



## CP-302MN

Compact HDMI to HDMI Scaler Box



Operation Manual



HIGH-DEFINITION MULTIMEDIA INTERFACE

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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	28/03/16	Preliminary release



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## 1. INTRODUCTION

The compact HDMI to HDMI Scaler box is designed to scale HDMI sources, either HD or PC resolution, to an alternative HDMI resolution (HD or PC). Both of maximum support input and output resolution is up to 1920 x 1200. The HDMI, HDCP and DVI are compliant which is perfect solution for the integration of sources where resolution and/or resolution type requires conversion. The video contrast, brightness, hue and saturation are able to be adjusted manually.

Most of audio formats are supported and plus audio mute function. Maximum audio sampling rate is up to 192 kHz. In addition, this compact scaler box supports native EDID. A simple on-screen display (OSD) allows the user to configure the device with ease.

## 2. APPLICATIONS

- Convert and integrate HD resolution output to PC systems
- Convert and integrate PC resolution output to HD systems
- Downscale Full HD (1080p) resolution output for HD Ready displays

## 3. PACKAGE CONTENTS

- HDMI to HDMI Scaler
- 1×5 V/2.6 A DC Power Adaptor
- Operation Manual

## 4. SYSTEM REQUIREMENTS

Source equipment such as a PC/laptop or Blu-ray player and an HDTV or HD monitor with HDMI connection cables.

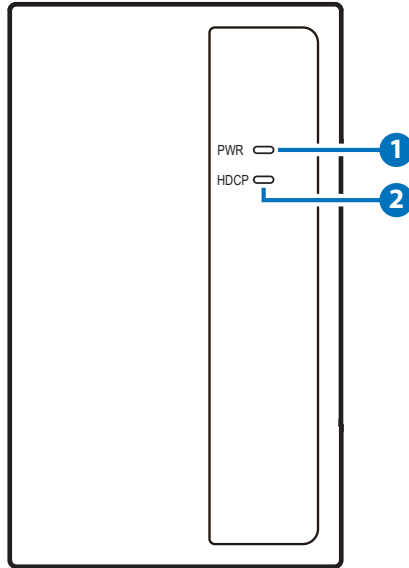
\*Cable distance might affected by material or design of cable.

## 5. FEATURES

- HDMI 1.3, HDCP 1.4 and DVI 1.0 compliant
- Upscale the video signal from an HDMI source up to 1920x1200@60RB
- Accepts a wide range of input resolutions of 480i to 1080p (HDTV)
- Manual adjustments for contrast, brightness, hue and saturation are achievable
- Free run output mode that provides stable timing once no video input is present
- Maximum pixel rate of output is up to 165 MHz
- Maximum pixel rate of input is up to 225 MHz
- Support color space of RGB, YCbCr 444@ 8,10 and 12 bit and RGB can be color space converted to YCbCr for input and output RGB@8bit
- Supports audio formats of LCPM 8CH, AC3, DTS, Dolby True HD and DTS-HD bypass
- Support audio mute and maximum audio sampling rate of 192kHz
- Supports both of Frame rate and Format conversion
- Supports CEC bypass
- Supports Native EDID copies from sink device such as TV
- Easily firmware update via USB in field

## 6. OPERATION CONTROLS AND FUNCTIONS

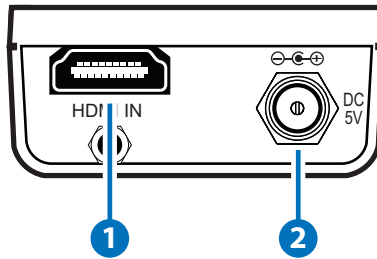
### 6.1 Top Panel



- 1 PWR:** This LED will illuminate when the scaler box connected to a power supply. When LED flashing, the scaler box goes to “standby” mode.
- 2 HDCP:** This LED will illuminate when detected HDCP source.

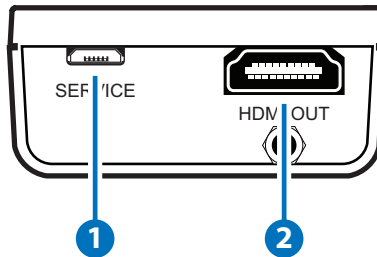


## 6.2 Right Panels



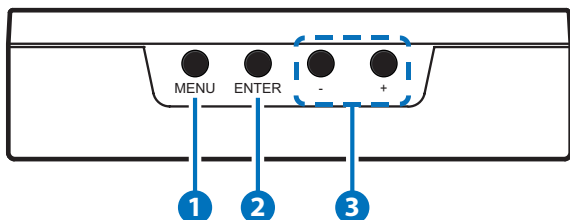
- 1 **HDMI IN:** Connect to an HDMI source such as a PC/Laptop or DVD player with an HDMI cable.
- 2 **DC 5V:** Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet.

