Emerge® VSS1000H
HDMI Video Scaler

Installer/User Guide

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1.0 INTRODUCTION

The VSS1000H HDMI video scaler is a high bandwidth, professional quality product that accepts HDMI signals, DVI signals (via DVI to HDMI adapter cable), PC generated RGB signals (up to WUXGA), HD component signals (YPbPr/YCbCr, 480i up to 1080p), S-Video and composite video signals along with stereo audio.

1.1 Features

The VSS1000H has many features that enable it to perform in a superior manner. Among those features you will find:

- HDMI Output Resolutions to 1080p
- HDMI and DVI Input Resolutions to 1080p
- Accepts and Processes HDCP Compliant Signal
- Both YPbPr and YCbCr HDTV Inputs Supported
- SV and CV Inputs supported
- PC RGB inputs to WUXGA@60Hz
- Both Analog and Digital Audio Capable
- Audio Delay Encoding System
- 3-D Motion Adaptive De-Interlace and Noise Reduction
- 3:2 Pull-Down w/2:2 Pull-Down Recovery
- 2 Tier OSD (On Screen Display)
- Front Panel or Infrared Remote Control

2.0 SPECIFICATIONS

Video Inputs	
HDMI 1.2 Video	Via 1x HDMI Connector
PC RGB Video	Via 1x HD-15 Connector
Analog HDTV Video	Via 3x RCA Connectors
S-Video	Via 1x 4-pin Mini Din
Composite Video	Via 1x RCA Connector
Audio Inputs	
Digital Audio (S/PDIF)	Via 1x Coax Connector
Analog Audio (Stereo)	Via 6x RCA and 2x 3.5mm
Video Inputs Supported	
HDMI	1.2 Compliant to 1080p
PC RGB	Up to WUXGA@60Hz
Analog HDTV/RGB	YPbPr / YCbCr to 1080p
DVI (Via DVI to HDMI Cable)	To 1080p (w/HDCP 1.0)
S-Video	Standard Format
Composite Video	Standard Format
Video Output	
HDMI Video	Via 1x HDMI Connector
Audio Outputs	
Integrated into HDMI Stream	Digital Per HDMI Spec.
Digital Audio (S/PDIF)	Via 1x Coax Connector
Audio Delay Adjustment	Off, 40ms, 110ms, 150ms
Video Outputs Supported	
HDMI	Version 1.2 to 1080p
Freq Bandwidth	Single Link, 1.65Gbps
Device Control	
Front Panel	Via 6x Switches + joystick & OSD
Remote	Via IR Remote CTL + OSD
RS-232	Via RS-232 Connector
Scaling Engine	

Phased Lock Loops Employed	8-bit triple ADC
De-Interlace	3D Motion Adaptive
Noise Reduction	3D
Pull-Down	3:2 + 2:2 Recovery
HDMI Compliance	V 1.2
HDCP Compliance	V 1.0
Image Component Processing	Full Time/Full Range
Mechanical	
Size (H-W-D)	1.7x8.5x6.45” (47x215x164mm)
Weight (Net)	2.2 Lbs (1kg)
Environmental	
Operating Temperature	0° to +48°C (+32° to +120°F)
Operating Humidity	10% to 85%, Non-condensing
Storage Temperature	-10° to +70°C (+14° to +158°F)
Storage Humidity	10% to 85%, Non-condensing
Power Requirement	
External Power Supply	5VDC@2A
Regulatory Approvals	
Converter Unit	FCC, CE, RoHS
Power Supply	UL, CUL, CE, PSE, GS, RoHS
Accessories Included	
1x AC Power Adapter	Localized
1x Operations Manual	
1x Remote Control	Infrared Type

2.1 Supported Resolutions

The VSS1000H HDMI Scaler provides excellent resolution capability for PC plus SD & HD TV input and output signals. The table below shows the available resolutions:

