



# CM-398H

CV/SV to HDMI Converter with Audio Input



**Operation Manual**

**HDMI®**  
HIGH-DEFINITION MULTIMEDIA INTERFACE

The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

## 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 2018 by Cypress Technology.

All Rights Reserved.

## TRADEMARK ACKNOWLEDGMENTS

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

---



## SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, 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 any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.
- Please completely disconnect the power when the unit is not in use to avoid wasting electricity.

## VERSION HISTORY

REV.	DATE	SUMMARY OF CHANGE
VR0	20101201	Preliminary release



## CONTENTS

<b>1. Introduction</b> .....	<b>1</b>
<b>2. Applications</b> .....	<b>1</b>
<b>3. Package Contents</b> .....	<b>1</b>
<b>4. System Requirements</b> .....	<b>1</b>
<b>5. Features</b> .....	<b>2</b>
<b>6. Operation Controls and Functions</b> .....	<b>3</b>
6.1 Top Panel.....	3
6.2 Front Panel.....	3
6.3 Left Panel .....	4
6.4 Right Panel.....	4
<b>7. Connection Diagram</b> .....	<b>5</b>
<b>8. Specifications</b> .....	<b>6</b>
8.1 Technical Specifications .....	6
8.2 Audio Specification .....	7
<b>9. OSD</b> .....	<b>8</b>
<b>10. Acronyms</b> .....	<b>9</b>

---



## 1. INTRODUCTION

This is a Video to HDMI™ converter box that can convert CV/SV (NTSC or PAL or SECAM system) to HDMI resolutions of XGA to UXGA or HD resolutions of 480p to 1080p. With frame rate conversion feature that allows users to view DVD, VCR or video game sources on the HD monitor/TV this device has an On-Screen Display function that allows users to easily select the output resolution and the audio input, after which both the video and audio signal are combined into an HDMI signal so they can be output to a compatible display.

## 2. APPLICATIONS

- CV/SV signal with audio to display on HD TV/monitor
- STB/Camcorder signal display on HD monitor/TV
- VCR signal display on HD monitor/TV

## 3. PACKAGE CONTENTS

- CV/SV to HDMI Converter with Audio Input
- Power Adaptor
- Operation Manual

## 4. SYSTEM REQUIREMENTS

Input source equipments such as DVD/Video cassette player and output HD monitor/TV with connection cables.

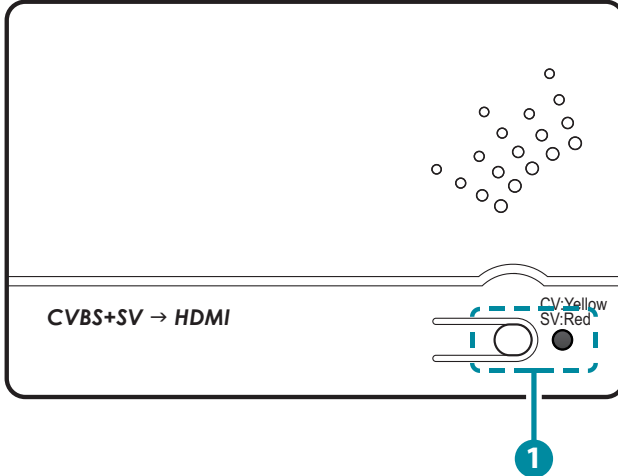
## 5. FEATURES

- Operates in NTSC 3.58 and PAL & SECAM system
- Can scale CV/SV to HDMI format
- Output resolution:
  - **PC resolutions:** XGA, SXGA, UXGA
  - **Component resolutions:** 480p/576p, 720p@50 or 60, 1080p@50 or 60
- 3D (frame based) motion adaptive YNR/CNR noise reduction
- On-Screen Display
- Advance 3D motion adaptive de-interlace
- Automatic 2:2 & 3:2 film mode detection
- Play video games on your HD monitor/TV
- High-resolution output picture
- Plug & play- no drive software required
- Component resolution support 50 to 60 frame rate conversion only not 60 to 50
- PC resolution frame rate only supports 60Hz output

## 6. OPERATION CONTROLS AND FUNCTIONS

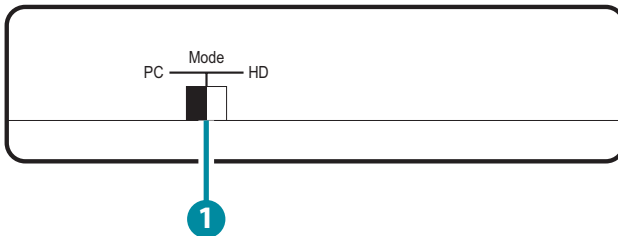
The following sections describe the hardware components of the unit.

