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PCHD-HDMI-SCALER

PC/HD to 1080p HDMI Scaler Box

Operation Manual



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(1).Introduction

Congratulations on your purchase of the PCHD-HDMI-SCALER Video Scaler. Our professional Video Scaler products have been serving the industry for many years.

This manual includes operation information on the CP-255H model. Please read this to become familiar with the CP-255H and keep the manual for possible reference in the future.

The CP-255H is designed to convert PC, SD, HD and HDMI to digital HDMI at a variety ot HDTV and PC resolutions. It handles input and output signal at 205 MHZ ultra high bandwidth. CP-255H has many great features to enhance video performance and is ideal for use in professional large screen presentation.

(2).Features

1. CP-255H is a high bandwidth and professional PC/Component/HDMI to HDMI Scaler that accepts PC RGB (up to UXGA), HD Component (480i up to 1080p) and HDMI (up to WUXGA) and scale them up to HDMI output (1080p/WUXGA).
2. The input to the CP-255H is analog PC or HDTV signal in the format of either RGBHV, YPbPr, (YCbCr) or digital HDMI.
3. The output of the CP-255H is digital HDMI with selectable output resolution from 480i to 1080p and VGA to WUXGA.
4. The input resolution is automatically detected while the output resolution and refresh rate can be selected through OSD menu or front panel push buttons.
5. Native output resolution ensures most optimal display resolution on your screen. When "Native" is selected as the output resolution, the CP-255H will automatically detect the native resolution of the display and send out the most optimal pixel timing to match TV's final display resolution.
6. Output picture adjustment on brightness, contrast, color, RGB level, and H-V position.
7. The HDMI input is HDCP compliant which means if input is HDCP encrypted then HDMI output is also HDCP encripted.
8. Includes advanced features such as Noise Reduction and overscan/ underscan adjustment.

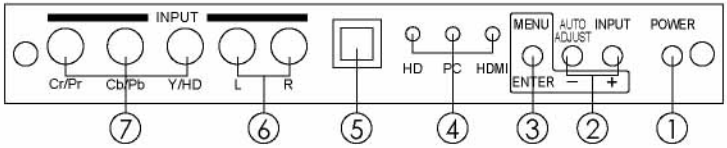
(3).What's included

The following items are included in the standard package.

1. PC/HD/HDMI to HDMI scaler box.
2. VGA cable x 1
3. YPbPr 3RCA cable x 1
4. AC power adaptor 5V/ 2.6A, center positive.

(4).Operation Controls and Functions

Front Panel

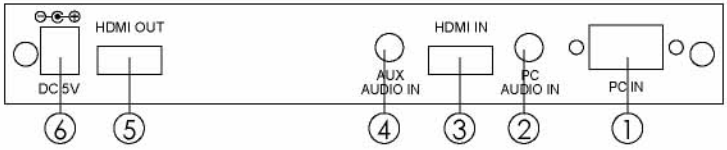


1. **Power:** Press the button to turn ON or turn OFF (standby) the power of the unit.
2. **+/- button:**
   The buttons provide 3 functions:
   a. **Input select ("+"):** Press the "+" button repeatedly to select your desired input source. The input sources are toggled through in the following sequence.

   HD (component) → PC → HDMI

   b. **Auto Tune ("-"):** Press the "-" button to carry out picture auto adjust for analog inputs (component or PC). The CP-255H will fine tune the position (centering) and color of the output picture.
   c. When in the OSD menu mode: Press the +, - button to move up or down the highlight bar to your desired parameter. Or once a parameter is selected with MENU/Enter button, press the button to adjust setting value of your selected parameter.
3. **Menu/Enter:** This button serves two purposes.
   a. Press the button to bring up OSD main menu as shown in the "OSD Operation". (page 7)
   b. To act as a "Enter" key to enter sub menu or to adjust setting value of the selected parameter.
4. **Input LED Indicators:** When one of the LED illuminates its corresponding source is being selected as input.
5. **IR Sensor:** Infrad remote control sensor.
6. **Audio L/R Input:** Stereo audio input associated with component in.
7. **Component Input:** Connects this input connector to the Component output connector of your source equipment using the enclosed 3RCA to 3RCA cable. The CP-255H accepts both interlaced component input (480i, 576i) and deinterlaced progressive input (480p, 576p...1080p).
   The input range is 480i, 570i~1080i, 1080p.

