



# CP-255ID

CV, SV, VGA and DVI to DVI 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
v1.00	17/04/2013	First release

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## 1. INTRODUCTION

The CP-255ID is a Digital Video Scaler designed to accept Composite Video, S-Video, PC, and DVI input signals. These inputs can be switched and scaled and are outputted via DVI port.

External audio input signals can be switched and sent to the L/R output port correspondingly with the video source selection. The control can be done through on-panel buttons, IR remote, or RS-232, and there is OSD (On Screen Menu) providing selection and system information. The device provides full range of output resolutions, up to 1080p for HDTV timing, and WUXGA (RB) for PC timing. The control can be done through on-panel buttons, IR remote, or RS-232, and there is OSD (On Screen Menu) providing selection and system information.

## 2. APPLICATIONS

- /// Analogue to Digital video signal conversion
- /// Analogue and Digital Source Integration
- /// Upscaling Standard definition video for High-Definition displays

## 3. PACKAGE CONTENTS

- /// Digital Video Scaler
- /// Remote Control (CR-118)
- /// Power Adaptor
- /// Operation Manual

## 4. SYSTEM REQUIREMENTS

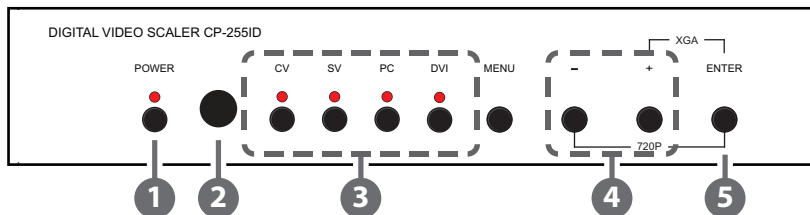
Source equipment such as PC/Laptop or DVD Player with HDMI to DVI adaptor, analogue sources via standard cabling and DVI display with active speakers and connection cables.

## 5. FEATURES

- /// Supports the conversion of multiple video and audio formats to DVI
- /// Supports synchronized output for input video and output audio signals
- /// Supports 3D de-interlacing, noise reduction and Comb filter
- /// Supports frame rate conversion
- /// Supports control via RS-232, IR Remote handset and front panel controls

## 6. OPERATION CONTROLS AND FUNCTIONS

### 6.1 Front Panel



- 1 POWER & LED:** Press this button to switch the device ON or to put the device into standby mode. When the device is connected to an active power supply the LED will illuminate and the device will switch ON automatically.
- 2 IR (IR window):** Receives only the IR signal from the supplied remote control.
- 3 INPUT button and LEDs (CV/SV/PC/DVI):**  
 Press to directly select the required input. An LED will illuminate to indicate the currently selected source.
- 4 MENU:** Press this button to enter into the on-screen menu (OSD).
- 5 -/+ (Minus/Plus):** Use these buttons to navigate down and up in the on-screen menu.
- 6 ENTER:** Press this button to confirm the selection.

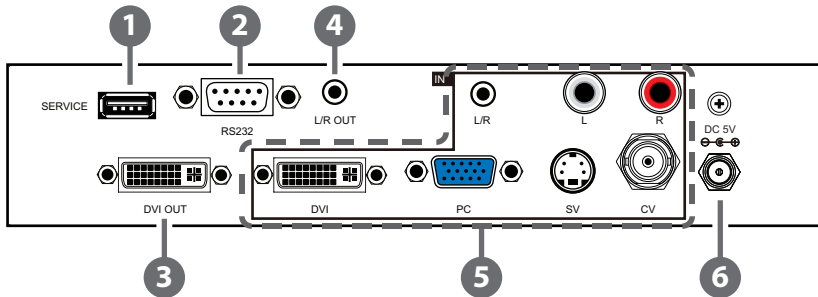
*Note:*

*Pressing '-' (MINUS) and ENTER simultaneously will immediately switch the output resolution of the device to 720p60.*

*Pressing '+' (PLUS) and ENTER simultaneously will immediately switch the output resolution of the device to XGA.*



## 6.2 Rear Panel



- 1 **SERVICE:** Reserved for manufacturer use only.
- 2 **RS-232:** Connect to a PC or RS-232 control system to control the device with RS232 commands (see Sections 6.5 and 6.6 for details).

3 **DVI OUTPUT:**

Connect to a DVI display (TV/monitor) for PC signal output or to an HDMI display with an HDMI to DVI adaptor.

- 4 **L/R OUT (3.5 mm mini-jack output):** Connect to an amplifier or active speaker for audio output in analogue stereo.