Input Signals	
PC	VGA@(60/72/75/85Hz) SVGA@(56/60/72/75/85Hz) XGA@(60/70/75/85Hz) SXGA@(60/75/85Hz) UXGA@60Hz WXGA@60Hz, WSXGA@60Hz, WUXGA@60Hz
SD/HD	480i, 480p, 576i, 576p, 720p@(50/60Hz), 1080i@(50/60Hz), 1080p@(50/60Hz)
Output Signals	
PC	VGA@60Hz SVGA@60Hz XGA@60Hz SXGA@60Hz UXGA@60Hz WXGA@60Hz, WXGA+@60Hz, WSXGA@60Hz, WUXGA@60Hz
SD/HD	480i, 480p, 576i, 576p, 720p@(50/60Hz), 1080i@(50/60Hz), 1080p@(50/60Hz)

3.0 CHECKING PACKAGE CONTENTS

Before attempting to use this unit, please check the packaging and make certain the following items are contained in the shipping carton:

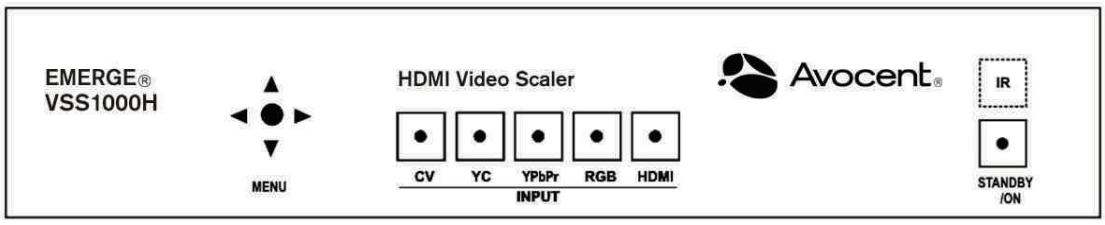
- 1x VSS1000H Scaler
- 1x Power Supply
- 1x IR Remote Control
- 1x User Guide

Note: Please retain the original packing material should the need ever arise to return the unit. If you find any items are missing, contact your reseller or Avocent immediately.

4.0 CONNECTING THE HARDWARE

Referring to the drawings below, connect the proper cables and then connect the AC power adapter.

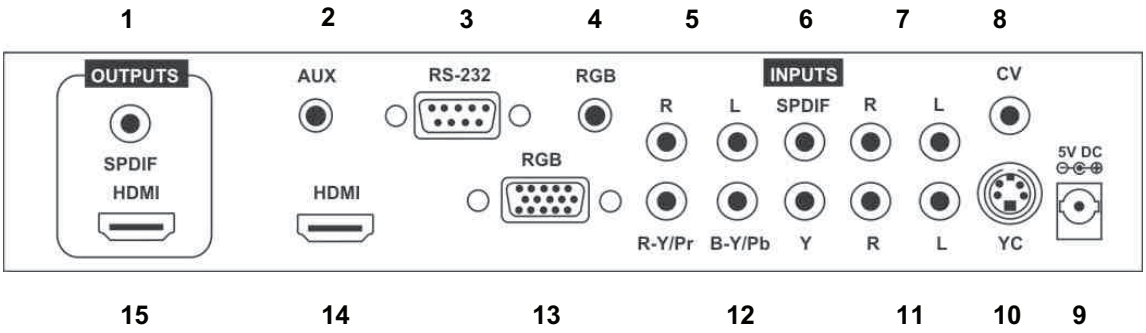
Front Panel Controls: The front panel has controls to manually control the VSS1000H HDMI Scaler.



Above the word “MENU” you’ll find a joystick/switch control that allows access to and adjustment of various operational items. Pressing inward on the tip of the joystick will bring up the menu On Screen Display (OSD) and the joystick will allow you to move to, select and then adjust the various functions.

The five buttons in the middle, CV, YC, YPbPr, RGB and HDMI, allow you to select the type of input you desire. The Standby/On button is the power switch and above it is the IR sensor used with the included remote control.

Rear Panel Connectors: The rear panel has the connectors required to interface the VSS1000H to the External Inputs, Outputs and Power Supply. The numbers above and below the drawing relate to the connector directly above or below the number. Refer to the corresponding number and functional description below.