## 6.3 Left Panels



- 1 **SERVICE:** The slot is for manufacturer use only.
- 2 **HDMI OUT:** Connect to an HDMI equipped TV/monitor for display of the HDMI source signal.

## 6.4 Side Panel



- 1 MENU:** Press this key to enter menu, press again to return.
- 2 ENTER:** Press this key to confirm menu selection. Press "ENTER" key then plug the power in for factory reset.
- 3 +/-:** When into menu selection, press "+" or "-" to navigate up and down, when no in OSD menu selection, press "+" to still the video or audio. Hold "-" then plug the power in, then the resolution will set up at 720p59.

## 6.5 OSD Menu

Main Menu	Sub Menu	Description	Default
Picture Adjust	Contrast	To set picture contrast from 0~100.	64
	Brightness	To set brightness from 0~100.	64
	Saturation	To set saturation from 0~100.	64
	Hue	To set Hue from 0~100.	64
	Sharpness	To set picture sharpness from 0~100.	16
	Picture Reset	Reset picture adjustment status.	N/A

Main Menu	Sub Menu	Description	Default
Aspect	Full	Set picture aspect ratio.	Full
	16:9 TV		
	4:3 TV		
	16:10 TV		
	Keep Ratio		
Overscan	Enable	To enable or disable over scan(Yes/No).	No
	H Size%	Horizontal percentages adjust(0~50%).	0%
	V Size%	Vertical percentages adjust(0~50%).	0%
Input EDID	Pref. Video	Set input EDID to first detail timing(800x600@60, 1024x768@60, 1280x720@60, 1280x800@60, 1366x768@60, 1920x1080@60, 1920x1200@60RB, Follow TV's 1st Detail Timing*).	720p

Main Menu	Sub Menu	Description	Default
	Pref. Audio	Set Input EDID audio data block. ( LPCM 2CH, LPCM 6CH, LPCM 8CH, Bitstream, HD, Follow TV**)	Follow TV
Output Resolution	480p, 576p, 720p50, 720p59, 720p60, 1080p23, 1080p24, 1080p25, 1080p29, 1080p30, 1080i50, 1080p50, 1080i59, 1080i60, 1080p59, 1080p60, 640x480, 800x600, 1024x768, 1280x800, 1280x1024, 1360x768, 1366x768, 1400x1050, 1440x900, 1600x900, 1600x1200, 1680x1050, 1920x1200, Native***	Set output resolution.	720p59

Main Menu	Sub Menu	Description	Default
HDCP	Input	Set input HDCP status. Set to On for HDCP supported; Off for HDCP non-supported, Auto for follow TV setting.	Auto
	Output	Set output HDCP status. Set to Follow Source for follow source setting; Protected for set HDCP out to On, Auto for remain last setting.	Auto
OSD Settings	H Position****	Set H position from 0~100.	10
	V Position****	Set V position from 0~100.	5
	Transparency	Set OSD transparent from 0~15.	12
	Menu Timeout	Set Menu timeout from 5~50 or set to Off for no timeout.	20
	Info. Timeout	Set Info timeout from 5~50 or set to Off for no timeout.	10
	Info. Display	Set Info display On/ Off	On

Main Menu	Sub Menu	Description	Default
	Background	Set background color Grey, Cyan, Magenta or Yellow.	Grey
Others	Standby(Min.)	Set stand by time to Off, 3sec, 5sec, 10sec, 20sec, 30sec, 1min, 2min, 3min, 4min, 5min, 10min, 15min, 20min, 25min, 30min	Off
	Mirror-V	Set mirror to On/Off	Off
	Still Options*****	Set still to Video, Video+Audio, Audio	Video+Audio
	Still Video*****	When video still, set to Still Video or Black Video	Still Video
Factory Reset	Yes , No	Perform device factory reset.	No
Information	Source Info.	To show Source information	N/A
	Sink Info	To show Sink information	N/A
	Firmware Version	To show device's correct firmware version.	N/A

\* If TV native is not on the above preset resolution, then will set to 1280x720@60.

\*\* If TV is DVI, then input EDID will be DVI.