### 6.1 Top Panel



- 1 CV/SV SW & LED:** Press this button to switch input source between composite or S-Video. The Led will illuminate in yellow when switch to composite input and red when switch to S-Video input.

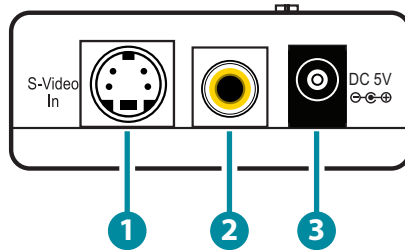
### 6.2 Front Panel



- 1 PC/HD switch:** This slide switch allows you to select PC or component HD timing output. Simply slide the dip switch to left or right and the output mode will display your desire selection.

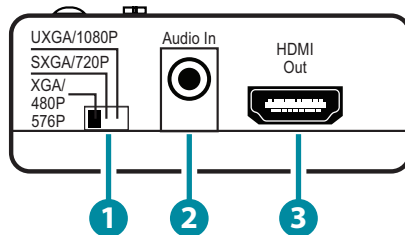


## 6.3 Left Panel



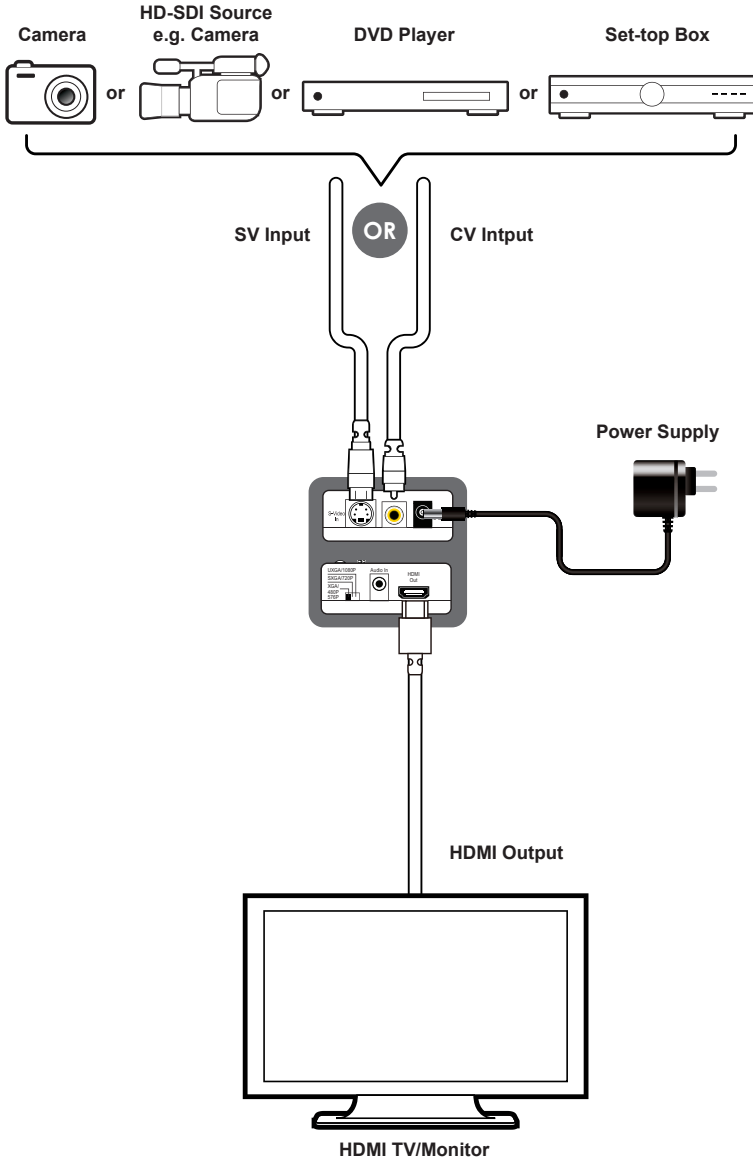
- 1 **S-Video input:** This slot is where you connect the input source equipment such as digital camcorder or PDAs with S-Video cable for input signal sending.
- 2 **Composite (CV) input:** This slot is where you connect the input source equipment such as personal media player or personal recorder with CV cable for input signal sending.
- 3 **DC 5V In:** This slot is where you plug the 5V DC power supply into the unit and connect the adaptor to an AC wall outlet.

