DVI, VGA & Component to DVI, VGA Scaler Converter - ID# 15443

Operation Manual

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Introduction

This DVI Scaler is designed to convert PC, SD, HD and DVI to digital DVI at a variety of HDTV and PC resolutions. It handles input and output signal at 165MHZ bandwidth with many great features to enhance video performance and is ideal for use in professional large screen presentation. It has the added benefit of control through front panel buttons, IR remote and there is on-screen menu (OSD) providing setting selection and system information.

Features

• High bandwidth and professional PC/Component/DVI to DVI Scaler that accepts PC RGB (up to WUXGA(RB)), HD Component (480i up to 1080p) and DVI (up to WUXGA(RB)) and scale them up to DVI-I output (1080p/WUXGA(RB))
• The input analog PC or HDTV signal in the format of either RGBHV, YPbPr, (YCbCr) or digital DVI.
• The output digital DVI plus analog PC/HD with selectable output resolution from 480i to 1080p and VGA to WUXGA(RB)
• The input resolution is automatically detected while the output resolution and refresh rate can be selected through OSD menu or front panel push buttons.
• Output picture adjustable on brightness, contrast, color, RGB level, and H-V position
• The DVI input is HDCP compliant which means if input is HDCP encrypted then DVI output is also HDCP encrypted. In this case the PC analog output will be turned off
• Includes advanced features such as Noise Reduction and overscan/underscan adjustment

Applications

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

System Requirements

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

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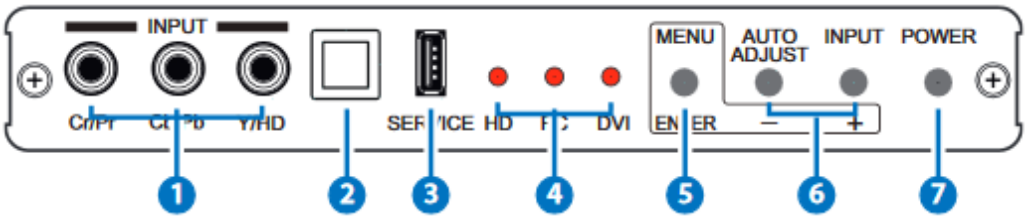
Operating Functions and Controls

Front Panel



1. Component Input:
Connects from source equipment using the enclosed 3RCA to 3RCA cable.

2. IR Window:
This IR window accept only the Infrared signal from the enclosed remote control only.

3. SERVICE:
This slot is reserved for firmware update only.

4. Input LED Indicators:
When one of the LED illuminates its corresponding source is being selected as input.

5. Menu/Enter:
This button serves 3 purposes:
a. Press the button to bring up OSD main menu as shown in the "OSD Operation". (OSD Menu Section Below)
b. To act as a "Enter" key to enter sub menu
c. To confirm the setting value of the selected parameter.

6. +/- button:
The buttons provide 3 functions:
a. Input ("+"):
Press the "+" button repeatedly to select your desired input source. The input sources are toggled through in the following sequence.

YPbPr→ (YCbCr) →PC DVI ┐
↑_____ ┘

b. Auto Adjust ("-"):
Press the "-" button to carry out picture auto adjust for analog inputs (component or PC). The device 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.

7. Power:
Press the button to turn ON or turn OFF (standby) the power of the unit. The unit will be direct power ON when the power supply is connected.

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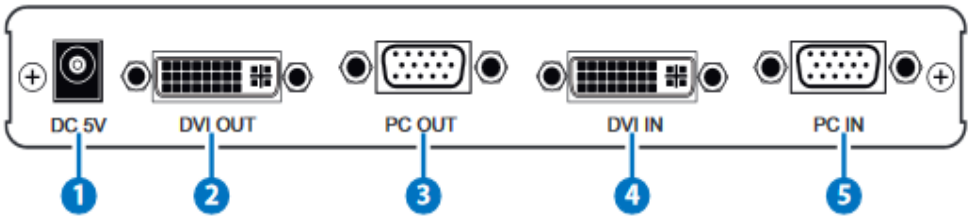
Rear Panel



1. DC 5V:

Connect to the power adaptor enclosed from AC wall outlet.

2. DVI OUT:

Connect this output to the DVI input or HDMI input of your Digital display.

Note:

When input is a HDCP encrypted DVI signal the DVI output is also HDCP encrypted.

The monitor/display that connected to this output also need to be HDCP compliant in order to get a nice and clean picture. A non-HDCP compliant display can only display non-HDCP signal and picture will become noise when input is a HDCP-encrypted signal.

