



# CP-295NN

CV/SV to HDMI Scaler



Operation Manual





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## 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.

## REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
VR0	12/08/14	Preliminary Release
VS1	14/11/14	Updated Text/Diagrams

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## 1. INTRODUCTION

The Composite Video/S-Video to HDMI Scaler is designed to upscale the video signal from an analog input source to a digital HDMI output in a wide-range of HDTV and PC resolutions up to 1080p/WUXGA. Additionally this unit can also convert a digital/analog audio signal and then simultaneously output to an HDMI, Optical and 3.5mm Mini-jack (L/R audio) connections. This unit has a comprehensive OSD menu that allows the user to select a variety of output resolutions and make picture adjustments to optimize the image quality.

## 2. APPLICATIONS

- Display an analog video signal on an HDMI display
- Scale an analog video signal to HD resolutions
- Connect an analog video device, such as a VCR or Laser Disc player to an HDMI equipped display or AV receiver

## 3. PACKAGE CONTENTS

- 1×CV/SV to HDMI Scaler
- 1×Composite Video Cable
- 1×Stereo Audio Cable (2×RCA)
- 1×5V/2.6A DC Power Adaptor
- Operation Manual

## 4. SYSTEM REQUIREMENTS

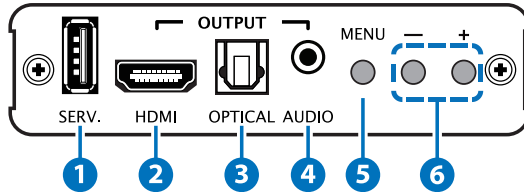
Analog video source equipment such as a non-HDMI equipped DVD player or VCR and HDMI equipped display or switching device such as a matrix or AV receiver.

## 5. FEATURES

- HDMI, HDCP and DVI compliant
- Supports a wide range of video standards including NTSC, NTSC4, PAL, PAL-M, PAL-N and SECAM
- Supports upscaling to resolutions of VGA to WUXGA (PC) or 480p to 1080p (HD)
- Automatically detects the display settings of the connected display and outputs the correct resolution and refresh rate when the NATIVE output option is selected
- Supports 50/60Hz frame rate conversion
- Supports 3D motion video adaptive, 3D de-interlacing and 3:2/2:2 pull down detection and recovery
- Provides adjustment of contrast, brightness, hue, saturation, sharpness, RGB (color tone) level and aspect ratio size of the video output
- Supports OSD selectable stereo analog and digital audio inputs and simultaneous stereo analog and digital audio outputs to HDMI, Optical digital audio and analog mini-jack connections

## 6. OPERATION CONTROLS AND FUNCTIONS

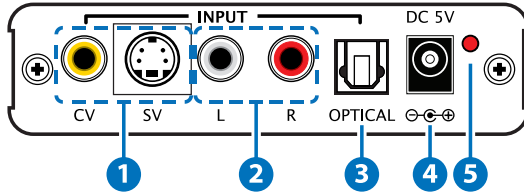
### 6.1 Front Panel



- 1 SERV.:** Reserved for firmware update only.
- 2 HDMI OUTPUT:** Connect to an HDMI equipped display or AV receiver for output of the combined video and audio output.
- 3 OPTICAL OUTPUT:** Connect to an amplifier or active speakers with an optical cable for LPCM 2 channel digital audio output.
- 4 AUDIO OUTPUT:** Connect to an amplifier or active speakers with a 3.5mm mini-jack cable for analog audio output.
- 5 MENU Button:** Press this button to enter the OSD (On-Screen Display) menu and press it again to make a selection.
- 6 +/- Button:** Press these buttons to:
  - When in the OSD menu*
    - Navigate up/down the OSD menu.
    - To adjust the value of a menu selection.
  - Under normal operation (outside of OSD menu)*
    - Press the '+' button to switch between CV and SV inputs.
    - Press the '+' button together with the 'MENU' button to switch the output resolution to XGA@60 (1024×768).
    - Press the '-' button together with 'MENU' button to switch the output resolution to 720p@60.
    - Press both the '+' and '-' buttons at the same time to reset the device to the default settings.



