

# VGA to DVI-I Scaler Box

CP-252

## Operation Manual



## Cypress's high performance scaler/processor family

Spec: Model	Signal Type		Connector		Format	
	Input	Output	Input	Output	Input	Output
CP-251	Analog	Analog	HD-15F	HD-15F	PC-RGB+HDTV-RGB/YPbPr(Auto)	PC-RGB+HDTV-RGB/YPbPr
CP-252	Analog	Digital/Analog	HD-15F	DVI-I	PC-RGB+HDTV-RGB/YPbPr(Manual)	Digital:PC-RGB+HDTV-RGB Analog: PC-RGB+HDTV-RGB/YPbPr
CP-253	Digital	Analog	DVI-D	HD-15F	PC-RGB+HDTV-RGB/YPbPr(Auto/Manual)	PC-RGB+HDTV-RGB/YPbPr
CP-254	Digital	Digital/Analog	DVI-D	DVI-I	PC-RGB+HDTV-RGB+YPbPr(Manual)	Digital:PC-RGB+HDTV-RGB Analog: PC-RGB+HDTV-RGB/YPbPr
CM-347	Analog	Analog	RC/A/4Din/7Din	HD-15F	CVBS/S-Video/TUV/RGSB(Manual)	Analog: PC-RGB+HDTV-RGB/YPbPr
CM-348	Analog	Digital/Analog	RC/A/4Din/7Din	DVI-I	CVBS/S-Video/TUV/RGSB(Manual)	Digital:PC-RGB+HDTV-RGB Analog: PC-RGB+HDTV-RGB/YPbPr

Note:

4 Din:4-pin mini Din

7 Din: 7-pin mini Din

RGSB: RGB Sync on Green

## **1. Features:**

1. CP-252 is a high performance PC/HDTV two-way scaler that accepts analog RGB input(VGA) and converters to DVI-I (digital + analog RGB) output.
2. The input to the CP-252 is analog PC or HDTV signal in the format either RGBHV, YPbPr, or(YCbCr).
3. The output of the CP-252 is digital + analog PC or HDTV signal in the format of digital RGBHV bitstream plus analog RGBHV, known as DVI-I(Integrated digital and analog).
4. The input resolution is automatically detected while the output resolution and refresh rate can be selected through OSD menu and front panel push buttons.
5. 48 MB frame memory for frame rate conversion.
6. Output picture adjustment on brightness, contrast, color, RGB level, and H-V position.
7. DVI output enables an all digital rendering of video without the losses associated with an analog interface and is ideal for use with digital display such as LCD, plasma and DLP projectors.

## **2. What's included:**

The following items are included in the standard package.

1. VGA to DVI scaler box.
2. VGA cable x 1
3. YPbPr 3 RCA to VGA adaptor cable x 1
4. DVI cable x 1
5. AC power adaptor 5V/ 2A, center positive.
6. AC power cord.

## 3. Installation

### 3.1 Input connection:

The CP-252 can accept both PC and HDTV inputs. When accepting a PC input use the 15-pin D-sub cable to connect the output of a PC device to the input connector labeled PC/HDTV on the back of CP-252.

When accepting a HDTV input use a 15-pin D-sub to YPbPr/3 RCA cable to connect the YPbPr/output (or YCbCr) of a HDTV device to the PC/HDTV input connector of the CP-252.

The CP-252 can automatically detect the mode and resolution of the PC/HDTV input.

### 3.2 Output connection:

The CP-252's can output a variety of PC resolution and HDTV progressive resolution, in both digital and analog format.

To use CP-252's digital output select DVI-D in the Output Setup of the menu, and use DVI cable to connect the DVI output of the CP-252 to the DVI input of a display monitor, or HDTV device. **See 3.3A**

To use analog output of the CP-252, select DVI-A in the Output Setup of the menu, and use the DVI to VGA adaptor to transfer analog output into VGA configuration, which can subsequently connect to the VGA input of a display monitor through a VGA cable when one of the PC resolution is selected as output; or connect to the YPbPr input of a HDTV device through a VGA to YPbPr/3RCA adaptor cable when one of the HDTV resolution is selected as output. **See 3.3B**

