Video to DVI 1080p Scaler Box
- ID# 796

Operation Manual

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Introduction

Video to DVI 1080p Scaler Box is an upgraded design to convert Standard Definition Composite Video (CV) and S-Video (SV) signals to High Definition PC and HDTV resolutions. Maximum output resolutions available are WUXGA and 1080p. With support for NTSC and PAL video format input, an in-built frame rate conversion feature from 50Hz to 60Hz ensures glitch-free viewing. The Video to DVI 1080p Scaler Box has many enhanced features to maximize video performance and is ideal for use in professional large screen presentations or private home theater applications.

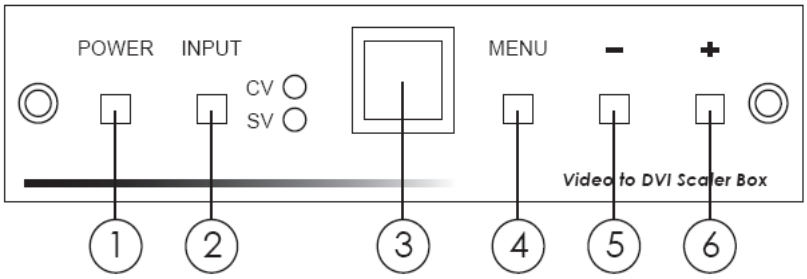
The Video to DVI 1080p Scaler Box DVI output is DVI-I (Integrated). This means that the output supports both Digital and Analog screens. The link can carry single or dual link all digital video/data signals on 24 pins, or Analog video/data signals and ground on 5 pins. This makes the Video to DVI 1080p Scaler Box ideal for use with any digital/analog video system.

Features

1. Motion adaptive 3D Y/C separation comb filter
(for composite video input)
2. 3D(frame Based) motion adaptive YNR/CNR noise reduction
(for Y/C video input)
3. Advanced 3D motion adaptive deinterlace
4. Automatic 2 : 2/3 : 2 film mode detection
5. Supports 50Hz to 60Hz frame rate conversion
6. Video quality improvement :
DCTI (Digital chroma transient improvement), DLTI (Digital luminance transient improvement),
Black level extension.
7. Average picture level (APL), Automatic contrast limiter (ACL) function supported.
8. OSD menu for picture quality adjustment.
9. Built-in 8-bit DAC for RGB or YPbPr output.
10. Front Panel and IR remote control.
11. Automatic NTSC/PAL video format detection and switching.

Operation Controls and Functions

Front Panel



1. Power button and LED indicator:
Press the button once to power on the unit, Press again to power off. when the unit is powered on, one of the input LEDs will illuminate depending on your last selection of input source before power off. The factory default setting for the input is CV (composite video).

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The green LED illuminates when composite video is selected.
The Yellow LED illuminates when S-Video is selected.

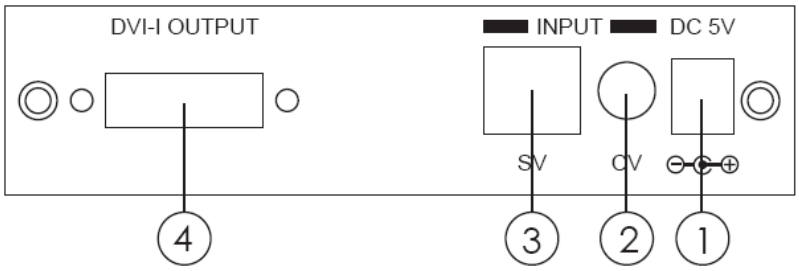
2. Input select button:
Press the button to select your desired input source between composite video and S- Video.

3. IR Sensor: Infrared remote control sensor.

4. Menu/Enter: This button serves two purposes.
a. Press the button to bring up OSD main control menu as shown in the "OSD Operation".
b. To act as a "enter" key to enter sub menu of you selected item or adjust value of the selected item.

5/6. +/- button: Press the button to move up or down the tick "V" to your desired parameter. Or after a parameter is selected by pressing MENU/ENTER button,
press the button to alter the value of your selected parameter.

Rear Panel



1. DC power jack: 5V 2A DC power input.

2. Composite Video: Use a Composite video cable to connect the composite video output of the source equipment to this composite video(CV) input of the scaler.

3. S-Video: Use a S-Video cable to connect the S-Video output of the source video equipment to this " S-Video" input on the back of the video scaler.
S-Video provides improved performance over composite video and is recommended over composite.

4. DVI output: The Video to DVI Scaler Box can output a variety of PC and HDTV progressive resolutions, in both digital and analog format through DVI-I connector.

Digital output: Connect Video to DVI Scaler Box's digital DVI output to the DVI input of your TV/display unit using a DVI to DVI cable .