## 6.2 Rear Panel



- 1 **CV/SV INPUT:** Connect to an analog video source device such as a DVD/Video player with a composite or S-Video cable or DVD player with D-sub to RCA adaptor.
- 2 **L/R INPUT:** Connect to the stereo analog audio output of the source device with a stereo audio cable for analog audio signal input.
- 3 **OPTICAL INPUT:** Connect to the optical digital audio output of the source device with an optical cable for digital audio signal input.
- 4 **DC 5V:** Connect the 5V DC power supply to the unit and plug the adaptor into an AC outlet.
- 5 **Power LED:** This LED will illuminate once the unit is connected to an active power supply.

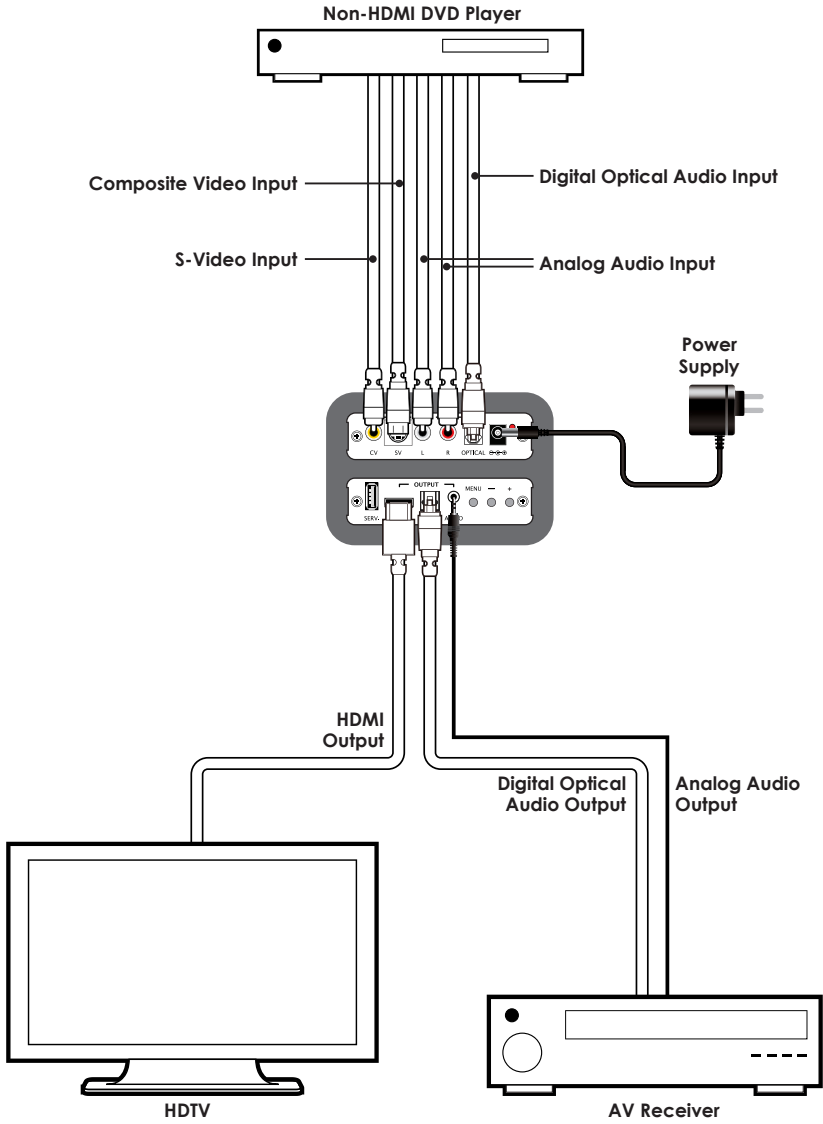
## 6.3 OSD Menu

MAIN MENU	1ST LAYER	2ND LAYER
<b>PICTURE SETTING</b>	CONTRAST	0~100 (50)
	BRIGHTNESS	0~100 (50)
	EXIT	
<b>FINETUNE</b>	HUE	0~100 (50)
	SATURATION	0~100 (50)
	SHARPNESS	0~100 (50)
	NR	OFF, LOW, MIDDLE, HIGH (OFF)
	EXIT	
<b>COLOR SETTING</b>	RED	0~100 (50)
	GREEN	0~100 (50)
	BLUE	0~100 (50)
	EXIT	
<b>OUTPUT SETTING</b>	SIZE	FULL, OVERSCAN, UNDERSCAN, LETTER BOX, PANSCAN, ASPECT (FULL)
	RESOLUTION	640×480@60, 800×600@60, 1024×768@60, 1280×1024@60, 1400×1050@60, 1600×1200@60, 1280×800@60, 1440×900@60, 1680×1050@60, 1920×1200@60RB, 1600×900@60, 480p, 576p, 720p@50, 720p@60, 1080i@50, 1080i@60, 1080p@50, 1080p@60
	EXIT	

MAIN MENU	1ST LAYER	2ND LAYER
<b>AUDIO SETTING</b>	DELAY (Analog Audio Only)	OFF, 40ms, 110ms, 150ms (OFF)
	INPUT	ANALOG, OPTICAL (ANALOG)
	SOUND	ON, MUTE (ON)
	EXIT	