1 S/PDIF Audio Output. (Used when an HDMI Integrated Audio Steam is not desired.)
2 3.5mm Aux Audio Input. (Used when the Video Signal is DVI using the HDMI Port.)
3 RS-232 Remote Control Connector
4 3.5mm PC Audio Input. (Connects to Computer's Audio Output.)
5 Stereo Analog Audio Input for Component Video Input (2x RCA Connectors).
6 S/PDIF Audio Input.
7 Stereo Analog Audio Input for Composite Video Input (2x RCA Connectors).
8 Composite Video Input (RCA Connector).
9 +5 VDC Input. (Connects to AC Adapter.)
10 S-Video Input (4-Pin Mini-Din).
11 Stereo Analog Audio Input for S-Video Input (2x RCA Connectors).
12 Component Video Inputs (3x RCA Connectors).
13 PC Video Input (HD-15 Connector from PC's Monitor Output).
14 HDMI Video Input.
15 HDMI Video Output.

Connect the furnished AC adapter to the VSS1000H. (Use only the furnished adapter to avoid the possibility of equipment damage due to over-voltage or under-current from generic AC Adapters). Next, connect the appropriate cables to the Input(s) and Output and turn on the source and destination devices.

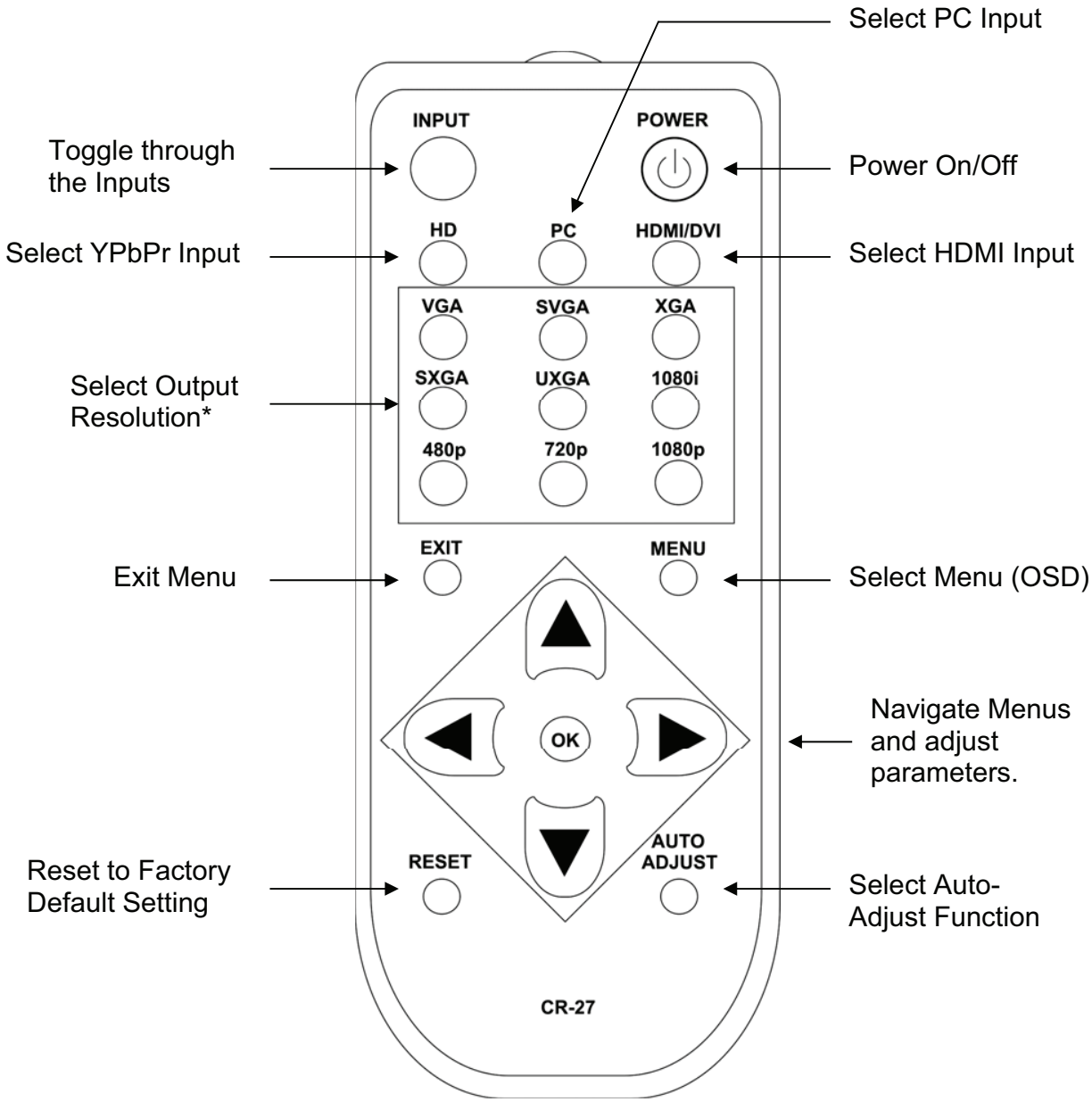
Plug the AC Adapter into the AC wall outlet and press the Power "On" button. Verify that the LED above the switch lights which indicates that power has been applied to the VSS1000H.