3. PC OUT:

Connect this output port to the analog PC RGB input of your monitor, or connect it to the RGBHV input of your HD display using D-sub to 5 BNC adaptor cable. (not included in the package)

Note:

When input is a HDCP encrypted DVI signal this analog output will be turned off.

4. DVI IN:

Connects this DVI input connector to the DVI output connector of your DVI source equipment. The DVI input should be digital DVI only and should not include analog RGB signal.

The use of DVI-I connector is to ensure both DVI-I and DVI-D male connector of the DVI cable can fit into this input connector.

5. PC IN:

Connects this PC input connector to the VGA output of your PC. The acceptable PC resolutions range from VGA~WUXGA.

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OSD Menu

Main Menu	1st layer	2nd layer
Video	Contrast	0 ~ 60 (30)
	Brightness	0 ~ 60 (30)
	Hue	0 ~ 60 (30)
	Saturation	0 ~ 60 (30)
	Sharpness	0 ~ 60 (30)
	Picture Mode	User
		Standard
		Vivid
		Movie
	Scale	Overscan
		Underscan
		Letterbox
		Panscan
		Full
	NR	Low
		Middle
		High
		Off
	H-Position (PC)	0 ~ 60 (30)
	V-Position (PC)	0 ~ 60 (30)
	Exit	
Colour	User	
	Normal	
	Warm	
	Cool	
	Exit	
Output	VGA	
	SVGA	
	XGA	
	SXGA+	
	UXGA	

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	WXGA	
	WSXGA	
	SUXGA+	
	480i	
	480p	
	576i	
	576p	
	720p (50/60)	
	1080i (50/60)	
	1080p (50/60)	
	Native	
	Exit	
OSD	H. Position	
	V. Position	
	Time Out	
	Background	
	Exit	
Info	Source	
	Input	
	Output	
	Version	
	Exit	

Video/PC
(PC):
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.
Picture mode:
There are 4 picture modes for customer to choose from.
User:
Select to adjust to your favorite setting and store it.

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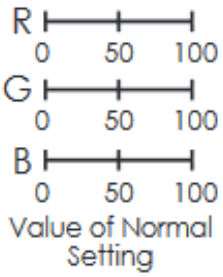
Standard:
Standard factory default setting for optimal display in a normal environment.
Vivid:
High saturation picture for optimal display in a bright room.
Movie:
Picture for comfortable low brightness display in a dark room.
Scale:
select overscan when input source is SD or HD video to ensure no black 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 DVI input. There are four steps of Noise Reduction-Off, Low, Middle and High. The Noise Reduction will remove the noise that results from analog to digital conversion and digital scaling processing.
H & V position:
To adjust for best horizontal and vertical position of the picture in the screen.

Color

User:
Select to adjust to your favorite color temperature setting.
Normal:
Normal color tone setting where white is pure white.
Warm:
Warm color tone makes white reddish.
Cool:
Cool color tone makes white bluish.



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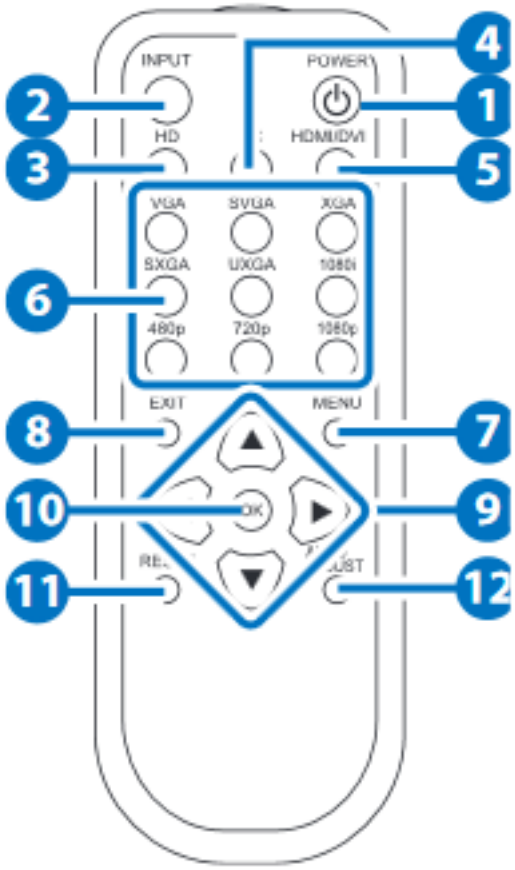
Remote Control



1. Power:
Press the button once to power ON the device. Press again to enter standby mode.
2. Input:
Press the button repeatedly to toggle through various input sources as follows.

