

# **MuxLab** **PRODIGITAL™**

## **VGA to HDMI Converter with Scaler Installation Guide**

**500149**



## SAFETY PRECAUTIONS

Please read all instructions before unpacking, installing or operating 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	Date	Description
1.0	2014/12/01	Release Version

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# 1. Introduction

## 1.1 Introduction to VGA to HDMI Converter with Scaler

The VGA to HDMI Converter with Scaler is designed to scale analog video from PC input source to digital HDMI output of wide-range HD and PC resolutions up to 1080p or WUXGA. Besides video scaling, the device can convert analog stereo audio input to digital format and embed it to HDMI output as 2-Channel LPCM. This unit has a comprehensive resolution button that allows user to select a variety of output resolutions and adjust for best picture quality.

## 1.2 Features

- HDMI and DVI 1.0 Compliant.
- Scales many PC resolutions to many HD or PC resolutions.
- Support high resolution output (see Section 5).
- PC resolutions supported: VGA, SVGA, XGA, SXGA, UXGA, WXGA, WSXGA, WUXGA.
- SD/HD resolutions supported: 480i, 576i, 480p, 576p, 720p, 1080i, 1080p.
- Automatically detects the factory settings of the connected display and outputs the corresponding resolution and refresh rate, when the NATIVE resolution is selected.
- Supports stereo analog input with PC video to HDMI output.
- Supports firmware upgrading via USB.
- Powered by local 5VDC power supply with locking connector.
- Elegant Aluminium enclosure designed for ruggedness and better cooling.

## 1.3 Package Contents

This product is delivered with the following parts.

- One (1) VGA to HDMI Converter with Scaler
- One (1) Power Adapter; 5VDC, 2.6A with Interchangeable Blades for the US, the UK , Europe and Australia
- One (1) Installation Guide

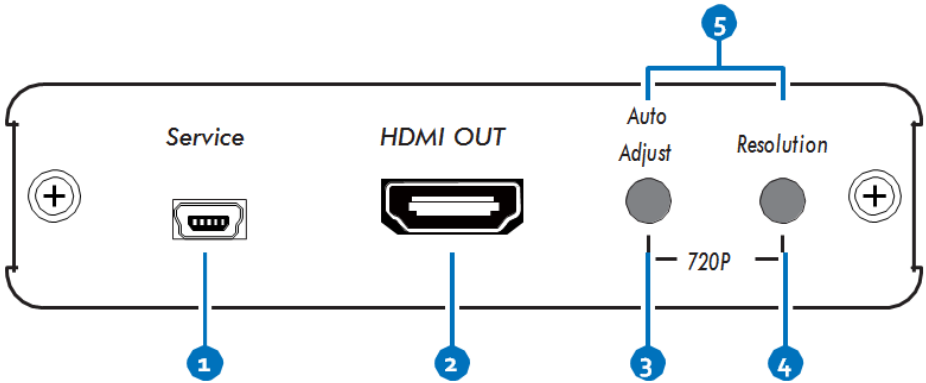
Please confirm that the product and the accessories are all included. If not, please contact your local distributor where the unit was purchased.

## 2. Specifications

<b>Environment</b>	HDMI 1.3
<b>Devices</b>	Plasma, projectors, monitors, TV, PC, laptops, servers.
<b>Transmission</b>	Transparent to the user
<b>Video Resolution</b>	PC: VGA, SVGA, XGA, SXGA, UXGA, WXGA, WSXGA, WUXGA SD/HD: 480i, 576i, 480p, 576p, 720p, 1080i, 1080p
<b>Audio Bandwidth</b>	20Hz to 20KHz
<b>Audio Impedance</b>	>10Ω
<b>Audio SNR</b>	>70dB @ 20Hz to 20KHz
<b>Signals</b>	HDMI 1.3a protocol and HDCP
<b>Connectors</b>	One (1) VGA HD-15 input receptacle One (1) Audio input 3.5mm Stereo Jack One (1) HDMI output receptacle. One (1) Mini USB Service port One (1) 2.1mm barrel locking power connector <i>Note: HDMI cables not included.</i>
<b>Power Supply</b>	One (1) 110-240V/5VDC power supply with interchangeable blades for use in the US, the UK, Europe and Australia.
<b>LEDs</b>	One (1) Power LED (green)
<b>Push buttons</b>	Two (2) Push-buttons for Auto Adjust and Resolution settings
<b>Power Consumption</b>	4.6 Watts
<b>Temperature</b>	Operating: 0° to 40°C      Storage: -20° to 85°C Humidity: Up to 95% non-condensing
<b>Enclosure</b>	Metal
<b>Chassis Style</b>	Ruggedized Aluminium Extrusion
<b>Dimensions</b>	4.02" x 4.02" x 0.98" (102 x 102 x 25 mm)
<b>Weight</b>	1.43 lb (0.65 kg)
<b>Compliance</b>	Regulatory: FCC, CE, RoHS
<b>Warranty</b>	2 years
<b>Order Information</b>	500149 VGA to HDMI Converter with Scaler