5 **IN (Inputs):**

**DVI:** Connect to DVI source such as PC or Laptop or to a HDMI source with a HDMI to DVI adaptor.

**L/R:** Connect to a source device's analogue (L/R) output with a 3.5 mm mini-jack cable.

**PC:** Connect to a PC or Laptop with a D-Sub 15pin cable.

**CV + L/R:** Connect to a source device such as video/DVD player for both video and audio.

**SV + L/R:** Connect to a source device such as video/DVD player for both S-Video and audio.

- 6 **DC 5V:** Connect the 5V DC power supply to the device and plug the adaptor into an AC wall outlet.

## 6.3 Remote Control

### 1 POWER:

Press this button to switch the device ON or to put the device into standby mode

### 2 CV/SV/PC/DVI:

Press to directly select the required input.

### 3 EXIT:

Press this button to exit the menu or the current selection in the on-screen menu.

### 4 MENU:

Press this button to enter the on-screen menu.

### 5 RESET:

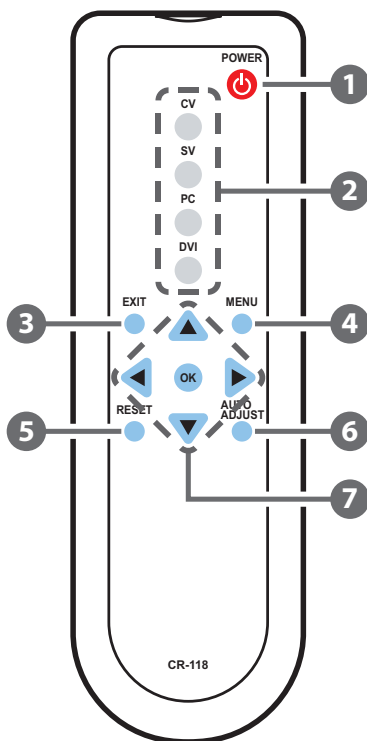
Press this button to return the device to the factory default settings.

### 6 AUTO ADJUST:

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

### 7 OK & ▲▼◀▶:

Press OK to confirm the selection or use the directional buttons to navigate the on-screen menus.



## 6.4 RS-232 Protocols

CP-255ID			Remote Control	
PIN	Assignment		PIN	Assignment
1	NC		1	NC
2	Tx		2	Rx
3	Rx	▶	3	Tx
4	NC	◀	4	NC
5	GND		5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 9600bps

Data bit: 8 bits

Parity: None

Flow Control: None

Stop Bit: 1

## 6.5 RS-232 Commands

Command	Description	Contents
S SOURCE 1~4	Select input source	1=DVI 2=VIDEO 3=S-VIDEO 4=PC
R SOURCE	Inquire input source	Reports the numerical equivalent for SOURCE setting (as above)
S OUTPUT 0~25	Select output timing	0=Native                    1=640×480 2=800×600 3=1024×768 4=1280×768                5=1360×768 6=1280×720                7=1280×800 8=1280×1024               9=1440×900 10=1400×1050              11=1680×1050 12=1600×1200              13=1920×1080 16=1920×1200              17=480p 18=720p 60                19=1080p 60 20=1080i 60                22=576p 23=720p 50                24=1080p 50 25=1080i 50(25)
R OUTPUT	Inquire output timing	Reports the numerical equivalent for OUTPUT setting (as above)
S SIZE 0~6	Select output size	0=OVERSCAN                1=FULL 2=BEST FIT                 3=PAN SCAN 4=LETTER BOX              5=UNDER 2 6=UNDER 1
R SIZE	Inquire output size	Reports the numerical equivalent for SIZE setting (as above)
S PCAUTO I	PC Mode / Auto Setup	
S CONTRAST 0~60	Contrast Setting	
R CONTRAST	Inquire contrast setting	
S BRIGHTNESS 0~60	Brightness setting	
R BRIGHTNESS	Inquire brightness setting	
S HUE 0~60	Hue setting	

Command	Description	Contents
R HUE	Inquire hue setting	
S SATURATION 0~60	Saturation setting	
R SATURATION	Inquire saturation setting	
S SHARPNESS 0~30	Sharpness setting	
R SHARPNESS	Inquire sharpness setting	
S NR 0~3	Noise reduction setting	0=OFF / 1=LOW / 2=MIDDLE / 3=HIGH
R NR	Inquire noise reduction setting	Reports the numerical equivalent for the NR setting (as above)
S AUDIODELAY 0~3	Audio delay setting	0=OFF / 1=40ms / 2=110ms(2) / 3=50ms
R AUDIODELAY	Inquire audio delay setting	Reports the numeric equivalent for AUDIODELAY setting (as above)
S AUDIOMUTE 0/1	Audio mute setting	0=ON / 1=MUTE
R AUDIOMUTE	Inquire audio mute setting	
S KEY LOCK 0/1	Key lock setting	0=ENABLE / 1=DISABLE
R KEY LOCK	Inquire key lock setting	Reports the numeric equivalent for KEY LOCK setting (as above)
FW	Firmware checking	
S RESET 1	Pre-reset	
S POWER 0/1	Power On/Off	0=OFF / 1=ON
R POWER	Power Status	Reports the numeric equivalent for POWER setting (as above)

**Note:** RS-232 commands will be not executed unless followed with a carriage return and LF. Commands are case-insensitive.