Rear Panel

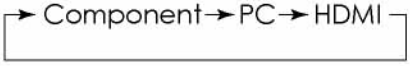


1. **PC in:** Connects this PC input connector to the VGA output of your PC. The acceptable PC resolutions range from VGA~WUXGA.
2. **PC audio in:** Stereo audio input associated with PC in via 3.5mm phone jack.

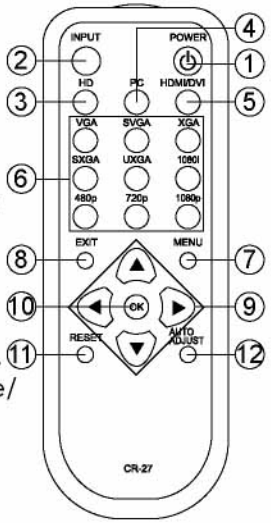
3. **HDMI (DVI) in:** Connect this HDMI input connector to the HDMI output connector of your HDMI source equipment using certified HDMI cable. Or connect this HDMI input connector to the DVI output of your DVI source equipment using DVI cable together with DVI to HDMI adaptor. The HDMI input resolution covers 480i~1080p, and VGA~WUXGA.
4. **AUX (DVI) audio in:** This audio input should be used only when a DVI source is connected to the HDMI input. The CP-255H will convert DVI and AUX audio input to HDMI output. This audio input can not be used when input is HDMI signal.
5. **HDMI out:** Scaled digital HDMI output. Connect this output to the HDMI or DVI input of your HD display.
6. **Power jack:** Connect to the 5V 2.6A DC power adaptor.

Remote Control and functions:

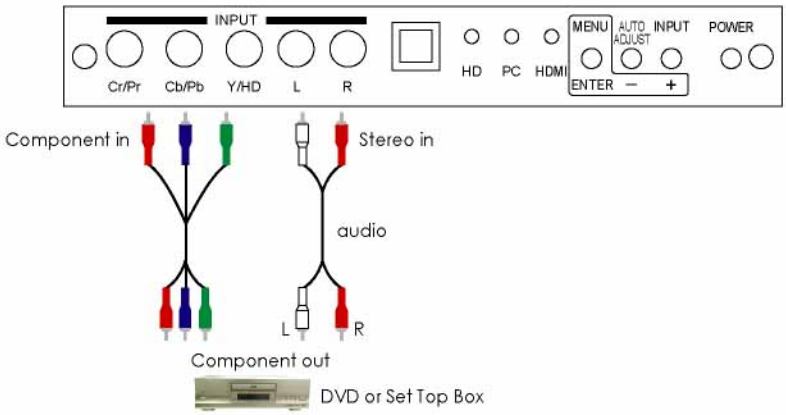
1. **Power:** Press the button once to power on the CP-255H. Press again to enter standby mode.
2. **Input:** Press the button repeatedly to toggle through various input sources as follows.

