CP-255I

Analogue to HDMI Scaler / Converter

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	SUMMARY OF CHANGE
v1.01	21/10/13	First release

CONTENTS

1. INTRODUCTION

Cypress's CP-255I Scaler Box is designed to upscale digital/analog video signals from Composite, S-Video, PC, Component (HD) and HDMI input sources, to digital HDMI output of a wide range of HDTV and PC resolutions including 1080p and WUXGA (1920 x 1200).

Aswell as upscaling video, the scaler box also converts digital/analog audio signals to digital format, which can then be output either through HDMI combined with the video signal or separately via the discrete Coaxial S/PDIF output.

Cypress CP-255I has a comprehensive on-screen display (OSD) menu that allows the user to select a variety of output resolutions and adjust them for the best picture quality.

2. APPLICATIONS

- Upscale the video from standard definition sources or a PC/Laptop to a HDMI equipped display

3. PACKAGE CONTENTS

- Cypress CP-255I Scaler Box
- D-Sub (15pin) Cable
- 3 × RCA Cable (Composite Video and Stereo Audio)
- Remote Controller
- 5V DC Power Supply Adaptor
- Operation Manual

4. SYSTEM REQUIREMENTS

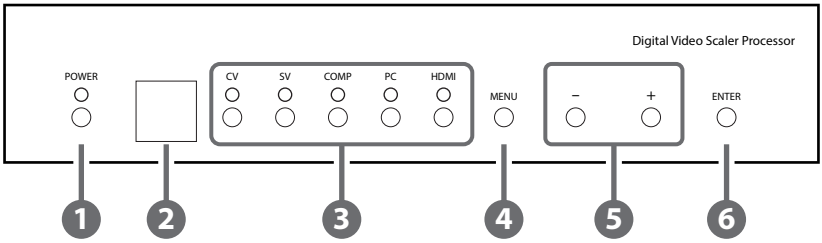
- INPUT: Composite, Component, S-Video or HDMI, or PC VGA video/ audio source.
- OUTPUT: HDMI equipped TV or monitor, optional Coaxial (S/PDIF) equipped receiver/amplifier.

5. FEATURES

- HDMI, HDCP 1.1 and DVI 1.0 compliant.
- Scales any PC (VGA~WUXGA) or HD (480i~1080p) resolutions to from another PC/HD resolutions.
- Automatically detects the correct settings of the connected display and outputs the corresponding resolution and refresh rate, when the NATIVE output is selected.
- Supports 50/60 Hz frame rate conversion.
- Supports 3D motion video adaptive, 3D 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 high resolution input/output:
  PC: VGA, SVGA, XGA, SXGA, UXGA, WXGA, WSXGA, WUXGA
  HDTV: 480i, 576i, 480p, 576p, 720p, 1080i and 1080p
- Supports digital and analog audio input and digital output.

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



1 POWER Button and LED Indicator

Press the button power the unit on or off. When the power is turned on, the LED will illuminate.

2 IR remote control sensor

3 Input Selection Buttons and LED Indicators

Press the required button (CV/SV/COMP/PC/HDMI) to select the desired input source. The LED will illuminate to indicate the corresponding input is selected.

4 MENU Button

Press the MENU button to bring up OSD operation menu (see section *4.3 OSD Operation* for reference.)

5 +/– Buttons

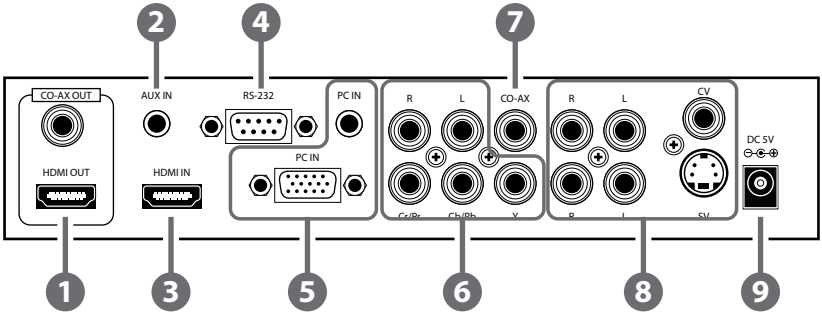
A. On the first level of OSD menu, use + and – buttons to move up/down the menu to highlight the item for selection.

B. Once the desired option is selected, use + and – buttons to toggle between setting values.

6 ENTER Button

In the OSD menu, use the ENTER button to confirm the selection.