\*\*\* Device will read TV's EDID automatically, and set to native timing, if

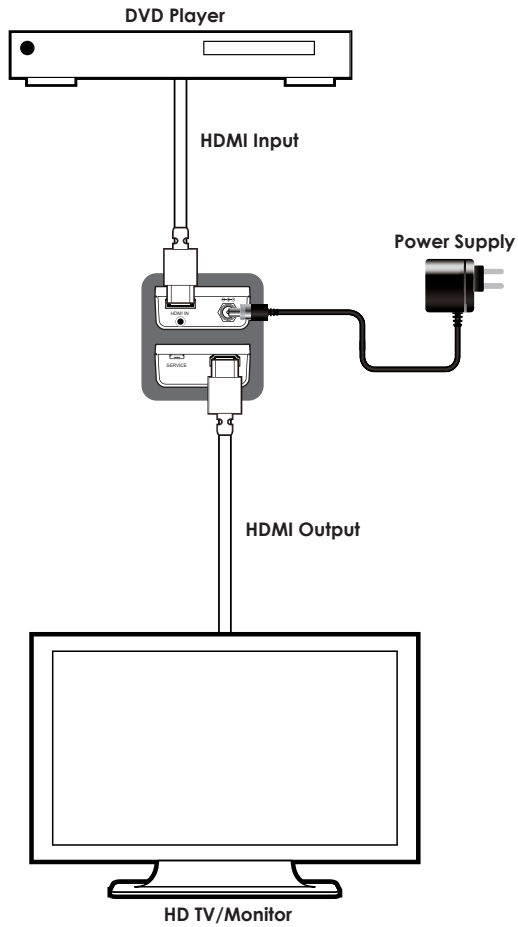
native timing cannot be supported, then will set to 720p59.

\*\*\*\* When H POSITION set to 95 or ab more, INFO. will be at right of MENU.

When V POSITION set to 95 or more, INFO. will be at bottom of MENU.

\*\*\*\*\* When set to still, choose the option of still. Video= still the video or to black out video, audio remains normal, Aud0= video remains rolling, but audio mute, Video + Audio= to still or black out the video and audio mute. When switch output timing, the still status will automatically disable.

## 7. CONNECTION DIAGRAM





## 8. SPECIFICATIONS

<b>Maximum Pixel Rate</b>	165 MHz (output) / 225MHz (input)
<b>Input Ports</b>	1×HDMI 1×Mini USB(Service only)
<b>Output Ports</b>	1×HDMI
<b>LED on top plates</b>	1 x Power LED 1 x LED for HDCP status
<b>Audio Sampling Rate</b>	44.1, 48, 96,192 kHz
<b>HDMI Cable In</b>	10 m/1080p@12-bit
<b>HDMI Cable Out</b>	10 m/1080p@8-bit
<b>ESD Protection</b>	Human body model: ±8 kV (Air-gap discharge) ±6 kV (Contact discharge)
<b>Power Supply</b>	5V / 2.6A
<b>Dimensions</b>	98(L)x51(W)x22.5(H)mm jack included 85(L)x50(W)x22.5(H)mm jack exclude
<b>Weight</b>	75 g
<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 (non-condensing)
<b>Power Consumption</b>	2.42 W

## 9. TIMING

DVI AND HDMI SUPPORTED RESOLUTIONS	INPUT	OUTPUT
480i@59	✓	
480p@59	✓	✓
480p@60	✓	
576i@50	✓	
576p@50	✓	✓
720p@24/25/30/50/60	✓	
720p@50/59/60	✓	✓
1080i@50/60	✓	✓
1080i@59	✓	✓
1080p@24/25/30/50/60	✓	✓
1080p@23/29/59	✓	✓
640x480@60	✓	✓
640x480@60/72/75/85	✓	
720x400@70	✓	
800x600@60	✓	✓
800x600@56/60/72/75/85	✓	
1024x768@60	✓	✓
1024x768@60/70/75/85	✓	
1152x864@70/75/85	✓	
1280x720@60cvt	✓	
1280x768@60RB,60,75	✓	
1280x800@60RB/60/75	✓	
1280x800@60	✓	✓
1280x960@60/85	✓	
1280x1024@60	✓	✓
1280x1024@60/60cvt/75/85	✓	
1360x768@60	✓	✓

DVI AND HDMI SUPPORTED RESOLUTIONS	INPUT	OUTPUT
1366x768@60	✓	✓
1366x768@60RB/60	✓	
1400x1050@60RB/60	✓	
1400x1050@60	✓	✓
1440x900@60RB/60/75	✓	
1440x900@60	✓	✓
1600x900@60RB	✓	✓
1600x1200@60	✓	✓
1680x1050@60RB	✓	
1680x1050@60	✓	✓
1920x1200@60RB	✓	✓
NATIVE		✓



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