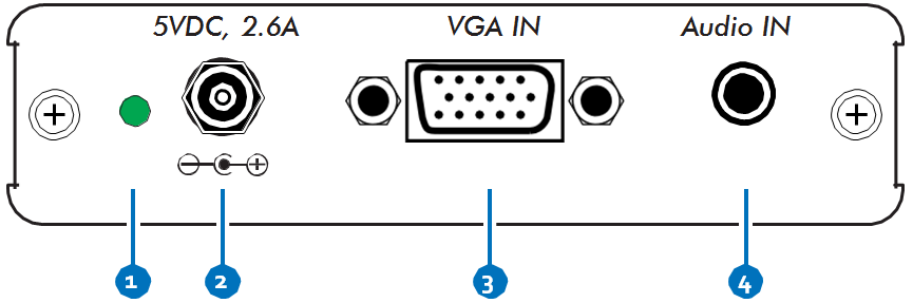
### 3. Panel Description

#### 3.1 Front Panel



Item	Name	Description
1	Service	This port is to connect a mini USB B type cable for firmware update.
2	HDMI OUT	Connect the HDMI output port to the HDMI input port of your display.
3	Auto Adjust	Press this button when the display doesn't fit into the screen. The device will adjust automatically the image position.
4	Resolution	Press this button to select the output resolution. The device will sequentially toggle through all different output resolutions available.
5	720P	Press these two buttons simultaneously to switch output resolution to the most common 720p resolution.

### 3.2 Rear Panel



Item.	Name	Description
1	Power LED	Once the device is powered, the Power LED will illuminate indicating that the device is powered.
2	5VDC, 2.6A	Plug and lock the DC power supply into the unit and connect the adaptor to an AC outlet.
3	VGA IN	Connect the VGA IN port to the VGA output port of your source equipment.
4	Audio In	Connect the 3.5mm stereo input port to the analog audio stereo output port of your source equipment.

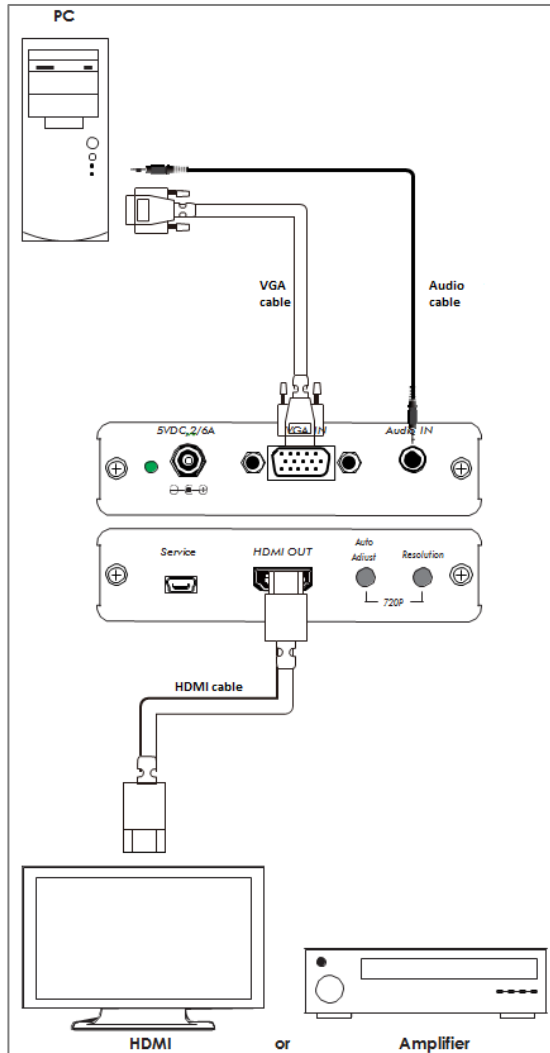
## 4. System Connection

### 4.1 Safety Precautions

The system should be installed in a clean environment with temperature and humidity levels within the specifications.

All devices should be connected before powering on the product.