Note 1: To realize maximum quality and performance, use only the highest quality cables with the VSS1000H. Low quality cables will cause degradation of the signal quality and limit the distance between both the source and destination devices and the VSS1000H.

5.0 OPERATING THE UNIT

The VSS1000H can be operated from either the front panel controls or via the included Infrared Remote Control.

Since Infrared is the control method used most often by the majority of users, please take the time to familiarize yourself with the location and function of the various control buttons on the Controller.



** For resolutions not accessible from the Remote, Use the OSD capability.*

5.1 Using the On Screen Display Menus

Regardless of whether you operate the product from the front panel or using the Remote Controller, you will need to become familiar with the OSD (On Screen Display) menu structure if you wish to take full advantage of the capability of the product.

5.1.1 Menu Navigation:

If you are using the front panel control method, you can select the desired function by pressing the top of the joystick immediately above the MENU legend to bring up the On Screen Display and then move the joystick to navigate to the desired function. Once at the desired function, press the top of the joystick to make the selection and then move the joystick (left or right) to make the actual adjustment. Once you've made the adjustment, press the top of the joystick a last time to save your adjustment. Escape from the OSD menu modes is accomplished by positioning the cursor over the word "Exit" in any menu and then pressing the top of the joystick.

From the IR remote controller, press the menu key to activate the OSD, use the arrow buttons to navigate to the selection you want and then use the arrow buttons and the "OK" button to make your adjustment or selection. Press the "Exit" button to escape from the OSD mode.

5.1.2 Menu Structure

The main structure is as follows:

The VSS1000H OSD (On Screen Display) Menu structure is a two tier display. You first select the high level portion of the menu (Video, Color, Output, OSD Characteristics, Audio, Information or Exit) and then, with the exception of the Exit function; a secondary menu will appear where specific adjustments or operational selections can be made.

High Level	Secondary Level	Adjustment
Video	Picture Mode	User/Standard/Vivid/Movie
	Contrast	0-100 Relative Contrast Adjustment
	Brightness	0-100 Relative Brightness Adjustment
	Hue	0-100 Relative Hue Adjustment
	Saturation	0-100 Relative Color Level Adjustment
	Sharpness	0-100 Relative Picture Sharpness Adjustment
	Scale	Overscan / Underscan / Letterbox / Panscan / Full
	Noise Reduction	Low / Middle / High / Off
	Exit	Return to High Level Menu
Color	Color Tone	User / Normal / Warm / Cool
	Red	0-100 Relative Red Color Level
	Green	0-100 Relative Green Color Level
	Blue	0-100 Relative Blue Color Level
	Exit	Return to High Level Menu
Output [2]	-	Native / VGA / SVGA / XGA / SXGA / UXGA / 480i / 480p / 720p@60Hz / 1080i@60Hz / 1080p@60Hz / 576i / 576p / 720p@50Hz / 1080i@50Hz / 1080p@50Hz / WXGA / WSXGA / WUXGA
OSD Control [3]	H Position	0-100 Relative L-R Position
	V Position	0-100 Relative U-D Position
	Timer	0-100 Relative OSD Show Time (Sec)
	Transparency	0-100 Relative OSD Text Transparency
	Exit	Return to High Level Menu

Audio [4]	Source	HDMI / L-R / Coaxial
	Delay	OFF / 40MS / 110 MS / 150 MS
	Sound	On/ Mute
	Exit	Return to High Level Menu
Information [5]		Source (Input Interface)
		Input (Input Resolution)
		Output (Output Resolution)
		Version (Firmware Version)
Exit		Close the OSD Menu

OSD Menu Notes:

Note 2: The Output sub-menu allows you to specify the resolution you want the VSS1000H to produce. Keep in mind that setting the resolution can cause an apparent malfunction if you select a resolution that your display device cannot reproduce. Make certain your display device can reproduce the resolution you select BEFORE you select it.