Analog output: If you are to use Video to DVI Scaler Box's analog output to connect to the analog input of your PC or HDTV, you need to use a DVI to VGA adaptor to pull out analog signal from the DVI-I connector . The DVI to VGA adaptor is then connect to the VGA input of your display monitor through a VGA cable if output is PC resolution, or connect to the YPbPr input of your HDTV through a VGA to YPbPr/3 RCA adaptor cable if output is HDTV resolution.

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

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Output Format

a. The format of digital DVI output is digital RGB for all resolutions.

PC (RGBHV)			HDTV (RGBHV)		
VGA -RGB	640X480	60 Hz	1080p-RGB	1920x1080p	follow input source
SVGA -RGB	800X600	60 Hz	1080i-RGB	1920x1080i	follow input source
XGA -RGB	1024X768	60 Hz	720p-RGB	1280X720	follow input source
WXGA -RGB	1280X768	60 Hz	576p-RGB	720X576	50 Hz
SXGA -RGB	1280X1024	60 Hz	480p-RGB	720X480	60 Hz
UXGA -RGB	1600 x 1200	60 Hz			
WUXGA -RGB	1920 x 1200	60 Hz			

b. The format for analog PC output is RGB and for analog HD output is YPbPr.

PC (RGBHV)			HDTV (YPbPr)		
VGA -RGB	640X480	60 Hz	1080p-RGB	1920x1080p	follow input source
SVGA -RGB	800X600	60 Hz	1080i-RGB	1920x1080i	follow input source
XGA -RGB	1024X768	60 Hz	720p-RGB	1280X720	follow input source
WXGA -RGB	1280X768	60 Hz	576p-RGB	720X576	50 Hz
SXGA -RGB	1280X1024	60 Hz	480p-RGB	720X480	60 Hz
UXGA -RGB	1600 x 1200	60 Hz			
WUXGA -RGB	1920 x 1200	60 Hz			

OSD Operation

After power on the unit , press the menu button to bring up the main menu page as below:

Main Menu
Picture adj.
V Output Setup
Exit

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

Picture Adjust

When Picture Adjust is selected a sub menu as below comes up.

		Default	Range
	Bright	**16**	**1-31**
V	**Contrast**	**16**	**1-31**
	Color	**16**	**1-31**
	Tint	**16**	**1-31**
	Sharp	**05**	**1-19**
	Default	**OK**	
	Exit		

USE +,- to move the tick (V) to your desired adjust item, Press the Menu/Enter to confirm your selection.

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At this point, the selected parameter will turn red, and you can use +,- to increase or decrease the value of the parameter.
When adjustment is complete, Press "Menu" to leave the parameter. Move the tick "V" to "Exit", then press menu/enter to exit.

Output Setup

When Output Set up is selected a submenu as below appears:

Output Setup
V Timing XGA
Exit

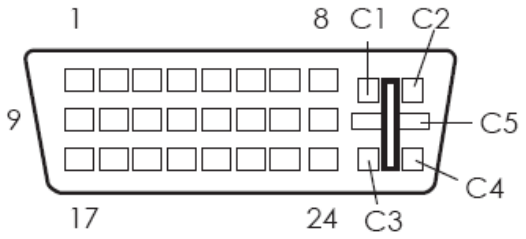
Press the " MENU/ENTER" button to enter into output timing select mode.
Press +,- to toggle through a variety of output resolutions as below.
Once your desired resolution is selected. press the menu/enter to enter the resolution.

	Resolution	Vertical rate
VGA	640x480	60Hz
SVGA	800x600	60Hz
XGA	1024x768	60Hz
WXGA	1280x768	60Hz
SXGA	1280x1024	60Hz
UXGA	1600x1200	60Hz
WUXGA	1920x1200	60Hz
480p	720x480	50Hz
576p	720x576	60Hz
720p	1280x720	follow input source
1080i	1920x1080i	follow input source
1080p	1920x1080p	follow input source

Note: 1. All output resolutions except 576p have 60Hz vertical rate, The 576p resolution has 50Hz vertical rate.

DVI-I Pin Configuration

DVI-Integrated(DVI-I): Supports both analog and digital connections to the display.
This 29-pin connector can carry single or dual-link all-digital video/data signals on 24 pins and uses 5 pins to carry analog video/data signals and ground.



