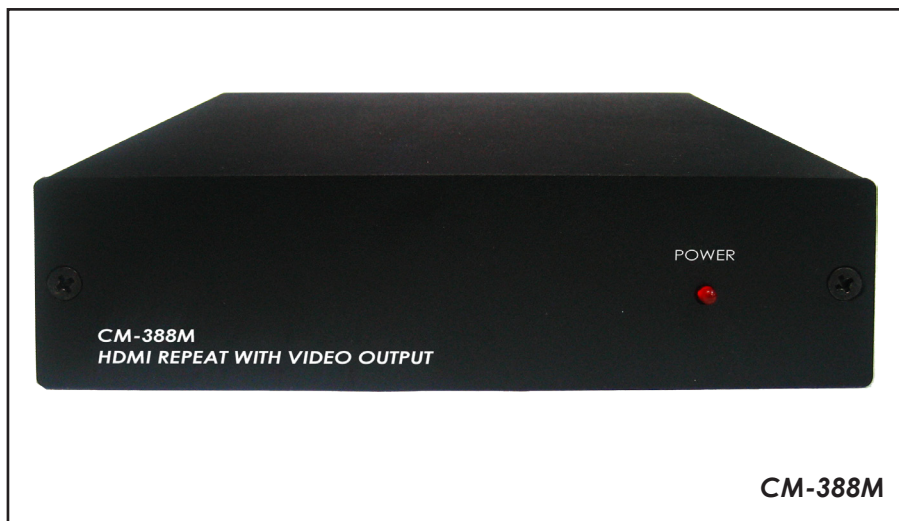


HDMI REPEAT WITH VIDEO OUTPUT

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 2010 by Cypress Technology.

All Rights Reserved.

Version 1.0 December 2010

• **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**

| <u>Version No</u> | <u>Date</u> | <u>Summary of Change</u> |
|--------------------------|--------------------|---------------------------------|
| VR0 | 20120625 | Preliminary Release |

Table of Contents

| | |
|--|----------|
| 1. Introduction | 1 |
| 2. Applications | 1 |
| 3. Package Contents | 1 |
| 4. System Requirements | 1 |
| 5. Features | 2 |
| 6. Specifications | 3 |
| 6.1 Supports Resolutions | 3 |
| 6.2 Audio Chart | 4 |
| 7. Operation Controls and Functions | 4 |
| 7.1 Front Panel..... | 4 |
| 7.2 Rear Panel | 5 |
| 8. Connection and Installation | 6 |
| 9. Acronyms | 7 |

1. Introduction

The HDMI Repeat with Video Output is designed to convert digital signal from HDMI (or DVI + Coaxial) source to analog signal of NTSC or PAL system, with L/R stereo audio. Besides S-Video and Composite Video outputs, it also provides an HDMI bypass output to deliver the original signal, and a Coaxial output to send S/PDIF digital audio to audio amplifier. The device provides a convenient application that allows the users to watch high definition movie (in standard resolutions 480i or 576i) from DVR or VCR machine.

2. Applications

- HDMI to Composite Video or S-Video signal conversion
- HDMI to NTSC/PAL system conversion

3. Package Contents

- HDMI Repeat with Video Output
- 5V / 2.6A DC Power adaptor
- Operation Manual

4. System Requirements

Input source equipment such as DVD or Blu-ray player and output display TV/monitor with connection cables.

