

# PC/HDTV **2-Way** Converter

Operation Manual

# 1. Introduction

**CP-251F** is a high-performance universal PC/HDTV to PC/HDTV converter. It combines the functions of a video scaler, scan-converter, and format transformer and is packed into a compact and durable metal housing with easy-to-use touch buttons.

The CP-251F is controlled via push button and OSD menu.

The controls include input/output setup picture adjustment, H/V phase adjustment, System informations and many other advance features.

## 2. Features

1. CP-251F not only is a video scaler it is also a scan converter and a format transformer.
2. The resolution of any PC or HDTV inputs can be scaled up or scaled down to any other PC or HDTV resolution, along with its frame rate converted to a selectable frequency.
3. 48 MB frame memory for frame rate conversion.
4. Signal format conversion between RGBHV and YPbPr.
5. Input: PC(VGA/SVGA/XGA/SXGA)+  
HDTV(480i/576i/480p/567p/720p/1080i), Fh: 60 to 85 Hz  
Output: PC(VGA/SVGA/XGA/SXGA)+  
HDTV(480p/576p/720p/1080i)
6. Input mode auto detection.
7. Input Setup allows for fine-tuning the output picture to a best condition through the adjustment of ADC sampling clock, and phase.
8. Easy- to- use push buttons and OSD menu control.

## 3. What's included

The following items are included in the standard shipping package.

1. The PC/HDTV converter.
2. 15-Pin D-Sub PC to PC cable x 1.
3. 15-pin D-Sub to YPbPr 3-RCA adaptor cable x1.
4. AC power adaptor 12V 800mA, center positive.

## 4. Operation

### Input connection:

The CP-251F 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-251F.

When accepting a HDTV input use the 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-251F.

The CP-251F can automatically detect the mode and resolution of the PC/HDTV input.

### Output connection:

The CP-251F can output a variety of PC resolution and HDTV progressive resolution.

When one of the PC resolution is selected as output, use the 15-pin D-Sub VGA cable to connect the PC/HDTV output of the CP-251F to the VGA input of a display monitor.

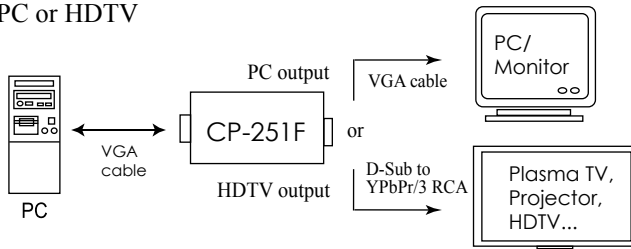
When one of the HDTV resolution is selected as output, use the 15-pin D-Sub to YPbPr/3 RCA cable to connect the PC/HDTV output of the CP-251F to the YPbPr input of a HDTV device.

### Note:

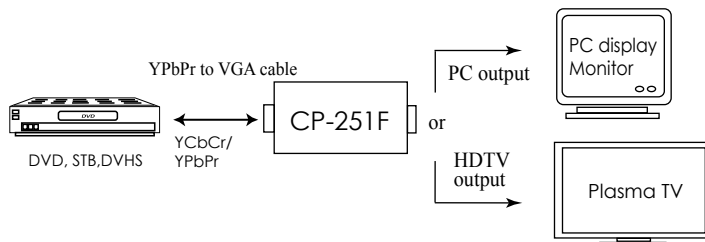
Use of wrong cable for your selected output will result in an abnormal picture on the screen.

### Connection Block Diagram:

(a) PC to PC or HDTV

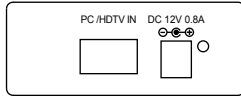


(b) HDTV to PC or HDTV

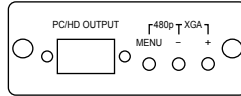


## 5. Operation Controls and Functions

**Front Panel**



**Rear Panel**



Menu(Enter): Press 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 (Enter) to confirm your selection and enter into sub menu.

**Input set up-** When it is selected, a sub menu of clock and phase adjust as below will appear.

<b>Clock</b>	<div style="background-color: black; width: 100px; height: 15px;"></div>	32/64
<b>Phase</b>	<div style="background-color: black; width: 100px; height: 15px;"></div>	22/32

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.

**Output set up-** When it is selected, the following sub-menu will appear, use +, - button to choose your desired PC or HDTV output from the following output resolution.

**Output Setup**  
**Mode XGA-60**

### Output resolution:

#### PC


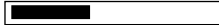

SXGA 1280 X 1024@60/75Hz  
 1280A 1280 X 960@60Hz  
 XGA 1024 X 768@60/70/75/85Hz  
 WXGA 1280 X 768@60Hz  
 SVGA 800 X 600@60/72/75/85Hz  
 VGA 640 X 480@60/72/75/85Hz  
 VGA 70 720 X 400@70Hz  
 VESA 85 640 X 400@85Hz  
 1152 X 864@ 70/75Hz