Component → PC → DVI

3. HD input:
Press the button to select component input.
4. PC input:
Press the button to select PC input.
5. HDMI/DVI input:
Press the button to select DVI 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 setting to the factory default value.
12. Auto Adjust:
Press the button to optimize the position of the picture (picture centering) on the screen.

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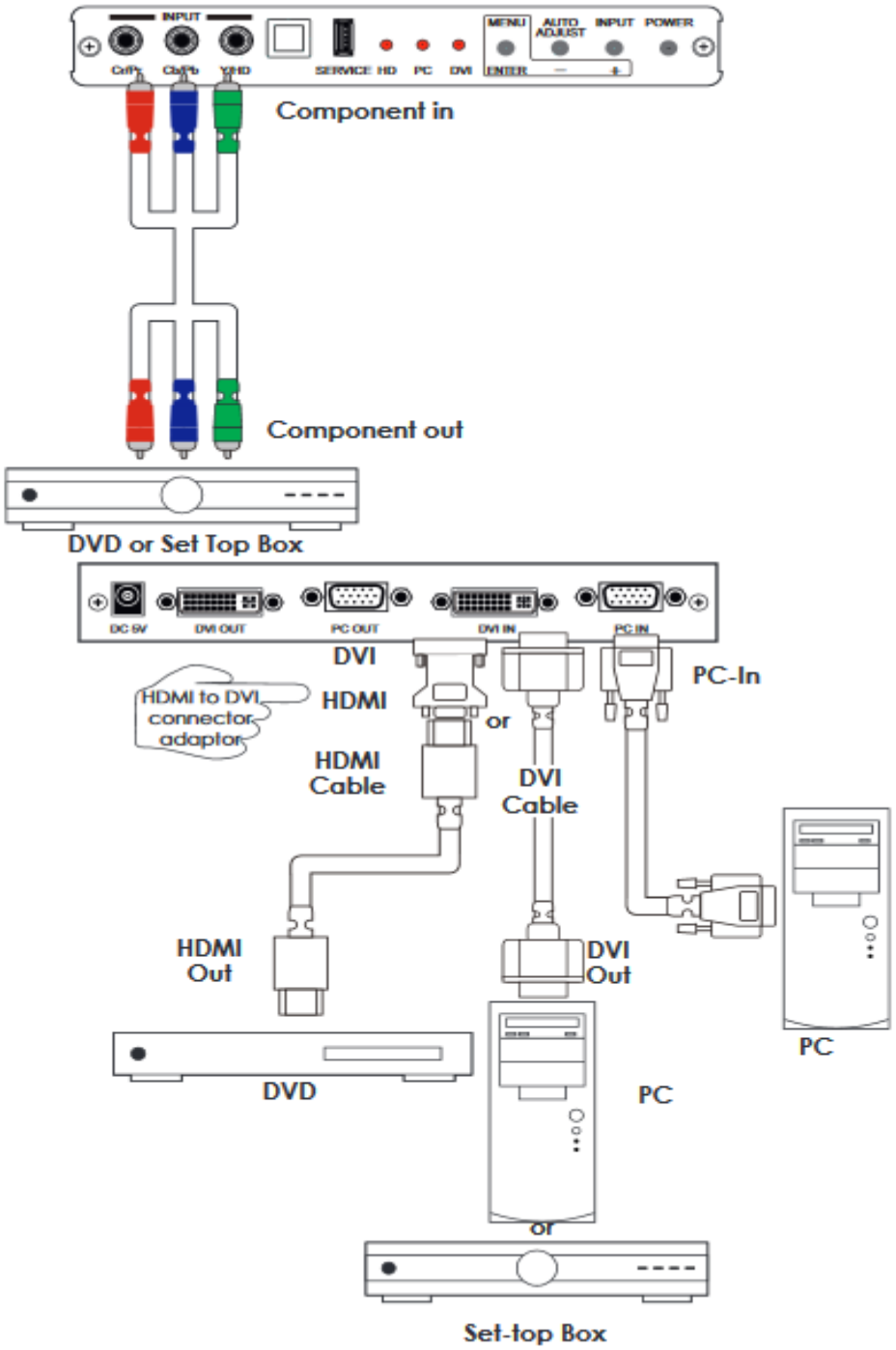
Connection Diagram