Note 3: The OSD sub-menu allows you to customize the way the On Screen Display appears when it has been accessed. This is a matter of personal preference. You can change the default if you wish or simply leave it at the factory setting.

Note 4: Since Video and Audio Lip Sync can be lost in Digital Television, the VSS1000H provides a secondary menu item called "Delay" under the Audio high level menu selection where audio delay can be introduced to restore lip sync. Use this function if you hear audio before the video portion of the program appears to make the sound.

Note 5: The Info sub-menu contains technical information. If you have problems with the VSS1000H and require assistance, the technician may ask you to read information from this menu as part of the troubleshooting process.

6.0 TROUBLESHOOTING

If the VSS1000H Scaler does not appear to be functioning, be certain that the source and all other devices connected to the unit are functioning correctly by connecting each device currently connected to the VSS1000H's outputs directly to the source using a short length of cable. (In other words, bypass the VSS1000H to insure that the problem is not with the source or destination devices.) If the signal is present under those conditions, make certain that the power is present to the VSS1000H. If it is, check all cables for damage. Cables should be undamaged, as short as possible and should be premium quality.

Note: It is strongly recommended that you use premium cables in order to achieve maximum distance cable runs and the best performance possible. Use of low quality cables will seriously degrade the performance of the VSS1000H HDMI *video scaler.*

As a final step before contacting technical support, use the IR remote and press the RESET button which will return the unit to the default settings.

After trying the above suggestions should the problem still persist, contact your dealer for additional suggestions before contacting Avocent. Should the dealer's technical personnel be unable to assist you, contact Avocent via our support website: ***http://avocent.com/support.*** Create a technical support request on the site and our support team will respond within a short period of time.

7.0 LIMITED WARRANTY

LIMITED WARRANTY – With the exceptions noted in the next paragraph, Avocent Corp. warrants the original purchaser that the equipment it manufactures or sells will be free from defects in materials and workmanship for a period of two years from the date of purchase. Full warranty details are available on the Avocent web site.

LIMITATIONS - All products sold are "as is" and the above Limited Warranty is in lieu of all other warranties for this product, expressed or implied, and is strictly limited to two years from the date of purchase. Avocent Corp. assumes no liability to distributors, resellers or end-users or any third parties for any loss of use, revenue or profit.

Avocent Corp. makes no other representation of warranty as to fitness for the purpose or merchantability or otherwise in respect of any of the products sold. The liability of Avocent Corp. with respect to any defective products will be limited to the repair or replacement of such products. In no event shall Avocent Corp. be responsible or liable for any damage arising from the use of such defective products whether such damages be direct, indirect, consequential or otherwise, and whether such damages are incurred by the reseller, end-user or any third party.

8.0 REGULATORY COMPLIANCE

Emissions: EN 55103-1: 1997 (Electromagnetic compatibility. Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Emission)

EN 61000-3-2:2000+A1:2001+A2:2005 (Limits for Harmonic Currents Emissions)

EN 61000-3-3:2000+A1:2001+A2:2005 (Limitation of voltage fluctuations and flicker in low-voltage supply systems)

Immunity: EN55103-2: 1997 (Electromagnetic compatibility. Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Immunity)

FCC Statement
Class A Device: This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide a reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the Instruction Manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Caution: This equipment is intended for use in the manner prescribed in the Instruction Manual. Any user changes or modifications not expressly approved by Avocent Corporation could void the user's authority to operate the equipment. Connecting this equipment to external devices requires no specially shielded cabling for FCC compliance. The Instruction Manual shows or describes the proper connection of this equipment for operation that insures FCC compliance.

Direct all inquiries regarding FCC compliance to:

Avocent Corporation
4991 Corporate Dr.
Huntsville, AL 35805

This Product and power adapter is RoHS Compliant.

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590-457-501A