6.2 Rear Panel



1 HDMI OUT and CO-AX OUT

Connect the HDMI OUT port to the HDMI input port of your display such as HDTV or monitor. Connect the CO-AX OUT port to the Coaxial (S/PDIF) input port of your amplifier for separate digital audio output.

2 AUX IN Input

When the video signal input through the HDMI IN port is from a DVI source such as a PC, use the AUX IN port to input the audio signal.

3 HDMI IN Input

Connect the HDMI IN port to the HDMI output port of your source equipment such as a DVD player or Set-top box. You can also use a HDMI to DVI cable to connect to the DVI output of your PC.

4 RS-232

The port is for firmware update and RS-232 control (refer to section 7.2 for RS-232 commands).

5 PC IN for Video and Audio Input

Connect the PC IN D-Sub (15-pin) port to the D-Sub output port of your PC and connect the PC IN 3.5mm phone jack to the audio output port of your PC.

6 Y Pb/Cb Pr/Cr Video and L/R Audio Input

Connect the Y Pb/Cb Pr/Cr (Component) 3 RCA input ports to the Component output port of your video source equipment such as a DVD player or Set-top box and connect the L/R audio input ports to the audio output port of your audio source equipment.

7 CO-AX Input

The CO-AX port provides the digital audio input support, and can be assigned to any of the video inputs (CV/SV/COMP/PC/HDMI). Once connected, it can be assigned in the OSD Menu under Audio Source Selection by selecting between Coaxial (S/PDIF) or other audio source (see section *4.3 OSD Operation* for reference).

8 Composite Video / S-Video and L/R Audio Input

Connect the Composite or S-Video input port to the Composite or S-Video output port of your video source equipment such as DVD player or Set-top box and connect the L/R audio input ports to the audio output port of your audio source equipment.

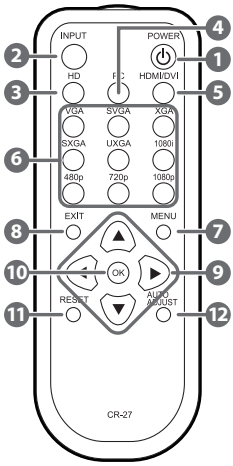
9 Power

Plug the 5V DC power supply into the unit and connect the adaptor to AC wall outlet.

6.3 OSD Operation

1ST MENU LEVEL	2ND MENU LEVEL	ADJUSTMENT
VIDEO	- PICTURE MODE	USER / STANDARD / VIVID / MOVIE
	- CONTRAST	0~100 of Contrast Level
	- BRIGHTNESS	0~100 of Brightness Level
	- HUE	0~100 of Hue Level
	- SATURATION	0~100 of Saturation Level
	- SHARPNESS	0~100 of Sharpness Level
	- SCALE	OVERSCAN/UNDERSCAN/LETTERBOX/ PANSCAN/FULL
	- NR	LOW/MIDDLE/HIGH/OFF
	- EXIT	Back to the 1st Menu Level
COLOR	- COLOR TONE	USER/NORMAL/WARM/COOL
	- RED	0~100 of Red Color Level
	- GREEN	0~100 of Green Color Level
	- BLUE	0~100 of Blue Color Level
	- EXIT	Back to the 1st Menu Level
OUTPUT	-	NATIVE, VGA, SVGA, XGA, SXGA, UXGA, 480i, 480p, 720p@60Hz, 1080i@30Hz, 1080p@60Hz, 576i, 576p, 720p@50Hz, 1080i@25Hz, 1080p@50Hz, WXGA, WSXGA, WUXGA
OSD	- HPOSITION	0~100 of OSD Horizontal Position
	- VPOSITION	0~100 of OSD Vertical Position
	- TIMER	0~100 of OSD Show Time (sec)
	- TRANSP	0 ~ 100 of OSD Transparent Level
	- EXIT	Back to the 1st Menu Level
AUDIO	- SOURCE	HDMI / L/R / COAXIAL
	- DELAY	OFF / 40ms / 110ms / 150ms
	- SOUND	ON/MUTE
	- EXIT	Back to the 1st Menu Level
INFORMATION	-	SOURCE (Input interface) INPUT (Input resolution) OUTPUT (Output resolution) VERSION (Firmware version)
EXIT	-	Close the OSD Menu

6.4. Remote Control



1. POWER:

Press the button once to power on the unit. Press again to enter standby mode.

2. INPUT:

Press the button repeatedly to toggle through various input sources.

3. HD INPUT:

Press the button to directly select component input.

4. PC INPUT:

Press the button to directly select PC input.

5. HDMI/DVI INPUT:

Press the button to directly select DVI (or HDMI) input.