Input Connection



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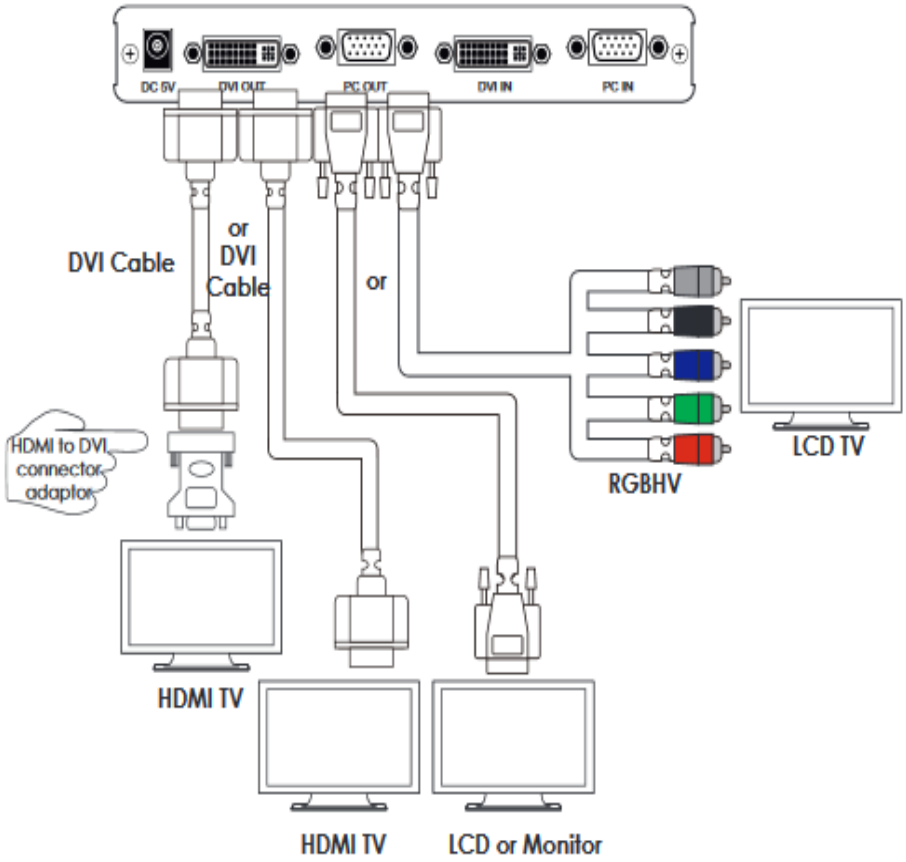
Output Connection



Specifications

Video Bandwidth	165 MHz
Input Connectors	YCbCr/YPbPr x 1 via 3 RCA jack PC RGB x 1 via 15 pin D-sub DVI x 1
Output Connectors	DVI x 1 PC 15 pin D-sub x 1
Dimension	180(W)x132(D)x25(H)mm
Weigh	452g
Power Supply	5V 2.6A (US/EU standards, CE/FCC/UL certified)
Chassis Material	Aluminum
Silkscreen Color	Gray
ESD Protection	Human body model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Operating Temperature	0°C ~ 40°C
Storage Temperature	-20℃ ~ 60℃ / -4℉ ~ 140℉
Relative Humidity	20 ~ 90% RH (non-condensing)
Power Consumption	6W

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I/O Resolutions

HDMI Compliant
Input Format (Up to 165Mhz)

Resolution	Input Compontent	D-Sub	DVI/HDMI
480i/576i	V		*
480p/576p	V	V	V
720p@(60/50)	V	V	V
1080i@(60/50)	V		V
1080p@(60/50)	V	V	V
VGA@(60/72/75/85)		V	V
SVGA@(56/60/72/75/85)		V	V
XGA@(60/70/75/85)		V	V
SXGA@(60/75/85)		V	V
UXGA@60		V	V
WXGA@60(1280X800)		V	V
WSXGA@60(1680X1050)		V	V
WUXGA@60(1920X1200)		V	V

* 480i 30x2 / 576i 25x2

Output format (Up to 165MHz)

Resolution	Output D-Sub	DVI?HDMI
480i/576i	*	*
480p/576p	V	V
720p@(60/50)	V	V
1080i@(60/50)	V	V
1080p@(60/50)	V	V

VGA@60(640x480)	V	V
SVGA@60(800x600)	V	V
XGA@60(1024x768)	V	V
SXGA@60(1280x1024)	V	V
UXGA@60		V
WXGA@60(1280X800)	V	V
WSXGA@60(1680X1050)		V
WUXGA@60(1920X1200)		V

*** 1440x480 / 1440x576**

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