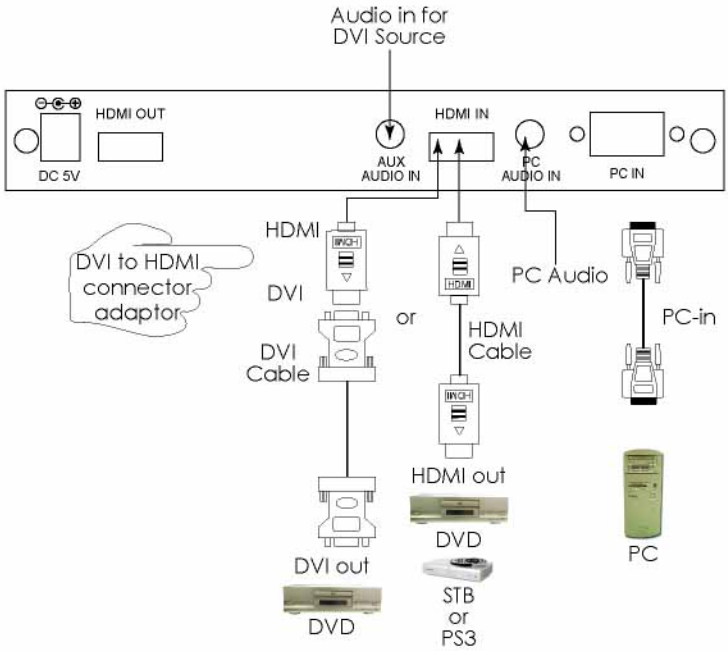


3. **HD input:** Press the button to directly select component input.
4. **PC input:** Press the button to directly select PC input.
5. **HDMI/DVI input:** Press the button to directly select DVI (or HDMI) input.
6. **Output resolution:**
   Select buttons: Press any one of the button to directly select output resolution. For other output resolutions that are not covered by these buttons please enter Menu/Output page to select them.
7. **MENU:** Press the button to bring up 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 setting 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 position of the picture (picture centering) on the screen.



(5).Installation
Input Connection





The CP-255H accepts component, PC and HDMI inputs with audio on each. The formats supported by these inputs are as follows:

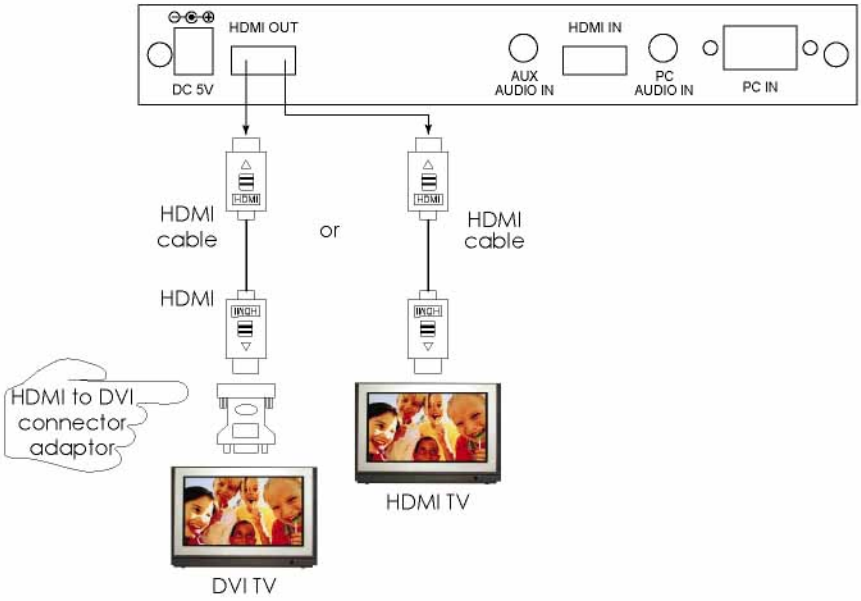
*** Component Input:**

YPbPr	480p@50/60Hz
	576p@50Hz
	720p@50/60Hz
	1080i@50/60Hz
	1080p@50/60Hz
YCbCr	480i@60Hz
	576i@50Hz

*** PC Input:**	RGBHV	VGA/SVGA/XGA/SXGA/UXGA/WXGA/WSXGA/WUXGA VGA@(60/72/75/85)/SVGA@(56/60/72/75/85)/ XGA@(60/70/75/85)/SXGA@(60/75/85)/UXGA@60/ WXGA@60(1280x800)/WSXGA@60(1680x1050)/ WUXGA@60(1920x1200)/1360x768
*** HDMI Input:**	Digital	VGA@(60/72/75/85)/SVGA@(56/60/72/75/85)/ XGA@(60/70/75/85)/SXGA@(60/75/85)/UXGA@60/ WXGA@60(1280x800)/WSXGA@60(1680x1050)/ WUXGA@60(1920x1200)/1360x768