## 6.6 OSD MENU

1 <sup>st</sup> Layer	2 <sup>nd</sup> layer	3 <sup>rd</sup> Layer	4 <sup>th</sup> Layer
DISPLAY	OUTPUT	Native	
		640×480 60	
		800×600 60	
		1024×768 60	
		1360×768 60	
		1280×720 60	
		1280×800 60	
		1280×1024 60	
		1440×900 60	
		1400×1050 60	
		1680×1050 60	
		1600×1200 60	
		1920×1080 60	
		1920×1200 60	
		720×480P 60	
		<b>1280×720P 60</b>	
		1920×1080I 60	
		1920×1080P 60	
		720×576P 50	
		1280×720P 50	
1920×1080I 50			
1920×1080P 50			

1 <sup>st</sup> Layer	2 <sup>nd</sup> layer	3 <sup>rd</sup> Layer	4 <sup>th</sup> Layer
	SIZE (VIDEO mode only)	OVER SCAN	
		<b>FULL</b>	
		BEST FIT	
		PAN SCAN	
		LETTER BOX	
		UNDER 2	
		UNDER 1	
	MODE INFO	<b>INFO</b>	
		ON	
		OFF	
	PC(PC mode only)	AUTO SETUP	No
			YES
		H_POSITION	0~60 (30)
		V_POSITION	0~60 (30)
		PHASE	
		CLOCK	
		WXGA/XGA	<b>XGA</b>
			WXGA
		RESET	NO
			YES

1 <sup>st</sup> Layer	2 <sup>nd</sup> layer	3 <sup>rd</sup> Layer	4 <sup>th</sup> Layer
COLOUR	COLOUR	R	0~1023 (512)
		G	0~1023 (512)
		B	0~1023 (512)
		R OFFSET	0~1023 (512)
		G OFFSET	0~1023 (512)
		B OFFSET	0~1023 (512)
	CONTRAST	0~60 (30)	
	BRIGHTNESS	0~60 (30)	
	HUE (VIDEO mode only)	0~60 (30)	
	SATURATION (VIDEO mode only)	0~60 (30)	
	SHARPNESS (VIDEO mode only)	0~30 (0)	
	NR. (VIDEO mode only)	<b>OFF</b>	
		LOW	
		MIDDLE	
HIGH			
AUDIO	VOLUME	0~100	
	DELAY (L/R output only)	<b>OFF</b>	
		40 ms	
		110 ms	
		150 ms	
	SOUND	<b>ON</b>	
MUTE			



