

geratech®



EGE-293N

PC/VGA to HDMI
Scaler



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Version 1.0 September 2011

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
VR0	11/08/14	Preliminary Release
VR1	25/12/14	Add Audio Cable
VR2	13/01/15	D-Sub Cable Type

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1. INTRODUCTION

This Scaler Box is designed to upscale analog video signal from PC/HD input source to digital HDMI output of wide-range HDTV and PC resolutions, up to 1080p/WUXGA. Besides video upscaling, the scaler box also converts input audio signal from Optical or L/R to both digital and analog formats, then output to HDMI combining with the video, Optical and phone jack (L/R audio) simultaneously. This unit has a comprehensive OSD menu that allows user to select a variety of output resolutions and adjust for best picture quality.

2. APPLICATIONS

- Displaying PC contents on to HDMI display
- Household PC signal enlargement on to TV
- Lecture room/Showroom/Meeting room/Classroom signal display

3. PACKAGE CONTENTS

- 1 x PC to HD Scaler
- 1 x D-Sub to D-Sub cable
- 1 x 3.5mm to L/R cable
- 1 x 5 V/2.6 A DC Power Adaptor
- Operation Manual

4. SYSTEM REQUIREMENTS

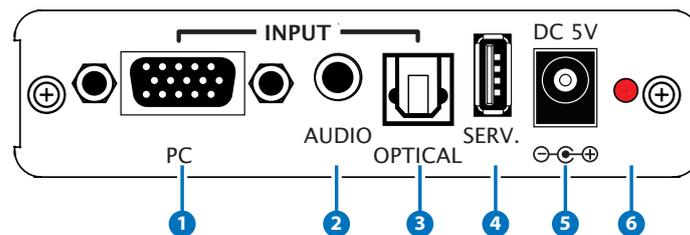
Input source equipment such as PC/Laptop and output display with HDMI input jack.

5. FEATURES

- HDMI, HDCP and DVI compliant
- Supports full range of PC resolution from VGA ~ WUXGA (RB) and HD resolution from 480i~1080p
- Automatically detect the factory setting of the connected display and output the corresponding resolution and refresh rate, when the NATIVE output is selected
- Provides output picture adjustment on contrast, brightness, hue, saturation, sharpness, RGB (color tone) level and aspect ratio size
- Supports stereo LPCM analog/digital audio input and stereo LPCM analog/digital output by selecting among the audio input sources in the OSD menu and simultaneously output to HDMI, Optical and phone jack

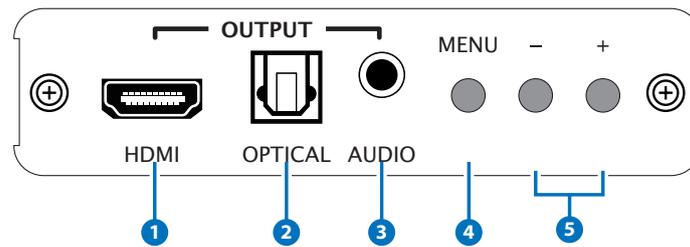
6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



- 1 PC INPUT:** Connect from source equipment such as PC/Laptop with D-Sub 15-pin cable or DVD player with D-Sub to RCA adaptor.
- 2 AUDIO INPUT:** Connect from the audio source equipment such as DVD/PC with 3.5mm phone jack for analog audio signal input.
- 3 OPTICAL INPUT:** Connect from the audio source equipment such as DVD/Blu-ray player with optical cable for digital audio signal input.
- 4 SERV.:** This port is reserved for firmware update only.
- 5 DC 5V:** Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet.
- 6 Power LED:** This LED will illuminate once the device is connected with power supply.

