



# 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 |
|             |               |                     |



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## 1. INTRODUCTION

This Scaler Box is designed to upscale analog video signal from CV/SV input source to digital HDMI output of wide-range HDTV and PC resolutions, up to 1080p/WUXGA. Besides video upscaling, the scaler box also converts digital/analog audio signal to digital/analog formats, then output to HDMI combining with the video, Optical and phone jack (L/R audio) simultaneously. This unit has a comprehensive OSD menu that allows user to select a variety of output resolutions and adjust for best picture quality.

## 2. APPLICATIONS

- Displaying video contents on to HDMI display
- Analog video signal enlargement on to HD screen
- Lecture room/Showroom/Meeting room/Classroom signal display

## 3. PACKAGE CONTENTS

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

## 4. SYSTEM REQUIREMENTS

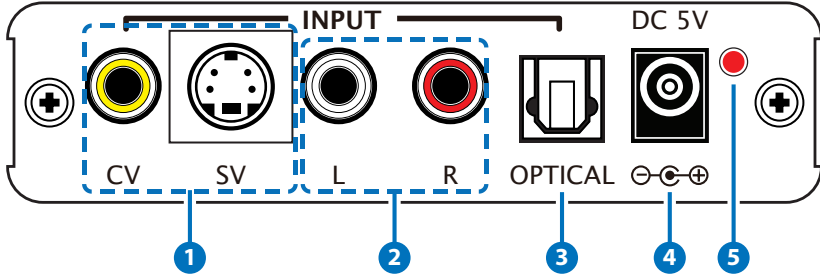
Input source equipment such as DVD/video tape player and output display with HDMI input jack.

## 5. FEATURES

- HDMI, HDCP and DVI compliant
- Supports full range of video resolution from NTSC, NTSC4, PAL, PAL-M, PAL-N and SELCAM
- Scales resolution to PC (VGA~WUXGA)/HD(480p~1080p)
- Automatically detect the factory setting of the connected display and output the corresponding resolution with refresh rate, when the NATIVE output is selected
- Supports 50/60Hz frame rate conversion
- Supports 3-D motion video adaptive, 3-D de-interlacing and 3:2/2:2 pull down detection and recovery
- Provides output picture adjustment on contrast, brightness, hue, saturation, sharpness, RGB (color tone) level and aspect ratio size
- Supports stereo analog/digital audio input and stereo analog/digital output by selecting among the audio input sources in the OSD menu and simultaneously output to HDMI, Optical and phone jack