6. OUTPUT RESOLUTION:

Press appropriate button to directly select the preferred output resolution. Other output resolutions that are not covered by these buttons can be selected from the OSD Menu.

7. MENU:

Press the button to bring up the OSD main menu page.

8. EXIT:

Press the button to exit from a sub menu or main menu.

9. UP/DOWN/LEFT/RIGHT:

Press the Up/Down button to move the highlight bar to your desired parameter during the OSD operation. Press the Left/Right button to increase/decrease the value of a selected parameter.

10. OK (ENTER):

Press the button to confirm your selection.

11. RESET:

Press the button to reset the unit's firmware setting to the factory default value.

12. AUTO ADJUST:

Press the button to optimize the positioning of the picture (picture centering) on the screen.

7. RS-232 REMOTE CONTROL PROTOCOL

7.1 Pins definition of modem cable

The connection between the unit and remote controller with RS-232 modem cable*.

UNIT			REMOTE CONTROLLER	
PIN	**DEFINITION**		**PIN**	**DEFINITION**
1	NC		1	NC
2	TXD		2	RXD
3	RXD		3	TXD
4	NC	➡	4	NC
5	GND	⬅	5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

**RS-232 transmission format:*

Baud Rate: 19200 bps

Data Bit: 8-bits

Parity: None

Stop Bit: 1-bit

7.2 Set Command:

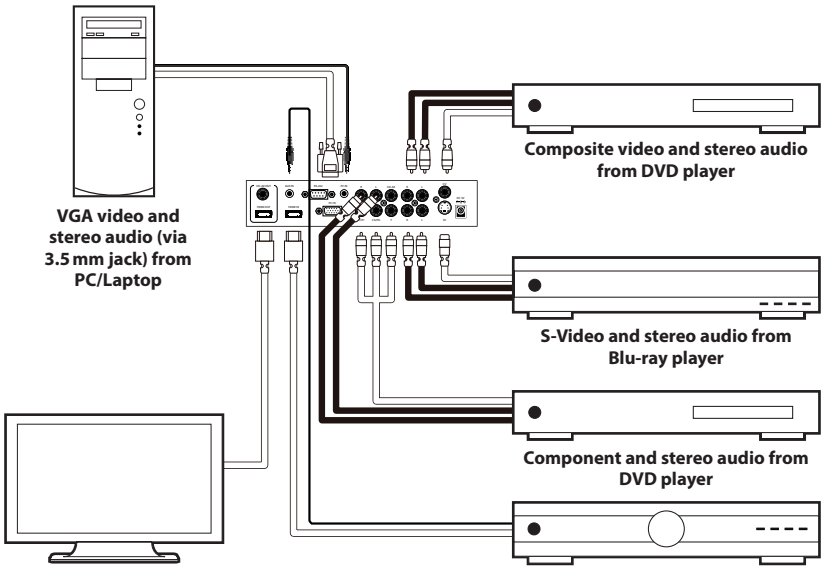
COMMAND CODE	RESPONSE	DESCRIPTION
S POWER 0	> POWER OFF	POWER OFF
S POWER 1	> POWER ON	POWER ON
S SOURCE 0	> SOURCE CV	CV INPUT
S SOURCE 1	> SOURCE SV	SV INPUT
S SOURCE 2	> SOURCE COMP	COMP INPUT
S SOURCE 3	> SOURCE PC	PC INPUT
S SOURCE 4	> SOURCE HDMI	HDMI INPUT
S OUTPUT 0	> OUTPUT NATIVE	NATIVE RESOLUTION OUTPUT
S OUTPUT 1	> OUTPUT VGA	VGA RESOLUTION OUTPUT
S OUTPUT 2	> OUTPUT SVGA	SVGA RESOLUTION OUTPUT
S OUTPUT 3	> OUTPUT XGA	XGA RESOLUTION OUTPUT
S OUTPUT 4	> OUTPUT SXGA	SXGA RESOLUTION OUTPUT
S OUTPUT 5	> OUTPUT UXGA	UXGA RESOLUTION OUTPUT
S OUTPUT 6	> OUTPUT 480I	480I RESOLUTION OUTPUT
S OUTPUT 7	> OUTPUT 480P	480P RESOLUTION OUTPUT
S OUTPUT 8	> OUTPUT 720P	720P 60HZ RESOLUTION OUTPUT
S OUTPUT 9	> OUTPUT 1080I	1080I 60HZ RESOLUTION OUTPUT
S OUTPUT 10	> OUTPUT 1080P	1080P 60HZ RESOLUTION OUTPUT
S OUTPUT 11	> OUTPUT 576I	576I 60HZ RESOLUTION OUTPUT
S OUTPUT 12	> OUTPUT 576P	576P 60HZ RESOLUTION OUTPUT
S OUTPUT 13	> OUTPUT 720P	720P 50HZ RESOLUTION OUTPUT
S OUTPUT 14	> OUTPUT 1080I50	1080I 50HZ RESOLUTION OUTPUT
S OUTPUT 15	> OUTPUT 1080P50	1080P 50HZ RESOLUTION OUTPUT
S OUTPUT 16	> OUTPUT WXGA	WXGA RESOLUTION OUTPUT
S OUTPUT 17	> OUTPUT WSXGA	WSXGA RESOLUTION OUTPUT
S OUTPUT 18	> OUTPUT WUXGA	WUXGA RESOLUTION OUTPUT
S SIZE 0	> SIZE FULL	SCALER FULL OUTPUT
S SIZE 1	> SIZE OVERSCAN	SCALER OVERSCAN OUTPUT
S SIZE 2	> SIZE UNDERSCAN	SCALER UNDERSCAN OUTPUT
S SIZE 3	> SIZE LETTERBOX	SCALER LETTERBOX OUTPUT
S SIZE 4	> SIZE PANSCAN	SCALER PANSCAN OUTPUT
S PICTUREMODE 0~3	> PICTUREMODE STANDARD~USER	0:STANDARD; 1:MOVIE; 2:VIVID;
		3:USER, PICTURE MODE OUTPUT
S CONTRAST 0~100	> CONTRAST 0~100	CONTRAST 0~100 ADJUST [DEFAULT:50]
S BRIGHTNESS 0~100	> BRIGHTNESS 0~100	BRIGHTNESS 0~100 ADJUST [DEFAULT:45]
S HUE 0~100	> HUE 0~100	HUE 0~100 ADJUST [DEFAULT:50]
S SATURATION 0~100	> SATURATION 0~100	SATURATION 0~100 ADJUST [DEFAULT:60]