- When connecting to a PC source use a 15-pin D-sub cable to connect the output of a PC to the D-Sub input connector of the CP-255H.
- When connecting to a component source (either SD or HD resolution) use a 3RCA to 3RCA cable to connect the YPbPr or YCbCr output of a DVD or Set Top Box to the Y-Cb/Pb-Cr/Pr input connecter of the CP-255H.
- When connecting to a HDMI source, use a HDMI cable to connect the HDMI output of a STB or DVD to the HDMI input connector of the CP-255H.
- When connecting to a DVI source, use a DVI cable to connect to the DVI output of a DVI source, such as DVD or PC, on the one end.
  And use a DVI to HDMI connector adaptor to connect to the other end of the DVI cable. The HDMI connector of the adaptor is then connect to the HDMI input of the CP-255H.
  The CP-255H can automatically detect the input resolution of all three inputs. To switch from one input source to another just press the input button on the front panel ("+") or on the remote control.

Output Connection

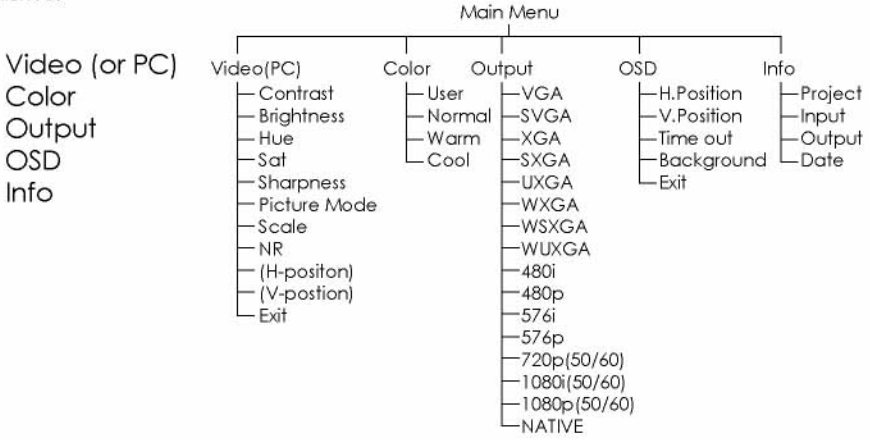


The CP-255H can output a variety of PC, SD and HD resolutions in HDMI digital format.
The HDMI output supports the following resolutions, all in RGB format.
SD/HD: 480i, 480p, 576i, 576p, 720p@50/60, 1080i@50/60, 1080p@50/60
PC: VGA@60/SVGA@60/XGA@60/SXGA@60/WXGA@60/WSXGA/UXGA/WUXGA

- When connecting to a HDMI display use a certified HDMI cable to connect the HDMI output of CP-255H to the HDMI input of your HDMI TV.
- When connecting to a DVI display use a HDMI cable together with a HDMI to DVI connector adaptor to connect to the DVI input of your DVI display.

(6).OSD Operation

After power on the unit, press the "menu" button will bring up the main menu as follows:



Use +, - button to move hightlight bar to your desired parameter, then press MENU/ENTER to enter into sub-menu of your selected parameter.

6.1 Video (or PC): When Video is selected a sub menu as below comes up.

Contrast
Brightness
Hue
Saturation
Sharpness
Picture Mode — user / standard / vivid / movie

Scale — overscan / underscan / Letterbox / Panscan / Full

NR — low / middle / high / off

H-position (PC)
V-position (PC)
Exit

Note (PC): Available only when PC is selected as input.

To adjust picture quality, Use "+,-" to move the highlight bar to your desired adjust item, press the Menu/Enter to confirm your selection.

At this point, the selected parameter will turn red, you can then use +,- to increase or decrease the value of the parameter.

When adjustment is complete, press "Menu" to leave the parameter. Move the highlight bar to "Exit", then press Menu/Enter to exit.

Note: The "H-position" and "V-position" are only available when component or PC input is selected. Neither are available when the HDMI input is selected.

Picture mode-there are 4 picture modes for customer to choose from.

User: Select to adjust to your favorite setting and store it.

Standard: Standard factory default setting for optimal display in a normal environment.