5. Features

- HDMI 1.2, HDCP1.1 and DVI1.0 compliant
- Converts video signal from HDMI source to NTSC or PAL signal selectable
- Converts digital audio from HDMI source to analog stereo audio
- Accepts a wide range of HDTV input resolutions, from 480i to 1080p@60Hz and PC from VGA@60Hz to WUXGA@60HzRB
- Video and audio conversion / bypass scenarios:

| | |
|-----------------|---|
| INPUT A | Both video and audio from HDMI source* |
| OUTPUT A | HDMI -> Bypass, output original video and audio from HDMI |
| | COAXIAL -> Output digital audio from HDMI |
| | CV + L/R -> Output analog video / audio converted from HDMI |
| | SV + L/R -> Output analog video / audio converted from HDMI |

| | |
|-----------------|---|
| INPUT B | Video from DVI source and audio from Coaxial source** |
| OUTPUT B | HDMI -> output original video from DVI and audio from Coaxial |
| | COAXIAL -> Output digital audio from Coaxial |
| | CV + L/R -> Output analog video converted from DVI, L/R mute*** |
| | SV + L/R -> Output analog video converted from DVI, L/R mute*** |

| | |
|-----------------|---|
| INPUT C | Video from DVI source and audio from Coaxial source |
| OUTPUT C | DVI -> Bypass, output original video from DVI |
| | COAXIAL -> Output digital audio from Coaxial |
| | CV + L/R -> Output analog video converted from DVI, L/R mute*** |
| | SV + L/R -> Output analog video converted from DVI, L/R mute*** |

* In the scenario of INPUT/OUTPUT A, the audio signal from Coaxial input will not be used.

** DVI input or output can be applied by using HDMI to DVI adapter or cable of similar function.

*** Analog L/R audio outputs are not available when the audio input is Coaxial, please connect the analog audio from source to your speakers directly.

- Supports Coaxial input audio sample rate 44.1KHz, 48KHz and 96KHz
- When the signal from HDMI or DVI source is protected by HDCP (High-bandwidth Digital Content Protection), the HDMI or DVI display needs to supports HDCP to be able to show picture.
- When receiving contents that has HDCP encryption, the CV & SV output will not display image.

6. Specifications

| | |
|-----------------------|---|
| Input Ports | 1 x HDMI type A, 1 x Coaxial |
| Output Ports | 1 x HDMI type A, 1 x Coaxial, 1 x Composite-Video, 1 x R/L 1 x S-Video, 1 x R/L |
| Power Supply | 5V/2.6A DC (US/EU standards, CE/FCC/UL certified) |
| Dimensions (mm) | 141(W) x 127(D) x 38(H) |
| Weight(g) | 510 |
| Chassis Material | Aluminum |
| 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) |
| Power Consumption | 5.5W |

6.1 Supports Resolutions

| HD | PC |
|-------------|------------------------|
| 480i60,p60 | 640x480@60,72,75,85 |
| 576i50,p50 | 720x400@70 |
| 720p50,p60 | 800x600@56,60,72,75,85 |
| 1080p24 | 1024x768@60,70,75,85 |
| 1080i50,i60 | 1152x864@70,75,85 |
| 1080p50,p60 | 1280x720@60cvt |
| | 1280x768@60RB,60 |
| | 1280x800@60RB,60,75 |
| | 1280x960@60 |
| | 1280x1024@60,75 |
| | 1366x768@60RB,60 |
| | 1400x1050@60RB,60 |
| | 1440x900@60RB,60,75 |
| | 1600x900@60RB |
| | 1600x1200@60 |
| | 1680x1050@60RB,60 |
| | 1920x1200@60RB |

Note: DVI source input does not support 480i & 576i.

6.2 Audio Chart

| | | |
|--------------------|-----------------------------------|--------------------------------|
| Video/Audio Source | HDMI | DVI (with DVI to HDMI adaptor) |
| | HDMI Embedded Audio | Coaxial Input |
| Audio Output | | |
| HDMI Bypass | Yes | Yes (SR 44.1k , 48k , 96k) |
| Coaxial | Yes | Yes |
| Stereo L/Rx2 | Yes (Audio source is LPCM 2CH) | No |