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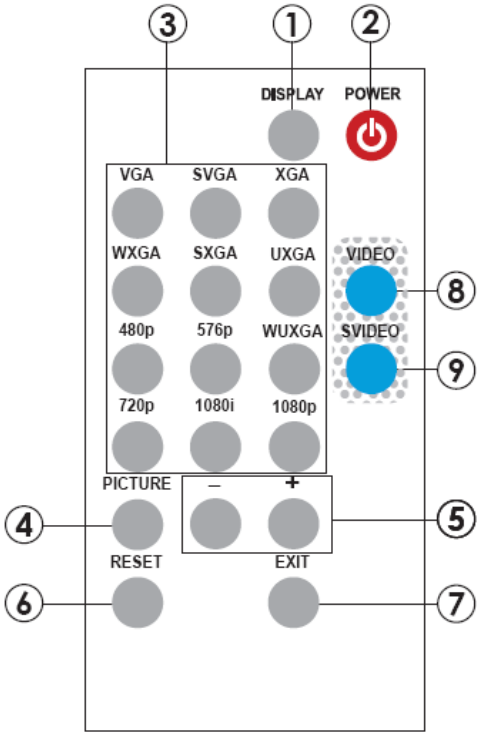
Combined Analog and Digital Connector Pin Assignments					
Pin	Signal Assignment	Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S Data2-	9	T.M.D.S Data1-	17	T.M.D.S Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	T.M.D.S. Data2 Shield	11	T.M.D.S. Data1 Shield	19	T.M.D.S. Data0 Shield
4	N.C.	12	N.C.	20	N.C.
5	N.C.	13	N.C.	21	N.C.
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (Return for +5V, Hsync, and Vsync)	23	T.M.D.S. Clock+
8	Analog Vertical Sync	16	Hot Plug Detect	24	T.M.D.S. Clock-
C1	Analog Red	C2	Analog Green	C3	Analog Blue
C4	Analog Horizontal Sync	C5	Analog Ground (Analog R,G,&B return)		

Remote Control

1. Display: Press the button to display input source and output resolution on the screen.
2. Power: Power ON/OFF button.
3. VGA~1080p: Press to select your desired output resolution.
4. Picture: Press the button to enter picture adjust submenu. Use +,- button to move cursor (V) up/down to your desired parameter, press "Picture" again to confirm.
5. +/-: Press to move up/down the cursor (V) to your desired parameter,or press to increase/decrease the setting value.
6. Reset: Press to reset all setting back to factory default value.
7. Exit: To exit OSD.
8. Video: Press the button to select composite video input.
9. SVideo: Press the button to select SVideo input.



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Specifications

Input Signal Levels	Video@1Vp-p, 75 ohm, Y@1 Vp-p, 75 ohm Color@ 0.7 Vp-p, 75 ohm
Output Format	Digital RGB
Output Connector	DVI-I Connector
Output Singnal	Bit stream
Weight(g)	400
Dimensions(mm)	125(W) x 123(D) x 30(H)
Operating Temperature	0°C~40°C
Silkscreen Color	Process Blue

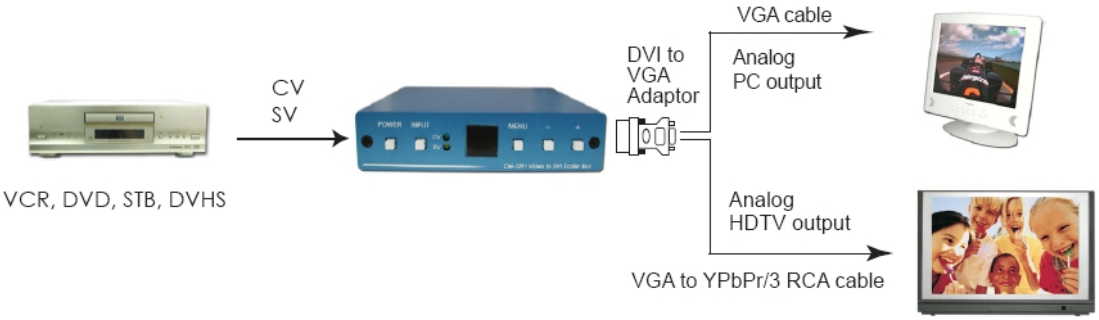
Output Signal Specifications

PC (RGBHV)			HDTV (RGBHV)		
VGA -RGB	640X480	60 Hz	**1080p-RGB**	1920x1080p	follow input source
SVGA -RGB	800X600	60 Hz	**1080i-RGB**	1920x1080i	follow input source
XGA -RGB	1024X768	60 Hz	**720p-RGB**	1280X720	follow input source
WXGA -RGB	1280X768	60 Hz	**576p-RGB**	720X576	50 Hz
SXGA -RGB	1280X1024	60 Hz	**480p-RGB**	720X480	60 Hz
UXGA -RGB	1600 x 1200	60 Hz			
WUXGA -RGB	1920 x 1200	60 Hz			

Connection and installation

a. Digital Out: Connect to your TV through digital DVI interface

b. Analog Out: Connect to your TV through VGA or component interface in case your TV has no DVI input



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