#### HDTV

720p-RGB 1280X 720@60Hz  
 576p-RGB 720X 576@60Hz  
 480p-RGB 720 X 480@60Hz  
 1080i-RGB 1920x1080@60Hz  
 720p-YPbPr 1280 X 720@50/60Hz  
 576p-YPbPr 720 X 576@60Hz  
 480p-YPbPr 720 X 480@60Hz  
 1080i-YPbPr 1920x1080@50/60Hz

## 5. Operation Controls and Functions

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


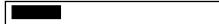
<b>Contrast</b>		047
<b>Bright</b>		102
<b>Color</b>		064
<b>Red</b>		128
<b>Green</b>		128
<b>Blue</b>		128
<b>Reset</b>		
<b>Exit</b>		

The adjustment range and factory preset value are as follows:

	<b>Range</b>	<b>Default</b>
<b>Contrast</b>	0-255	047
<b>Bright</b>	0-255	102
<b>Color</b>	0-255	064
<b>Red</b>	0-255	128
<b>Green</b>	0-255	128
<b>Blue</b>	0-255	128

Use +, - and MENU/Enter to adjust the value of your selected parameter.  
Select Reset to reset all adjustments 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.

**System Info**  
**INPUT: XGA 60**  
**OUTPUT: XGA 75**

**Auto Adjust:** When it is selected, the CP-251F will automatically adjust all the parameter to the factory preset value.

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

### Note:

\* The default output resolution of the CP-251F is XGA@60Hz.

The unit has last memory capability, thus can memorized all customers' setting before power off and recall those setting on next power on.

\* At any time of using the unit, press + and - buttons simultaneously will reset the output resolution to XGA@60Hz, and other settings back to factory default value.

## 6. Specifications

<b>Input Format</b>	RGBHV, YPbPr, YCbCr
<b>Input Signal Levels</b>	RGB @ 0.7V p-p, 75 ohm. H&V Sync @ 3-5Vp-p, TTL Y @ 1V p-p, 75 ohm. Pb,Cb,Pr, Cr @ 0.7V p-p, 75 ohm
<b>Output Format</b>	RGBHV, YPbPr
<b>Output Signal Levels</b>	RGB @ 0.7V p-p, 75 ohm. H&V Sync @ 3-5V p-p, TTL Y @ 1 V p-p, 75 ohm. Pb,Pr @ 0.7V p-p 75 ohm
<b>Input/Output Connector Type</b>	HD 15 Female
<b>Control</b>	Front Panel Buttons
<b>Information Display</b>	On Scerrn Display
<b>Video Adjustments</b>	Brightness, Contrast, Color, R-G-B Levels
<b>Weight</b>	10 oz. (280 grams)
<b>Dimensions-HxWxD</b>	1.2" x 3" x 5.5" (30 x 75 x 140mm)
<b>Power Source</b>	12VDC @ 800mA

### Input Signal Specifications

PC Resolution	Vert Rate	Format	Scan Type
VGA 640 X 480	60 Hz	RGsB	Progressive
VGA 640 X 480	60,72,75,85 Hz	RGBHV	Progressive
VESA85 640 X 400	85 Hz	RGBHV	progressive
VGA70 720 X 400	70 Hz	RGBHV	Progressive
SVGA 800 X600	60,72, 75, 85 Hz	RGBHV	Progressive
XGA 1024X768	60, 70, 75, 85 Hz	RGBHV	Progressive
Mac 1152X864	70, 75 Hz	RGBHV	Progressive
WXGA 1280X768	60 Hz	RGBHV	Progressive
1280A 1280X960	60 Hz	RGBHV	Progressive
SXGA 1280X1024	60 ,75 Hz	RGBHV	Progressive
HDTV Resolutions	Vert Rate	Format	Scan Type
480i 720 x 480	60 Hz	YCbCr,RGBHV	Interlace
576p 720 x 576	50 Hz	YPbPr, RGBHV	Progressive
576i 720 x 576	50 Hz	YCbCr, RGBHV	Interlace
720p 1280 x 720	50,60 Hz	YPbPr, RGBHV	Progressive
1080i 1920 x 1080	50,60 Hz	YPbPr, RGBHV	Interlace

### Output Signal Specifications

PC Resolution	Vert Rate	Format	Scan Type
VGA 640 X 480	60,72,75,85 Hz	RGBHV	Progressive
VESA85 640 X 400	85 Hz	RGBHV	progressive
VGA70 720 X 400	70 Hz	RGBHV	Progressive
SVGA 800 X600	60,72, 75, 85 Hz	RGBHV	Progressive
XGA 1024X768	60, 70, 75, 85 Hz	RGBHV	Progressive
Mac 1152X864	70, 75 Hz	RGBHV	Progressive
WXGA 1280X768	60 Hz	RGBHV	Progressive
1280A 1280X960	60 Hz	RGBHV	Progressive
SXGA 1280X1024	60, 75 Hz	RGBHV	Progressive
HDTV Resolutions	Vert Rate	Format	Scan Type
480p 720 x 480	60 Hz	YPbPr, RGBHV	Progressive
576p 720 x 576	60 Hz	YPbPr, RGBHV	Progressive
720p 1280 x 720	50,60 Hz	YPbPr, RGBHV	Progressive
1080i/540p 1920x1080	50,60 Hz	YPbPr, RGBHV	Pseudo Interlance