7. Operation Controls and Functions

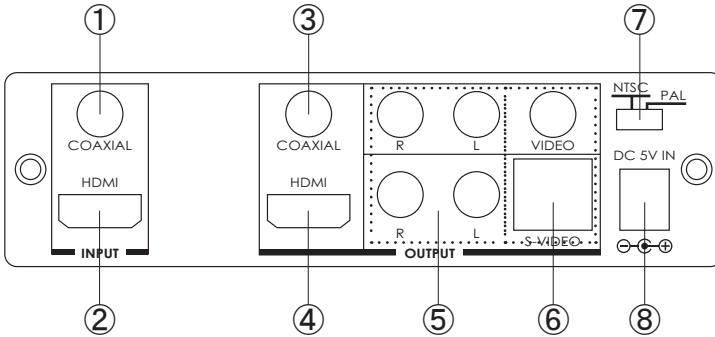
The following sections describe the hardware components.

7.1 Front Panel



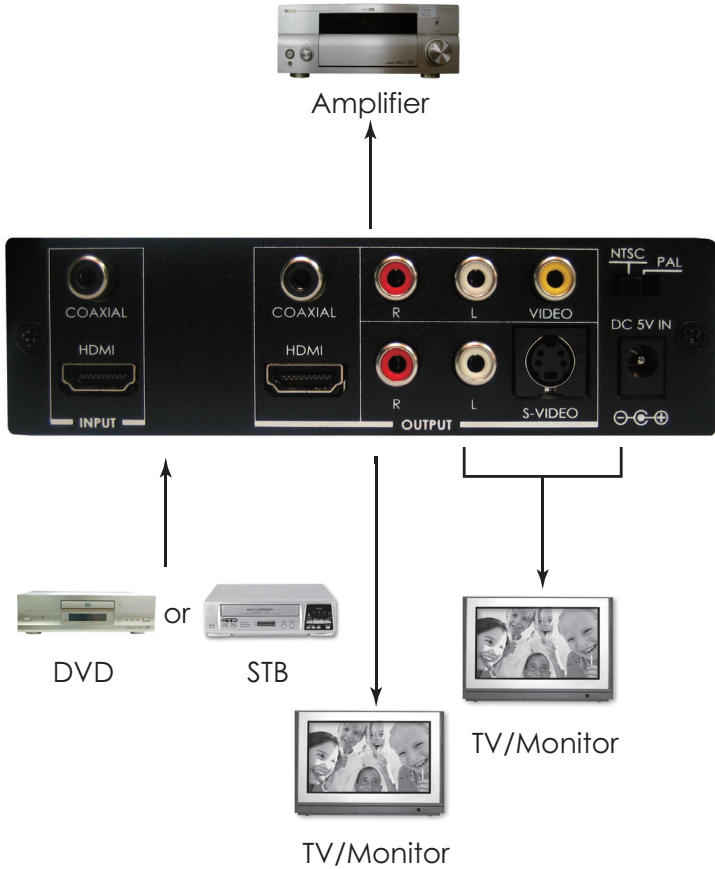
- ①. Power LED: The LED indicator will illuminate when the unit is connected with power supply.

7.2 Rear Panel



- ①. Coaxial Input: Connect to the Coaxial output port of your source equipment such as DVD player or Set-Top-Box for audio signal sending.
- ②. HDMI Input: Connect to the HDMI output port of your source equipment such as DVD player or Set-Top-Box.
- ③. Coaxial Output: Connect to the input port of your digital audio equipment such as audio amplifier.
- ④. HDMI Bypass Output: Connect to the HDMI input port of your display.
- ⑤. L/R Output: Connect to speakers.
- ⑥. Composite Video/S-Video: Connect to the input port of your display.
- ⑦. TV System Switcher: Select between NTSC and PAL system for output.
- ⑧. DC 5V: Plug the 5VDC power supply into the unit and connect the adaptor to AC wall outlet.

8. Connection and Installation





9. Acronyms

Acronym

Complete Term

HDCP

High-bandwidth Digital Content Protection

HDMI

High-Definition Multimedia Interface

VGA

Video Graphics Array



CYPRESS TECHNOLOGY CO., LTD.
Home page: <http://www.cypress.com.tw>

MPM-CM388M