6.2 Rear Panel

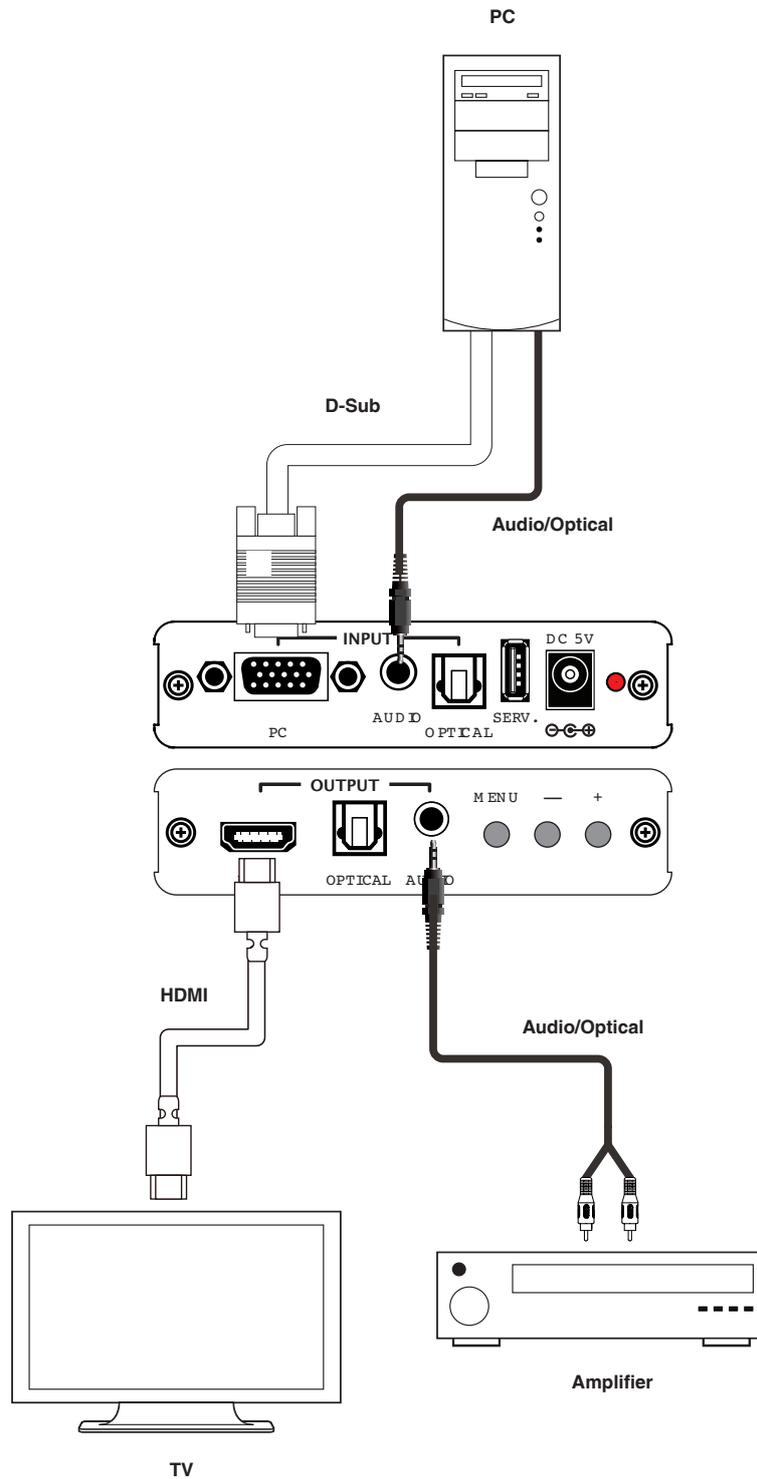


- ① **HDMI OUTPUT:** This slot is to connect with HDMI TV/Monitor for output image display.
- ② **OPTICAL OUTPUT:** Connect to an amplifier or active speaker with optical cable for audio output.
- ③ **AUDIO OUTPUT:** Connect to an amplifier or active speaker with 3.5mm phone jack for audio output.
- ④ **MENU:** Press this button to enter into the OSD menu and press it again to enter into the selection.
- ⑤ **+/- button:** Press these buttons to
 - a. move up/down the OSD selection,
 - b. to adjust the value,
 Under normal operation (outside of OSD selection)
 - c. Press “-” button to do AUTO POSITION under PC mode only,
 - d. Press “-” together with “MENU” to switch output resolution to 720P@60 instantly,
 - e. Press “+” together with “MENU” to switch output resolution to XGA@60 (1024x768) instantly
 - f. Press both “+” together with “-” to set the device back to factory reset setting.