COMMAND CODE	RESPONSE	DESCRIPTION
S SHARPNESS 0~100	> SHARPNESS 0~100	SHARPNESS 0~100 ADJUST [DEFAULT:32]
S NR 0~3	> NR OFF~HIGH	0:OFF; 1:LOW; 2:MIDDLE; 3:HIGH, NR CONTROL
S PCHPOSITION 0~100	> PCHPOSITION 0~100	H POSITION 0~100 ADJUST
S PCVPOSITION 0~100	> PCVPOSITION 0~100	V POSITION 0~100 ADJUST
S PCCLOCK 0~100	> PCCLOCK 0~100	PC MODE COLCK 0~100 ADJUST
S PCPHASE 0~63	> PCPHASE 0~63	PC MODE PHASE 0~63 ADJUST
S COLORTEMP 0~3	> COLORTEMP NORMAL~USER	0:NORMAL; 1:WARM; 2:COOL;
		3:USER, COLOR TEMP SETTING
S RED 0~100	> RED 0~100	COLOR TEMP "RED" ADJUST [DEFAULT:47]
S GREEN 0~100	> GREEN 0~100	COLOR TEMP "GREEN" ADJUST [DEFAULT:47]
S BLUE 0~100	> BLUE 0~100	COLOR TEMP "BLUE" ADJUST [DEFAULT:47]
S OSDHPOSITION 0~100	> OSDHPOSITION 0~100	OSD H POSITION 0~100 ADJUST [DEFAULT:50]
S OSDVPOSITION 0~100	> OSDVPOSITION 0~100	OSD V POSITION 0~100 ADJUST [DEFAULT:50]
S OSDTIMEOUT 0~100	> OSDTIMEOUT 0~100	OSD TIMEOUT 0~100 SETTING [DEFAULT:10]
S OSDBACKGROUND 0~8	> OSDBACKGROUND 0~8	OSD OSDBACKGROUND 0~8 ADJUST [DEFAULT:5]
S AUDIOMUTE 0~1	> AUDIOMUTE OFF~ON	0:OFF; 1:ON, AUDIO MUTE CONTROL
S AUDIODELAY 0~3	> AUDIODELAY OFF~150MS	0:OFF; 1:40MS; 2:110MS; 3:150MS,
		AUDIO DELAY SETTING
S RESET 1	> RESET ON	RESET ACTION