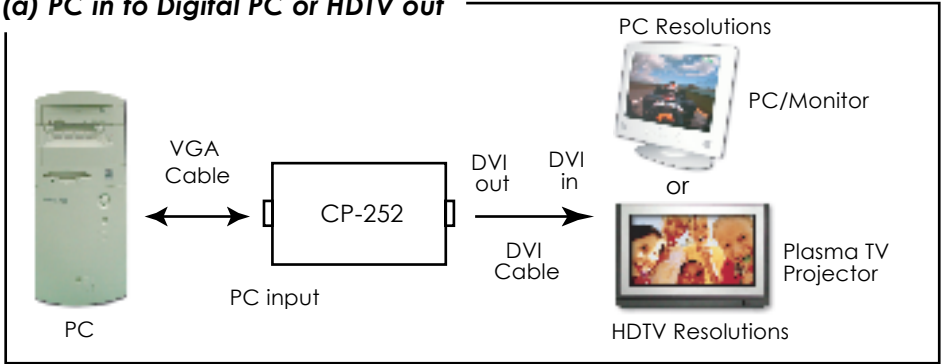
**Note: DVI to VGA adaptor is not included in the standard package, and has to order separately.**

### 3. Installation

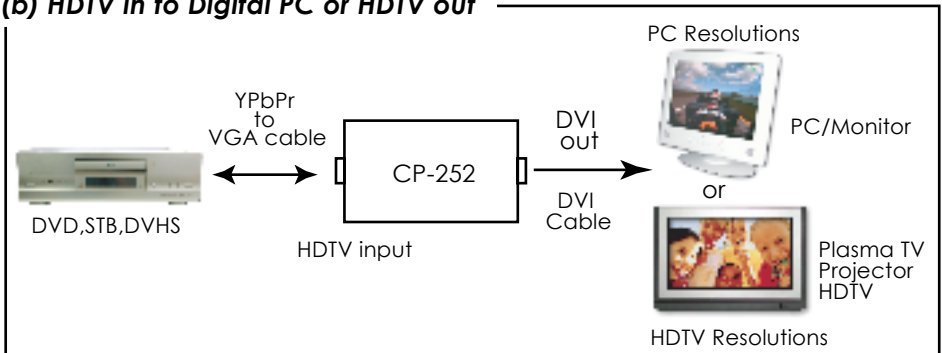
#### 3.3 Connection Block Diagram:

A. For digital RGB (DVI) output, (Select DVI-D in the Output Setup of the menu).

##### (a) PC in to Digital PC or HDTV out



##### (b) HDTV in to Digital PC or HDTV out

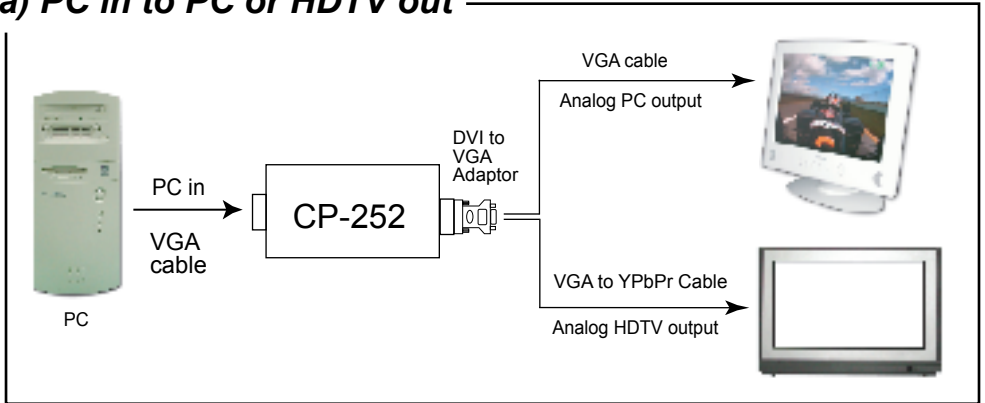


### 3. Installation

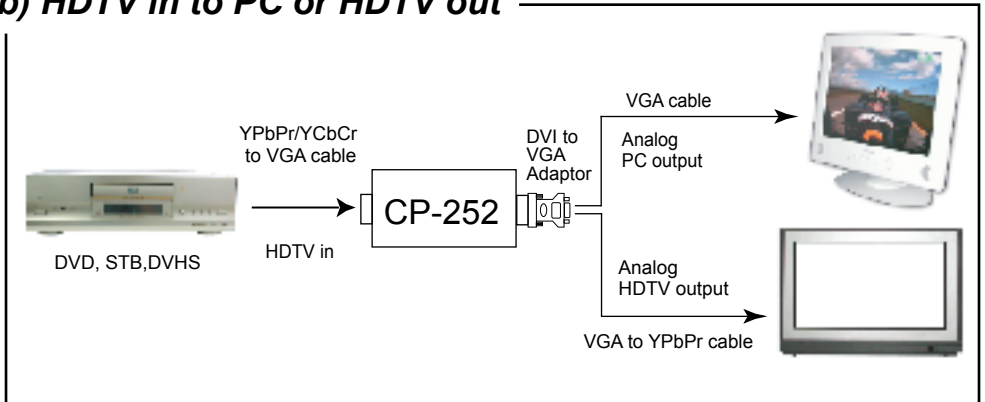
#### 3.3 Connection Block Diagram:

B. For analog RGB(VGA) output, (Select DVI-A in the Output setup of the menu).

#### (a) PC in to PC or HDTV out

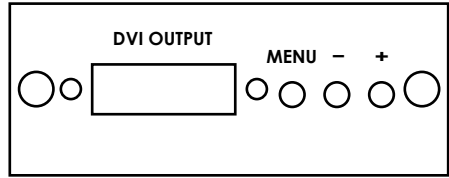
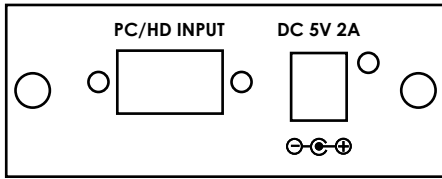


#### (b) HDTV in to PC or HDTV out



## 4.Configuration & Operation

### 4.1 Front and Rear Panels



### 4.2 Menu and Adjustments

Pressing the Menu button will bring up the OSD menu controls on the screen as follows:

- \* Input set up
- \* Picture Adjust
- \* HV Adjust
- \* OSD Adjust
- \* System Information
- \* Auto Adjust
- \* Exit

Use +,- to move the arrow cursor to your desired selection, then press MENU to confirm your selection and enter into sub menu.

**Input set up** - When it is selected, a sub menu as below will appear.

Clock  32/64  
Phase  22/31

**Clock:** To adjust for the most optimal input clock frequency where picture is stable and unskewed.

Press + button also narrow the width of the picture toward the left.

Press - button to extend the width of the picture toward the right.

**Phase:** Use +,- to adjust for lowest snow noise of the picture.

Use +,- to choose the parameter you want to adjust and then press the Menu(Enter) to highlight your selection. Once a parameter is highlighted, use +,- to increase or decrease the setting value.

Press Menu(Enter) again to leave the setting. Move the arrow to exit then press Menu/Enter to Exit.

**YPbPr ✓ RGB**

The CP-252 will automatically detect and show the input signal format as YPbPr or RGB.

You can also manually select the YPbPr or RGB to match the format of your input. Selecting a format that doesn't coincide with your input will result in an abnormal picture.

## 4. Configuration & Operation

### 4.2 Menu and Adjustments

**Output set up**-When it is selected, a sub-mnu as below appears.

DVI-A	DVI-D
Mode	XXXX-XX

Select DVI-A when you would like to use analog output of CP-252.

Select DVI-D when you would like to use digital output of CP-252.

When DVI-A is selected, it give you choice for the output mode as follow:

#### Output modes under DVI-A.

PC (RGBHV)			HDTV (YPbPr, RGBHV)		
<b>VGA</b>	640X480	60/72/75/85 Hz	<b>1080i -RGB</b>	1920X1080	60 Hz
<b>VESA85</b>	640X400	85 Hz	<b>720p -RGB</b>	1280X720	60 Hz
<b>VGA70</b>	720X400	70 Hz	<b>576p -RGB</b>	720X576	50 Hz
<b>SVGA</b>	800X600	60/72/75/85 Hz	<b>480p -RGB</b>	720X480	60 Hz
<b>XGA</b>	1024X768	60/70/75/85 Hz	<b>1080i -YPbPr</b>	1920X1080	60 Hz
<b>Mac</b>	1152X864	70/75 Hz	<b>720p -YPbPr</b>	1280X720	60 Hz
<b>WXGA</b>	1280X768	60 Hz	<b>576p -YPbPr</b>	720X576	50 Hz
<b>1280A</b>	1280X960	60 Hz	<b>480p -YPbPr</b>	720X480	60 Hz
<b>SXGA</b>	1280X1024	60/75 Hz			

When DVI-D is selected, it gives you choices for the output mode as follows:

#### Output modes under DVI-D.

PC (RGBHV)			HDTV (RGBHV)		
<b>VGA</b>	640X480	60/72/75/85 Hz	<b>1080i -RGB</b>	1920X1080	60 Hz
<b>VESA85</b>	640X400	85 Hz	<b>720p -RGB</b>	1280X720	60 Hz
<b>VGA70</b>	720X400	70 Hz	<b>576p -RGB</b>	720X576	50 Hz
<b>SVGA</b>	800X600	60/72/75/85 Hz	<b>480p -RGB</b>	720X480	60 Hz
<b>XGA</b>	1024X768	60/70/75/85 Hz			
<b>Mac</b>	1152X864	70/75 Hz			
<b>WXGA</b>	1280X768	60 Hz			
<b>1280A</b>	1280X960	60 Hz			
<b>SXGA</b>	1280X1024	60/75 Hz			

**Use +,- to choose your desired PC or HDTV resolution.**

**Picture Adjust**-When it is selected the following adjust parameters will appear:

Contrast	<input type="text" value="070"/>	070
Bright	<input type="text" value="130"/>	130
Color	<input type="text" value="070"/>	070
Red	<input type="text" value="128"/>	128
Green	<input type="text" value="128"/>	128
Blue	<input type="text" value="128"/>	128
Reset		
Exit		



## 4. Configuration & Operation

### 4.2 Menu and Adjustments

The adjustment range and factory preset value as follows:

	Range	Default
Contrast	0~255	047
Bright	0~255	102
Color	0~255	064
Red	0~255	128
Green	0~255	128
Blue	0~255	128

Use +,- and MENU/Enter to adjust the value of your selected parameter. Select reset to reset all adjustment back to the factory preset value.

**HV adjust-** When it is selected the following sub-menu appears.

H-position		184
V-position		32

Use +,- to adjust the best horizontal and vertical position of the picture.

**OSD adjust-** When it is selected, you can adjust the Horizontal and Vertical position of the OSD menu.

**System information-** When it is selected, it shows the input/output resolution and their vertical refresh rate on the screen.

**Auto adjust-** When it is selected the CP-252 will automatically adjust all the parameter to the factory preset value.

**Exit-** Select to exit from the current menu page.

#### Notes:

- \* The default output resolution of the CP-252 is XGA@60 Hz.
- \* The unit has non-volatile memory and memorizes all your setting before power off and recalls those setting on next power on.
- \* At any time, pressing + and - buttons simultaneously will reset the output resolution to XGA@60Hz, and other settings back to factory default values.

## 5. Specifications

### Input resolutions:

PC (RGBHV)			HDTV (YCbCr, YPbPr, RGBHV)		
<b>VGA</b>	640X480	60/72/75/85 Hz	<b>1080i</b>	1920X1080	60 Hz
<b>VESA85</b>	640X400	85 Hz	<b>720p</b>	1280X720	60 Hz
<b>VGA70</b>	720X400	70 Hz	<b>576p</b>	720X576	50 Hz
<b>SVGA</b>	800X600	60/72/75/85 Hz	<b>480p</b>	720X480	60 Hz
<b>XGA</b>	1024X768	60/70/75/85 Hz	<b>576i</b>	720X576	50 Hz
<b>Mac</b>	1152X864	70/75 Hz	<b>480i</b>	720X480	60 Hz
<b>WXGA</b>	1280X768	60 Hz			
<b>1280A</b>	1280X960	60 Hz			
<b>SXGA</b>	1280X1024	60 Hz			

### Output resolutions:

Digital	PC (RGBHV)		HDTV (YPbPr, RGBHV)		
<b>VGA</b>	640X480	60/72/75/85 Hz	<b>1080i</b>	1920X1080	60 Hz
<b>VESA85</b>	640X400	85 Hz	<b>720p</b>	1280X720	60 Hz
<b>VGA70</b>	720X400	70 Hz	<b>576p</b>	720X576	50 Hz
<b>SVGA</b>	800X600	60/72/75/85 Hz	<b>480p</b>	720X480	60 Hz
<b>XGA</b>	1024X768	60/70/75/85 Hz			
<b>Mac</b>	1152X864	70/75 Hz			
<b>WXGA</b>	1280X768	60 Hz			
<b>1280A</b>	1280X960	60 Hz			
<b>SXGA</b>	1280X1024	60/75 Hz			

**Input format:** Analog RGBHV, YPbPr, YCbCr

**Input signal:**

RGBHV: 0.7 Vp-p, 75 ohm H/V; 3 to 5 Vp-p TTL

Y: 1 Vp-p 75 ohm Pb/Cb, Pr/Cr: 0.7 Vp-p 75 ohm

**Input connector:** HD-15 female VGA connector.

**Output format:** Digital RGBHV + Analog RGBHV or YPbPr (through DVI to HD-15 adaptor)

**Output signal:** Digital data bitstream

**Output connector:** 29 pin DVI-I connector

**Power:** 5V 2A center-positive