Vivid: High saturation picture for optimal display in a bright room.

Movie: Picture for comfortable low brightness display in a dark room.

Scale: select overscan when input source is SD or HD video to ensure no black band around screen border. Select underscan when input source is PC signal to ensure full picture content fall within screen border.

Noise Reduction: This function only works when input is analog RGB or component. It will not work for HDMI input. There are four steps of Noise Reduction-Off, Low, Middle High. The Noise Reduction will remove the noise that results from analog to digital convertion and digital scaling processing.

H & V position: To adjust for best horizotal and vertical position of the picture in the screen.

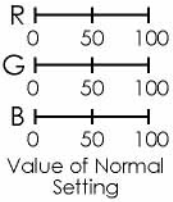
6.2 Color:

User: Select to adjust to your favorite color temperature setting.

Normal: Normal color tone setting where white is pue white.

Warm: Warm color tone makes white reddish.

Cool: Cool color tone makes white bluish.



6.3 Output: The CP-255H can output a wide variety of PC and HD resolutions as follows.

VGA(up to 100MH)	DVI/HDMI(up to 165MH)	Resolution	i/p*	Format
480i	480i	720x480	i	RGBHV
480p	480p	720x480	p	RGBHV
576i	576i	720x576	i	RGBHV
576p	576p	720x576	p	RGBHV
720p@(50/60)	720p@(50/60)	1280x720	p	RGBHV
1080i@(25/30)	1080i@(25/30)	1920x1080	i	RGBHV
1080p@(50/60)	1080p@(50/60)	1920x1080	p	RGBHV
VGA@60	VGA@60	640x480	p	RGBHV
SVGA@60	SVGA@60	800x600	p	RGBHV
XGA@60	XGA@60	1024x768	p	RGBHV
SXGA@60	SXGA@60	1280x1024	p	RGBHV
UXGA	UXGA@60	1600x1200	p	RGBHV
WXGA@60	WXGA@60	1280x800	p	RGBHV
WSXGA@60	WSXGA@60	1680x1050	p	RGBHV
WUXGA@60	WUXGA@60	1920x1200	p	RGBHV

* i: interlaced p: progressive

Native: When it is selected, the CP-255H will automatically adjust its output timing to match the native timing of the display.

6.4 OSD Adjust:

H.Position: Adjust the horizontal position of the OSD menu graphic.

V.Position: Adjust the vertical position of the OSD menu graphic.

Time out: Set a predetermined time to turn off OSD menu on the screen.

Background: To select transparent or solid background of OSD graphic.

6.5 Information:

Project: Show product model number.

Input: Show input resolution i.e XGA.

Output: Show output resolution i.e 720p.

Date: Show date of firmware version.

Specifications:

HDMI 1.2 Compliant

Input format(Up to 165MHz) for CP-255H

YPbPr/YCbCr:

480i, 480p, 576i, 576p, 720p@(50/60Hz), 1080i@(25/30), 1080p@(50/60)

VGA:

VGA@(60/72/75/85), SVGA@(56/60/72/75/85), XGA@(60/70/75/85).
SXGA@(60/75/85),UXGA@60, WUXGA@60

HDMI(CP-255H):

VGA@(60/72/75/85), SVGA@(56/60/72/75/85), XGA@(60/70/75/85).
SXGA@(60/75/85), UXGA@60, WUXGA@60

HDMI(Up to 165MHz):

480i, 480p, 576i, 576p, 720p@(50/60), 1080i@(25/30), 1080p@(50/60),
VGA@60, SVGA@60, XGA@60, SXGA@60, UXGA@60, WUXGA@60

Input connectors:

- YCbCr/YPbPr x 1 via 3 RCA jack with stereo L/R via 2 RCA jack.
- PC RGB x 1 via 15 pin D-sub with stereo L/R via 3.5mm phone jack.
- HDMI (CP-255H)x1; Aux stereo L/R 3.5mm phone jack x1 (for DVI input).

Output connector:

- HDMI x 1

Dimension: 180(W)x124(D)x25(H)mm

Weigh: 600gs

DC 5V 2.6 Amp