7.3 Status Command

COMMAND CODE	RESPONSE	DESCRIPTION
R POWER	> POWER ON	SHOW POWER STATUS
R SOURCE	> SOURCE CV~HDMI	SHOW SOURCE STATUS
R OUTPUT	> OUTPUT NATIVE~WUXGA	SHOW OUTPUT STATUS
R SIZE	> SIZE FULL~PANSCAN	SHOW SIZE STATUS
R PICTUREMODE	> PICTUREMODE STANDARD~USER	SHOW PICTURE MODE STATUS
R CONTRAST	> CONTRAST 0~100	SHOW CONTRAST STATUS
R BRIGHTNESS	> BRIGHTNESS 0~100	SHOW BRIGHTNESS STATUS
R HUE	> HUE 0~100	SHOW HUE STATUS
R SATURATION	> SATURATION 0~100	SHOW SATURATION STATUS
R SHARPNESS	> SHARPNESS 0~100	SHOW SHARPNESS STATUS
R NR	> NR OFF~HIGH	SHOW NR STATUS
R PCHPOSITION	> PCHPOSITION 0~100	SHOW PC H-POSITION STATUS
R PCVPOSITION	> PCVPOSITION 0~100	SHOW PC V-POSITION STATUS
R PCCLOCK	> PCCLOCK 0~100	SHOW PC COLOK STATUS
R PCPHASE	> PCPHASE 0~63	SHOW PC PHASE STATUS
R COLORTEMP	> COLORTEMP NORMAL~USER	SHOW COLOR TEMP STATUS
R RED	> RED 0~100	SHOW COLOR TEMP RED STATUS
R GREEN	> GREEN 0~100	SHOW COLOR TEMP GREEN STATUS
R BLUE	> BLUE 0~100	SHOW COLOR TEMP BLUE STATUS
R OSDHPOSITION	> OSDHPOSITION 0~100	SHOW OSD H-POSITION STATUS
R OSDVPOSITION	> OSDVPOSITION 0~100	SHOW OSD V-POSITION STATUS
R OSDTIMEOUT	> OSDTIMEOUT 0~100	SHOW OSD TIMEOUT STATUS
R OSDBACKGROUND	> OSDBACKGROUND 0~8	SHOW OSD BACKGROUND STATUS
R AUDIOMUTE	> AUDIOMUTE OFF~ON	SHOW AUDIO MUTE STATUS
R AUDIODELAY	> AUDIODELAY OFF~150MS	SHOW AUDIO DELAY STATUS

8. CONNECTION DIAGRAM



9. SPECIFICATIONS

9.1. General Specification

Frequency bandwidth	1.65Gbps (single link)
Input Ports	1 × Composite/1 × Stereo Audio (L/R) 1 × S-Video/1 × Stereo Audio (L/R) 1 × Component (3 RCA)/1 × Stereo Audio (L/R)` 1 × PC D-Sub (15-pin)/1 × Stereo Audio (3.5mm Phone Jack) 1 × HDMI/1 × Stereo Audio (3.5mm Phone Jack for DVI) 1 × Stereo Audio (3.5mm Phone Jack) Coaxial (S/PDIF)
Output Ports:	1 × HDMI 1 × Coaxial (S/PDIF)
Power Supply	5V/3A DC (US/EU standards, CE/FCC/UL certified)
Dimensions	215 mm (W) × 154mm(D) × 47mm(H)
Chassis Material	Plastic
Colour	Black
Weight	1 Kg

9.2. Supported Resolutions

INPUT				OUTPUT	
RESOLUTION	Component	D-SUB	DVI/HDMI	RESOLUTION	DVI/HDMI
480i/576i	●		*	480i/576i	*
480p/576p	●	●	●	480p/576p	●
720p@50/60Hz	●	●	●	720p@50/60Hz	●
1080i@25/30Hz	●		●	1080i@25/30Hz	●
1080p@50/60Hz	●	●	●	1080p@50/60Hz	●
VGA@60/72/75/85Hz		●	●	VGA@60/72/75/85Hz	●
SVGA@56/60/72/75/85Hz		●	●	SVGA@56/60/72/75/85Hz	●
XGA@60/70/75/85Hz		●	●	XGA@60/70/75/85Hz	●
SXGA@60/72/75//85Hz		●	●	SXGA@60/72/75//85Hz	●
UXGA@60		●	●	UXGA@60	●
WXGA@60Hz (1280×800)		●	●	WXGA@60Hz (1280×800)	●
WSXGA@60Hz (1650×1050)		●	●	WSXGA@60Hz (1650×1050)	●
WXGA@60Hz (1920×1200)		●	●	WXGA@60Hz (1920×1200)	●

*480i@30×2/576i@30×2

*480i@30×2/576i@30×2

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