## 6.4 Right Panel



- 1 **Output resolution switch:** This slide switch allows you to set HDMI output Timing to PC resolution: XGA/SXGA/UXGA or HD: 480p/576p/720p@ 50 or 60/1080p@ 50 or 60. Simply switch the dip switch to left, middle or right and the output image will display your desired timing.
- 2 **Audio In:** This slot is to connect to audio source equipment with 3.5Ø phone jack for audio signal transmission.
- 3 **HDMI OUT:** This slot is where you connect the output display monitor/TV with HDMI cable.

## 7. CONNECTION DIAGRAM



## 8. SPECIFICATIONS

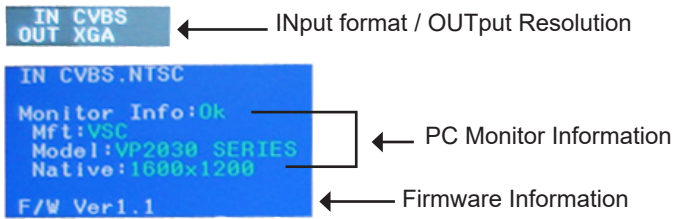
### 8.1 Technical Specifications

<b>Input port</b>	1 x CV, 1 x SV, 1 x 3.5Ø Phone Jack
<b>Output port</b>	1 x HDMI
<b>Output Resolution</b>	PC: XGA/SXGA/UXGA D: 480p/576p/720p@50/60 or 1080p@50/60
<b>Power Supply</b>	5VDC/1A (US/EU standards, CE/FCC/UL certified)
<b>ESD Protection (HBM)</b>	±8kV (Air Discharge) ±4kV (Contact Discharge)
<b>Dimensions (mm)</b>	162.6(W) x 64.5(D) x 33.5(H)
<b>Weight(g)</b>	100
<b>Chassis Material</b>	Plastic
<b>Silkscreen Color</b>	Black
<b>Operating Temperature</b>	0°C~40°C / 32°F ~ 104°F
<b>Storage temperature</b>	-20°C~60°C / -4°F ~ 140°F
<b>Relative Humidity</b>	20~90% RH (no condensation)
<b>Power Consumption (W)</b>	2.5W(Max)

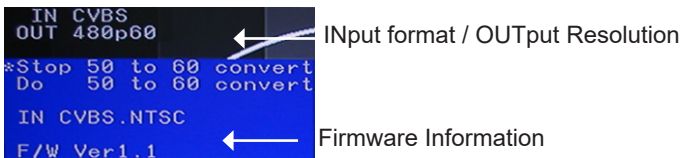
## 8.2 Audio Specification

Input Level / Frequency	Output Terminal	Output Sample Rate	Audio Impedance	Frequency Level	SNR	Crosstalk
2Vrms 1kHz	HDMI	48 KHz	54K ohm	-1.6 $\pm 0.5$ dBfs	>80dB	<-80dB

## 9. OSD



- 1 Press the top panel's button once to switch in between CV/SV. If input source is disconnected the OSD will show "No Signal".
- 2 Press the top panel's button for 3 second to bring up OSD manual.
- 3 When the device is under PC mode the OSD will display input format and output timing, source detection, PC monitor's EDID and firmware version as to above picture.
- 4 When the device is under HD mode the OSD will display input format and output timing, frame rate conversion selection, video system and firmware version as show in below picture.



## 10. ACRONYMS

<b>ACRONYM</b>	<b>COMPLETE TERM</b>
<b>CV</b>	Composite Video
<b>HD</b>	High Definition
<b>NTSC</b>	National Television System Committee
<b>PAL</b>	Phase Alternate Line
<b>PC</b>	Personal computer
<b>STB</b>	Set-Top-Box
<b>SV</b>	S-Video
<b>UXGA</b>	Super eXtended Graphics Array
<b>VGA</b>	Video Graphics Array
<b>XGA</b>	Extended Graphics Array





**CYPRESS TECHNOLOGY CO., LTD.**  
[www.cypress.com.tw](http://www.cypress.com.tw)

---