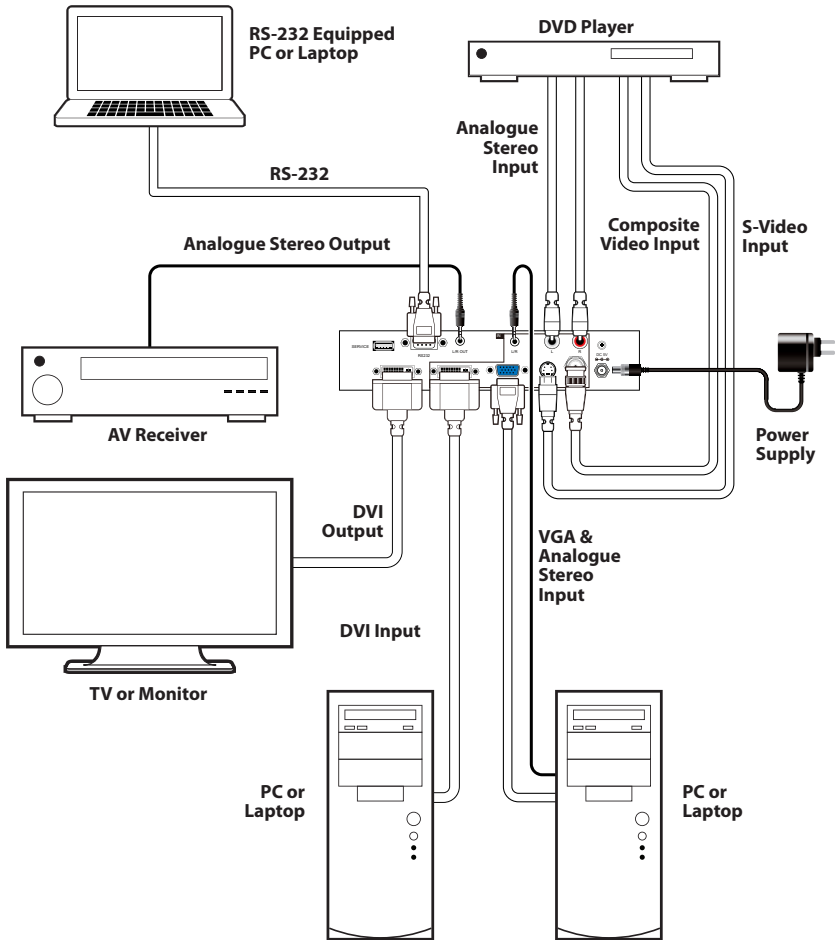
1 <sup>st</sup> Layer	2 <sup>nd</sup> layer	3 <sup>rd</sup> Layer	4 <sup>th</sup> Layer
SETUP	FACTORY RESET	<b>NO</b>	
		YES	
	KEY LOCK	<b>OFF</b>	
		ON	
	POWER SAVE	<b>OFF</b>	
		ON	
INFORMATION	INPUT		
	OUTPUT		
	REVISION		

Note:

Items in **Bold** are the Factory default settings.

Items in brackets are the default values for those settings

# 7. CONNECTION DIAGRAM



## 8. SPECIFICATIONS

### 8.1 Technical Specifications

<b>Video Bandwidth</b>	165MHz
<b>Input Ports</b>	1×Composite, 1×S-Video, 1×VGA, 1×DVI, 1×L/R, 1×LR, 1×USB (service only), 1×RS-232 (Control Only)
<b>Output Port</b>	1×DVI, 1×L/R
<b>Input Resolution Support</b>	Up to WUXGA & 1080p
<b>Output Resolution Support</b>	Up to WUXGA & 1080p
<b>Power Supply</b>	5V/2.6A DC (US/EU standards, CE/FCC/ UL certified)
<b>Dimensions</b>	215mm (W)×165mm(D)×47mm (H)
<b>Weight</b>	970g
<b>Chassis Material</b>	Metal
<b>Colour</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>	5.7 W

## 8.2 Resolution Support

Input Resolution	PC	DVI/HDMI	CV/SV
NTSC			✓
PAL			✓
VGA640×480 (@60/72/75 Hz)	✓	✓	
SVGA800×600 (@56/60/72/75 Hz)	✓	✓	
XGA1024×768 (@60/70/75 Hz)	✓	✓	
XGA+1152×864 @75 Hz	✓	✓	
1280×720 @60 Hz	✓	✓	
1280×768 @60 Hz	✓	✓	
1280×800 @60 Hz	✓	✓	
1280×960 @60 Hz	✓	✓	
1280×1024 (@60/75 Hz)	✓	✓	
1360×768 @60 Hz	✓	✓	
SXGA+1400×1050 @60 Hz	✓	✓	
WXGA+1440×900 @60 Hz	✓	✓	
UXGA1600×1200 @60 Hz	✓	✓	
WSXGA1680×1050 RB @60 Hz	✓	✓	
1920×1080@60 Hz	✓	✓	
1920×1200 RB@60 Hz	✓	✓	
480i/576i		✓	
480p/576p		✓	
720p(@50/60 Hz)		✓	
1080i(@50/60 Hz)		✓	
1080p(@24/30/50/60 Hz)		✓	

DVI/HDMI output Resolution
Native
640×480@60 Hz
800×600@60 Hz
1024×768@60 Hz
1360×768@60 Hz
1280×720@60 Hz
1280×800@60 Hz
1280×1024@60 Hz
1440×900@60 Hz
1400×1050@60 Hz
1680×1050@60 Hz
1600×1200@60 Hz
1920×1080@60 Hz
1920×1200@60 Hz
480p
576p
720p (@50/60 Hz)
1080i (@50/60 Hz)
1080p (@50/60 Hz)

## 9. ACRONYMS

ACRONYM	COMPLETE TERM
COMP	Component Video
CV	Composite Video
DVI	Digital Visual Interface
RGB	Red Green Blue
SV	S-Video
VGA	Video Graphics Array
UXGA	Ultra Extended Graphics Array
WUXGA	Widescreen Ultra Extended Graphics Array





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