DVI to VGA Scaler Box

CP-253

Operation Manual

I. Introduction

Cypress's high performance scaler/processor family

Spec.	Signal Type		Connector		Format	
Model	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	RCA/4Din/7Din	HD-15F	CVBS/S-Video/TUV/RGsB(Manual)	Analog: PC-RGB+HDTV-RGB/YPbPr
CM-348	Analog	Digital/Analog	RCA/4Din/7Din	DVI-I	CVBS/S-Video/TUV/RGsB(Manual)	Digital:PC-RGB+HDTV-RGB Analog: PC-RGB+HDTV-RGB/YPbPr

Table 1

Note:

4 Din:4-pin mini Din

7 Din: 7-pin mini Din

RGsB: RGB Sync on Green

I. Introduction

CP-253 is a member of Cypress's high performance universal scaler/processor family that comprises 6 video and PC/HDTV two-way scalers which are designed to solve all you demand in scan rate/pixel converson between standard video, PC and HDTV resolutions. Please refer to table 1 for other cypress scaler models. Each Cypress Video Processor combines the functions of a video scaler, scan-converter, and format transformer and is packled into a compact and durable metal housing with easy-to-use touch buttons.
Each processor is controlled via push button and OSD menu.
The controls include input/output setup picture adjustment, H/V phase adjustment, System information and many other advance options.

2. Features

1. CP-253 is a high performance PC/HDTV two-way scaler that accepts Digital DVI-D input and converts to Analog RGB output.
2. The input to the CP-253 is digital PC or HDTV signal in the format of either RGBHV or YPbPr/YCbCr data bitstream via 24-pin DVI connector.
3. The output of the CP-253 is Analog PC or HDTV signal in the format Analog RGBHV or YPbPr via a HD-15 VGA connector.
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 and H-V position.

3. What's included:

The following items are included in the standard package.

1. DVI cable x 1
2. AC power adaptor 5V/ 2A.

4. Installation

4.1 Input Connection

The CP-253 can accept both PC and HDTV input in the format of digital DVI.
Use the DVI-to-DVI cable to connect the DVI output of a PC or HDTV deive
to the DVI input connector of the CP-253.

The CP-253 can automatically detect the mode and resolution of the
DVI input.

4.2 Output Connection

The CP-253 can output a vatiety of PC and HDTV resolution in the analog
RGB format.

When one of the PC resolutions is selected as output, use the 15-pin D-Sub
VGA cable to connect the PC/HDTV output of the CP-253 to the VGA
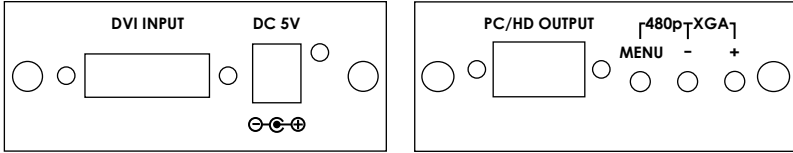input of a display monitor.

When one of the HDTV resolutions is selected as output. use a 15-pin D-Sub
to YPbPr/3 RCA adaptor cable to connect the PC/HDTV output of the
CP-253 to the YPbPr input of a HDTV device.

4.3 Connection Block Diagram
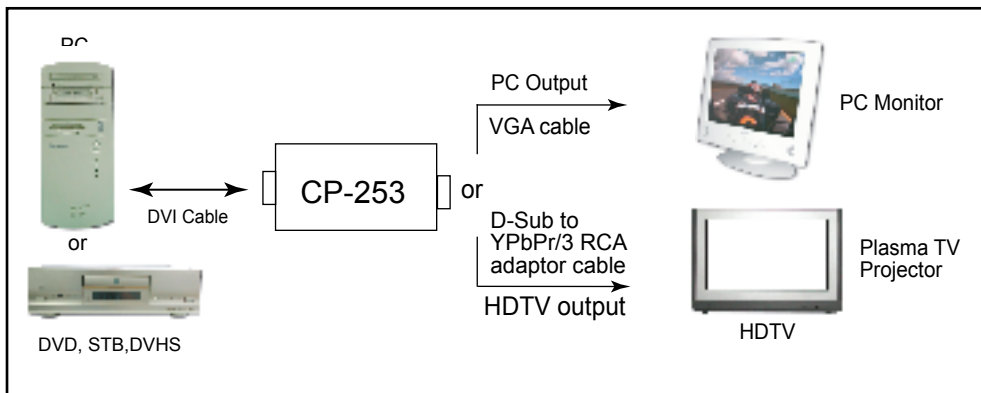
5. Configuration & Operation

5.1 Front and Rear Panel

DVI INPUT	DC 5V

⊖-C-⊕

PC/HD OUTPUT	⌐480p⌐XGA⌐
	MENU − +

5.2 Manual and Adjustments

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

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

Use +,or - 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 for selecting YPbPr/RGB as below will appear.

YPbPr   √ RGB

Use +,- to manually select the signal format that matchs the format of your input. Selecting a wrong signal format could result in an abnormal picture on the screen. Press Menu(Enter) again to leave the setting. Move the arrow to exit then press Menu/Enter to Exit.

Output set up- When it is selected, a sub-menu as below appears, that gives you choices for the Output Mode (refresh-rate and resolution). Use +,- button to choose your desired PC or HDTV resolution. Please refer to the Table below for a list of available output Modes.
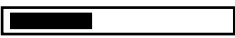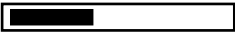
XGA-60

PC		HDTV	
SXGA	1280X1024@60/75Hz	1080i-RGB	1920X1080@60Hz
1280A	1280X960@60Hz	720p-RGB	1280X720@60Hz
XGA	1024X768@60/70/75/85Hz	576p-RGB	720X480@60Hz
WXGA	1280X768@60Hz	480p-RGB	720X480@60Hz
SVGA	800X600@60/72/75/85Hz	1080i-RGB	1920X1080@60Hz
VGA	640X480@60/72/75/85Hz	720p-YPbPr	1280X720@60Hz
VGA 70	720X400@70Hz	576p-YPbPr	720X576@60Hz
VESA 85	640X400@85Hz	480p-YPbPr	720X480@60Hz
	1152X864@70/75Hz		

5. Configuration & Operation

5.2 Manual and Adjustments

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

Contrast	� bar	070
Bright	bar	130
Color	bar	070
Reset		
Exit		

The adjustment range and factory preset value are as follows:

	Range	**Default**
Contrast	0~255	047
Bright	0~255	102
Color	0~255	064

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 | bar | 184 |
| V-position | bar | 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 current software version and the input/output resolution and their vertical refresh rate on the screen.

Auto adjust- When it is selected the CP-253 will automatically adjust all the parameter to the factory preset value.

Exit- Select to exit from the current page.

Notes:
* The default output resolution of the CP-253 is XGA@60Hz.
* The unit has non-volatile memory and memorizes all your settings before power off and recalls those settings 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:

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

Output resolutions:

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

Input format: Digital RGBHV, YPbPr or YCbCr
Input signal: Digital RGB data bitstream
Input connector: 24-pin DVI-D connector
Output format: Analog RGBHV, YPbPr
Output signal: RGB: 0.7 Vp-p, 75 ohm H/V: 3 to 5 Vp-p TTL
                 Y: 1 Vp-p 75 ohm, Pb/Pr: 0.7 Vp-p 75 ohm
Output connector: HD15-pin female
Power: 5V 2A center-positive