### 4.2 System Diagram





### **4.3 Installation**

1. Connect VGA source device (i.e. Personal Computer) to VGA input port of the VGA to HDMI Converter with Scaler with a VGA cable.
2. Connect the audio source device (e.g. PC audio card) to the audio input port of the VGA to HDMI Converter with Scaler with a 3.5mm stereo cable.
3. Connect an HDMI display to the HDMI Out port of the VGA to HDMI Converter with Scaler.
4. Connect the 5VDC power adaptor to the power port of the VGA to HDMI Converter with Scaler.

### **4.4 Application**

The VGA to HDMI Converter with Scaler can be used for the type of applications such as computer realm, monitoring, video-conference room and meeting rooms, corporate boardroom, classroom auditorium and lecture theatres, training rooms and training facilities, command & control centers, smart homes, etc.

The VGA to HDMI Converter with Scaler is used to solve odd VGA resolutions to display on a standard HDMI display.

## 5. List of supported resolution

### 5.1 PC Input Resolution

PC Input Resolution
VGA 640 x 480 @60/72/75Hz
SVGA 800 x 600 @56/60/72/75Hz
XGA 1024 x 768 @60/70/75Hz
XGA+ 1152 x 864 @75Hz
1280 x 720 @60Hz
1280 x 768 @60RB/60Hz
1280 x 800 @60RB/60Hz
1280 x 960 @60Hz
1280 x 1024 @60/75Hz
1360 x 768 @60Hz
SXGA 1400 x 1050 @60Hz
WXGA 1440 x 900 @60Hz

### 5.2 HDMI output resolutions

HDMI output Resolution
Native resolution
640 x 480 @60Hz
800 x 600 @60Hz
1024 x 768 @60Hz
1280 x 1024 @60Hz
1600 x 1200 @60Hz
1366 x 768 @60Hz
1680 x 1050 @60Hz
1920 x 1200 @60Hz
1280 x 800 @60Hz
1440 x 900 @60Hz
1400 x 1050 @60Hz
1600 x 900 @60Hz
480i @60Hz
480p @60Hz
720p @60Hz
1080i @60Hz
1080p @60Hz
576i @50Hz
576p @50Hz
720p @50Hz
1080i @50Hz
1080p @50Hz

## 6. Troubleshooting & Maintenance

The following table describes some of the symptoms, probable causes and possible solutions in respect to the installation of the VGA to HDMI Converter with Scaler.

Problem	Cause	Solution
Losing color or no video signal output on HDMI display	The cables may not be connected correctly or may be broken	Check whether the cables are connected correctly and in working condition
No HDMI signal output in the device while local VGA input is in normal working state		
Output image with snowflakes		
Power LED indicator doesn't work or no response to any operation	Loose or failed power connection	Ensure the power cord connection is good, and power supply is connected to an AC outlet
Cannot hear sound on the HDMI Output	Check that the audio cable is connected to the Line Out of the PC	Check whether the cables are connected correctly and in working condition
Static becomes stronger when connecting the video connectors	Bad grounding	Check the grounding and make sure it is well connected
No HDMI signal output for a selected resolution	The resolution could be unsupported, check if the resolution is in the list of supported resolution	Press the Auto Adjust and Resolution button simultaneously to force the 720P resolution you can now select a resolution supported by the product

If you still cannot diagnose the problem, please call MuxLab Customer Technical Support at 877-689-5228 (toll-free in North America) or (+1) 514-905-0588 (International).

# Regulatory Compliance

## Disclaimer

Information in this document is subject to change without notice. The manufacturer does not make any representations or warranties (implied or otherwise) regarding the accuracy and completeness of this document and shall in no event be liable for any loss of profit or any other commercial damage, including but not limited to special, incidental, consequential, or other damages.

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## ***CE/FCC & Recycling Information***

### ***CE Certification***

This equipment complies with the requirements relating to Electromagnetic Compatibility Standards EN55022/EN55024 and the further Standards cited therein. It must be used with shielded cables only. It has been manufactured under the scope of RoHS compliance.

### ***FCC Certification***

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. You are cautioned that changes or modification not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation



### ***WEEE (Waste of Electrical and Electronic Equipment), Recycling of Electronic Products***

In 2006 the European Union introduced regulations (WEEE) for the collection and recycling of all waste electrical and electronic equipment. It is no longer allowable to simply throw away electrical and electronic equipment. Instead, these products must enter the recycling process.

Each individual EU member state has implemented the WEEE regulations into national law in slightly different ways. Please follow your national law when you want to dispose of any electrical or electronic products. More details can be obtained from your national WEEE recycling agency.



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