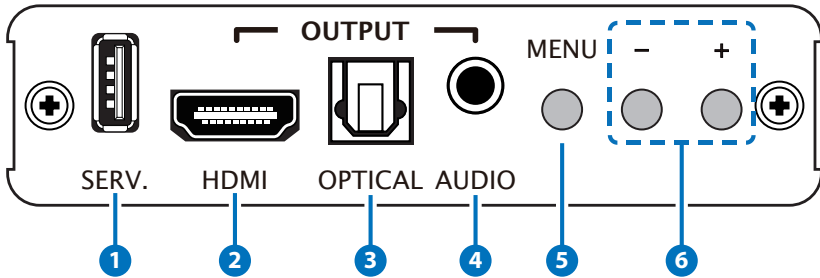
## 6. OPERATION CONTROLS AND FUNCTIONS

### 6.1 Front Panel



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

## 6.2 Rear Panel



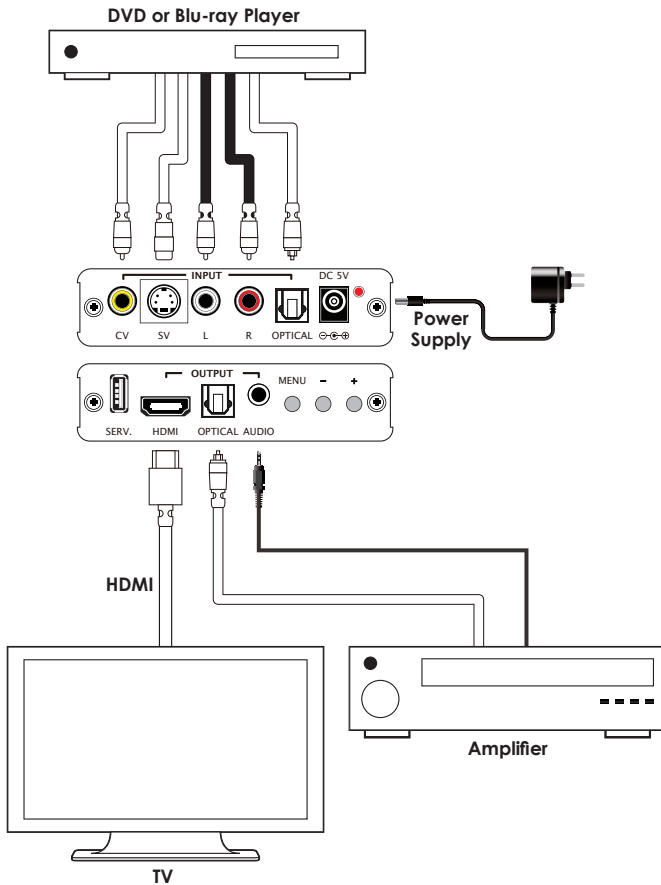
- 1 SERV.:** This port is reserved for firmware update only.
- 2 HDMI OUTPUT:** This slot is to connect with HDMI TV/Monitor for output image display.
- 3 OPTICAL OUTPUT:** Connect to an amplifier or active speaker with optical cable for PCM 2 channel audio output.
- 4 AUDIO OUTPUT:** Connect to an amplifier or active speaker with 3.5mm phone jack for audio output.
- 5 MENU:** Press this button to enter into the OSD menu and press it again to enter into the selection.
- 6 +/- button:** Press these buttons to
  - a. move up/down the OSD selection,
  - b. to adjust the value,
  - Under normal operation (outside of OSD selection)
    - c. Press "+" button to switch input between CV & SV,
    - d. Press "+" together with "MENU" to switch output resolution to XGA@60 (1024x768) instantly,
    - e. Press "-" together with "MENU" to switch output resolution to 720P@60 instantly
    - f. Press both "+" together with "-" to set the device back to factory reset setting.

### 6.3 OSD Menu

| Main Menu       | 1 <sup>st</sup> Layer | 2 <sup>nd</sup> Layer   |
|-----------------|-----------------------|---|
| PICTURE SETTING | CONTRAST              | 0~100 (50)  |
|                 | BRIGHTNESS            | 0~100 (50)  |
|                 | EXIT                  |   |
| FINETUEN        | HUE                   | 0~100 (50)  |
|                 | SATURATION            | 0~100 (50)  |
|                 | SHARPNESS             | 0~100 (50)  |
|                 | NR                    | OFF/LOW/MIDDLE/HIGH (OFF)   |
|                 | EXIT                  |   |
| COLOR SETTING   | RED                   | 0~100 (50)  |
|                 | GREEN                 | 0~100 (50)  |
|                 | BLUE                  | 0~100 (50)  |
|                 | EXIT                  |   |
| OUTPUT SETTING  | SIZE                  | FULL/OVERSCAN/UNDERSCAN/<br>LETTER BOX/ PANSCAN/ASPECT<br>(FULL)  |
|                 | RESOLUTION            | 640x480@60 / 800x600@60 /<br>1024x768@60 / 1280x1024@60 /<br>1400x1050@60 / 1600x1200@60<br>/ 1280x800@60 /1440x900@60 /<br>1680x1050@60 / 1920x1200@60RB<br>/ 1600x900@60 / 480P / 576P /<br>720P@50/ 720P@60 / 1080I@50 /<br>1080I@60 / 1080P@50 / 1080P@60 |
|                 | EXIT                  |   |
| AUDIO SETTING   | DELAY(Analog only)    | OFF/40mS/110mS/150Ms (OFF)  |
|                 | INPUT                 | ANALOG/OPTICAL (ANALOG)   |
|                 | SOUND                 | ON/MUTE (ON)  |
|                 | EXIT                  |   |

| Main Menu      | 1 <sup>st</sup> Layer | 2 <sup>nd</sup> Layer |
|----------------|-----------------------|-----------------------|
| OSD<br>SETTING | H-POSITION            | 0~100 (10)            |
|                | V-POSITION            | 0~100 (90)            |
|                | TIMER                 | 0~100 (50)            |
|                | BACKGROUND            | 0~100 (50)            |
|                | DISPLAY               | INFO/ON/OFF (INFO)    |
|                | EXIT                  |                       |

## 7. CONNECTION DIAGRAM





## 8. SPECIFICATIONS

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

### 8.1 Audio Specification Chart

| Input Level/<br>Freq | Output | Output Level | THD+N | Frequency Response | SNR | Crosstalk |
|----------------------|--------|--------------|-------|--------------------|-----|-----------|
|----------------------|--------|--------------|-------|--------------------|-----|-----------|

|                     |         |                     |        |         |       |        |
|---------------------|---------|---------------------|--------|---------|-------|--------|
| Optical<br>0dB/1kHz | Analog  | 400m~600m<br>(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   |
|------------|---|
| HDMI       | High-Definition Multimedia Interface                          |
| WUXGA (RB) | Widescreen Ultra Extended Graphics Array<br>(Reduce blanking) |







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