<b>OSD SETTING</b>	H-POSITION	0~100 (10)
	V-POSITION	0~100 (90)
	TIMER	0~100 (50)
	BACKGROUND	0~100 (50)
	DISPLAY	INFO, ON, OFF (INFO)
	EXIT	

*Note: Values in brackets are default for that setting.*

## 7. CONNECTION DIAGRAM



## 8. SPECIFICATIONS

### 8.1 Technical Specifications

<b>Video Bandwidth</b>	225MHz/6.75 Gbps
<b>Input Ports</b>	1×CV, 1×SV, 1×L/R, Optical (TOSLINK), 1×USB (Service only)
<b>Output Ports</b>	1×HDMI, Optical (TOSLINK), 1×3.5mm Mini-jack
<b>HDMI Output Resolutions</b>	Up to 1080p & WUXGA@60 (RB)
<b>HDMI and Optical Audio Sampling Rates</b>	Up to 48 kHz
<b>Power Supply</b>	5V/2.6A DC (US/EU standards, CE/FCC/UL certified)
<b>ESD Protection</b>	Human body model: ±8kV (air-gap discharge) ±6kV (contact discharge)
<b>Dimensions</b>	102mm (W)×177mm (D)×25mm (H)/Jacks Excluded 102mm (W)×186.75mm (D)×25mm (H)/Jacks Included
<b>Weight</b>	396g
<b>Chassis Material</b>	Aluminum
<b>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 (non-condensing)
<b>Power Consumption</b>	4.1 W



## 8.2 Audio Specifications

INPUT LEVEL/ FREQ	OUTPUT	OUTPUT LEVEL	THD+N	FREQUENCY RESPONSE	SNR	CROSSTALK
Optical 0dB/1kHz	Analog	400m~600m (Vrms)	<0.1%	±3 dBFS	>60dB	<-60dB
	Optical	0dB~-1dB	<0.15%	±3 dBFS	>80dB	<-70dB
	HDMI	0dB~-1dB	<0.15%	±3 dBFS	>80dB	<-70dB

## 9. ACRONYMS

ACRONYM	COMPLETE TERM
<b>CV</b>	Composite Video
<b>HDMI</b>	High-Definition Multimedia Interface
<b>SV</b>	S-Video
<b>WUXGA (RB)</b>	Widescreen Ultra Extended Graphics Array (Reduce blanking)





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