6.3 OSD Menu

Main Menu	1 st Layer	2 nd Layer
PICTURE SETTING	CONTRAST	0~100 (50)
	BRIGHTNESS	0~100 (50)
	EXIT	□
FINETUEN PC Mode Only	PHASE	0~100 (100)
	CLOCK	0~100 (50)
	H-POSITION	0~100 (50)
	V-POSITION	0~100 (50)
	EXIT	□
FINETUEN HD/SD Mode Only	HUE	0~100 (50)
	SATURATION	0~100 (50)
	SHARPNESS	0~100 (50)
	NR	OFF/LOW/MIDDLE/HIGH (OFF)
	EXIT	□
COLOR SETTING	RED	0~100 (50)
	GREEN	0~100 (50)
	BLUE	0~100 (50)
	EXIT	□
OUTPUT SETTING	SIZE	FULL/OVERSCAN/UNDERSCAN/LETTER BOX/ PANSCAN/ ASPECT (FULL)
	RESOLUTION	640x480@60 / 800x600@60 / 1024x768@60 / 1280x1024@60 / 1400x150@60 / 1600x1200@60 / 1280x800@60 / 1440x900@60 / 1680x1050@60 / 1920x1200@60RB / 1600x900@60 / 480P / 720P@60 / 1080I@60 / 1080P@60 / 576P / 720P@50 / 1080I@50 / 1080P@50
	EXIT	□
AUDIO SETTING	DELAY	OFF/40mS/110mS/150Ms (OFF)
	INPUT	ANALOG/OPTICAL (ANALOG)
	SOUND	ON/MUTE (ON)
	EXIT	□
OSD SETTING	H-POSITION	0~100 (10)
	V-POSITION	0~100 (90)
	TIMER	0~100 (50)
	BACKGROUND	0~100 (50)
	DISPLAY	INFO/ON/OFF (INFO)
	EXIT	□

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

Video Bandwidth	225MHz / 6.75Gbps
Input Ports	1 x D-Sub 15-pin, 1 x 3.5mm Phone Jack, 1 x Optical, 1 x USB (service only)
Output Ports	1x HDMI, 1 x Optical, 1 x 3.5mm Phone Jack
HDMI output Resolution	Up to 1080p & WUXGA@60 (RB)
Audio Sampling Rate	Up to 48 kHz / Optical & HDMI
Power Supply	5V/2.6A DC (US/EU standards, CE/FCC/ UL certified)
ESD Protection	Human body model: ±8kV (air-gap discharge) ±6kV (contact discharge)
Dimensions	102 (W) x 147 (D) x 25(H)/Jack Excluded 102 (W) x 157 (D) x 25(H)/Jack Included
Weight	340 g
Chassis Material	Aluminum
Silkscreen Color	Black
Operating Temperature	0°C~40°C / 32°F~104°F
Storage Temperature	-20°C ~ 60°C / -4 °F ~ 140 °F
Relative Humidity	20 ~ 90% RH (non-condensing)
Power Consumption	4.8W

8.1 Audio Specification Chart

Input Level/Freq.	Output Terminal	Output Level	THD+N	Frequency Response	SNR	Crosstalk
Digital 0dB/1kHz	Digital	0dB ~ -1dB	<0.01%	±3dB	>70dB	<-80dB
Analog 1Vrms/1kHz	Digital	0dB ~ -1.5dB	<0.1%	±3dB	>70dB	<-60dB
Digital 0dB/1kHz	Analog	0.5Vrms ±10%	<0.1%	±3dB	±3dB	<-60dB
Analog 1Vrms/1kHz	Analog	0.5Vrms ±10%	<0.1%	±3dB	>70dB	<-60dB

8.2 Supporting Timing Chart

□	INPUT		OUTPUT	
	PC	SD/HD	PC	SD/HD
640x480@60/72/75/85	V	□	V@60	□
800x600@56/60/72/75/85	V	□	V@60	□
1024x768@60/70/75/85	V	□	V@60	□
1280x1024@60/75/85	V	□	V@60	□
1400x1050@60	V	□	V	□
1600x1200@60	V	□	V@60	□
1280x800@60	V	□	V@60	□
1440x900@60	V	□	V	□
1600x900@60	V	□	V	□
1680x1050@50/60	V	□	V@60	□
1920x1200@60RB	V	□	V	□
480I/576I	□	V	□	□
480P/576P	□	V	□	V
720P@50/60	□	V	□	V
1080I@50/60	□	V	□	V
1080P@50/60	□	V	□	V

9. ACRONYMS

ACRONYM	COMPLETE TERM
HDMI	High-Definition Multimedia Interface
WUXGA (RB)	Widescreen Ultra Extended Graphics Array (Reduce blanking)



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