
6. Specifications ............................................................. 2
7. Hardware Description .................................................. 3
8. Connection and Installation ......................................... 4
9. Acronyms .................................................................. 5
1. Introduction
This mini HDMI to HDMI enhancer can transmitting digital audio and video signal and extending or cascade it without signal loss. It is capable of receiving and transmitting 2.25 Gbps bandwidth rate and the video resolutions supports up to 1080p@60Hz. The other important feature is that the system has built-in the equalizer and CDR (Clock Data Recovery) can provide long cable support even at deep color resolutions. Last but not least, the device does not require power adaptor as it gets power from the input source equipment.

2. Applications
• Installation usage
• HDMI signal cascading

3. Package Contents
• HDMI Enhancer
• Operation Manual

4. System Requirements
• HDMI input port connected to the source/HDMI system’s HDMI output and output port connected to the HDMI display system’s HDMI port or cascade with another family device to extend the distance.

5. Features
• Built-in TMDS equalizer and CDR for long cable support
• Support video resolutions up to 1080p@60Hz
• Capable of receiving and transmitting 2.25Gbps data
• Without extra power support and will get 2W of power from the input device
6. Specifications

- **Frequency bandwidth**: 2.25Gbps (single link)
- **Input Port**: 1 x HDMI (Female type)
- **Output port**: 1 x HDMI (Female type)
- **Output Resolution**: HD: 480i ~1080p@24/50/60
  - PC: VGA~UXGA
- **Input Cable Distance**: 15M / 8 or 12 bits
- **Output Cable Distance**: 15M / 8 or 12 bits
- **ESD Protection**: Human Body model: ±8kV (air-gap discharge)
  - ±4kV (contact discharge)
- **Dimensions (mm)**: 65(W) x 24(D) x 10(H)
- **Weight**: 30 g
- **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 (no condensation)
- **Power Consumption (W)**: 2W (Max)

7. Hardware Description

The following sections describe the hardware components of the unit.

1. **HDMI input**: Connect the HDMI input port to the HDMI output port of your source equipment such as DVD/HDMI switcher/HDMI Splitter/HDMI Matrix. Direct power supply from HDMI input source equipment yet if the source can't supply with power users can connect an external power for external HDMI power supply.

2. **HDMI output**: Connect the HDMI output port to the HDMI input port of your HDMI transmitter box or display to enhance the source.
6. Specifications

- Frequency bandwidth: 2.25Gbps (single link)
- Input Port: 1 x HDMI (Female type)
- Output port: 1 x HDMI (Female type)
- Output Resolution: HD: 480i ~ 1080p@24/50/60
- PC: VGA~UXGA
- Input Cable Distance: 15M / 8 or 12 bits
- Output Cable Distance: 15M / 8 or 12 bits
- ESD Protection: Human Body model: ±8kV (air-gap discharge), ±4kV (contact discharge)
- Dimensions: 65(W) x 24(D) x 10(H)
- Weight: 30g
- 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 (no condensation)
- Power Consumption: 2W (Max)

7. Hardware Description

The following sections describe the hardware components of the unit.

1. HDMI input: Connect the HDMI input port to the HDMI output port of your source equipment such as DVD/HDMI switcher/HDMI Splitter/HDMI Matrix. Direct power supply from HDMI input source equipment yet if the source can’t supply with power users can connect an external power for external HDMI power supply.

2. HDMI output: Connect the HDMI output port to the HDMI input port of your HDMI transmitter box or display to enhance the source.

8. Connection and Installation

---

3
# Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Complete Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPM-CSHH</td>
<td>Home page: <a href="http://www.cypress.com.tw">http://www.cypress.com.tw</a></td>
</tr>
</tbody>
</table>