



Instruction Manual

**1T-VGA-DVI
VGA to DVI Scaler**

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1.0 INTRODUCTION

Thanks for purchasing this VGA to DVI Scaler from TV One. The 1T-VGA-DVI is designed to convert analog signals to DVI. Our professional video conversion products have been serving the industry for over twenty years. TV One offers a full line of high quality Seamless Switchers, Video Scalers, Up/Down/Cross Converters, Analog-Digital Converters (SD/HD-SDI, HDMI, and DVI), Format Converters, Standards Converters, TBC/Frame Synchronizers, Matrix Routing Switchers, Signal Distribution Amplifiers and Cat.5 Transmission Systems.

1.1 Liability Statement

Every effort has been made to ensure that this product is free of errors. TV One cannot be held liable for the use of this hardware or any direct or indirect consequential damages arising from its use. It is the responsibility of the user of the hardware to check that it is suitable for his/her requirements and that it is installed correctly. All rights reserved. No parts of this manual may be reproduced or transmitted by any form or means electronic or mechanical, including photocopying, recording or by any information storage or retrieval system without the written consent of the publisher.

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1.2 Features

The 1T-VGA-DVI Video Scaler has many features that enable it to perform in a superior manner. Among those features you will find:

- Converts VGA to DVI-I Outputs
- The input may be RGBHV, YPbPr or YUV analog
- The output is DVI-I in RGBHV format, Analog or Digital
- Automatic Detection of Input Resolution
- Integral Picture Adjustments

1.3 Getting the Best Results

There are many factors affecting the quality of results when scaling video signals. Some basic precautions will ensure the best possible performance from your Video Scaler.

Using Native Resolution– It is always best to set the output resolution of the scaler to the native resolution and refresh rate of the display device. This allows our scaler to do most of the work, which usually results in a superior picture.

Distance between the Video Scaler and the display device – This plays a major role in the final result. Long distances are possible, but special measures should be taken in order to avoid cable losses. These include using high quality VGA cables and Premium DVI Cables. Line amplifiers may also be necessary.

Output connection cables – Low quality cables are susceptible to interference. They degrade signal quality due to poor matching and cause elevated noise levels. Therefore, cables should be of the best quality.

Interference from nearby electrical devices – These can have an adverse effect on signal quality. For example, an older computer monitor often emits very high electromagnetic fields that can interfere with the performance of video equipment in its proximity.

2.0 SPECIFICATIONS

Connectors	
Input	HD-15 Female
Output	DVI-I
Picture Controls	
Input Signal	Clock Frequency, Phase
Output Signal	Brightness, Contrast, RGB Levels, Color, Horiz & Vert Position
Mechanical	
1T-VGA-DVI (H-W-D)	30x146x76mm (1.2"x5.75"x3")
1T-VGA-DVI Wt (Net)	310 g (0.68 lbs)
Warranty	
Limited Warranty	3 Years Parts and Labor
Environmental	
Operating Temperature	0° to +50° C (+32° to +122° F)
Operating Humidity	10% to 90%, Non-condensing
Storage Temperature	-10° to +60° C (+14° to 122°F)
Storage Humidity	10% to 90%, Non-condensing
Power Requirement	
External Power Supply	5VDC@2A – Locking DC
Regulatory Approvals	
Amplifier Units	FCC, CE, RoHS
Power Supplies	UL, CUL, CE, PSE, GS, RoHS
Accessories Included	
1x Power Adapter	US, UK or Euro
1x Operations Manual	

2.1 Supported Input Formats and Resolutions

The 1T-VGA-DVI accepts a wide variety of input resolutions and formats as detailed in the following table:

Resolutions		Vert Rate	Format	Scan Type
VGA	640x480	60,72,75,85 Hz	RGBHV	Progressive
SVGA	800x600	60,72,75,85 Hz	RGBHV	Progressive
XGA	1024x768	60,70,75,85 Hz	RGBHV	Progressive
MAC	1152X864	70,75 Hz	RGBHV	Progressive
WXGA	1280x768	60 Hz	RGBHV	Progressive
SXGA	1280x1024	60Hz	RGBHV	Progressive
480i	852x480	60Hz	YUV	Interlaced
480p	720x480	60Hz	YPbPr, RGBHV	Progressive
576p	720x576	50Hz	YPbPr, RGBHV	Progressive
720p	1280x720	50,60Hz	YPbPr, RGBHV	Progressive
1080i	1920x1080	50,60Hz	YPbPr, RGBHV	Interlaced

2.2 Supported Output Formats and Resolutions

The 1T-VGA-DVI outputs a wide variety of input resolutions and formats as detailed in the following table:

Resolutions		Vert Rate	Format	Scan Type
VGA	640x480	60,72,75,85 Hz	RGBHV	Progressive
VESA85	640X480	85 Hz	RGBHV	Progressive
VGA70	720X400	70 Hz	RGBHV	Progressive
SVGA	800x600	60,72,75,85 Hz	RGBHV	Progressive
XGA	1024x768	60,70,75,85 Hz	RGBHV	Progressive
MAC	1152X864	70,75 Hz	RGBHV	Progressive
WXGA	1280x768	60 Hz	RGBHV	Progressive
1280A	1280X960	60 Hz	RGBHV	Progressive
SXGA	1280x1024	60,75 Hz	RGBHV	Progressive
480p	720x480	60Hz	YPbPr	Progressive
576p	720x576	50Hz	YPbPr	Progressive
720p	1280x720	50,60Hz	YPbPr	Progressive
1080i (Note 1)	1920x1080	50,60Hz	YPbPr	Pseudo Interlaced

Note 1 - The 1080i Output is actually a doubled 540p signal. It will appear as 1080i on most displays, however, it is not a true 1080i signal format.

3.0 CHECKING PACKAGE CONTENTS

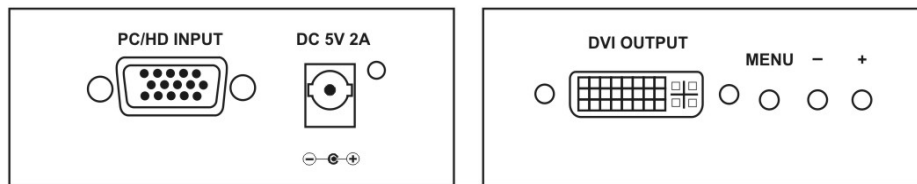
Before attempting to use this unit, please check the packaging and make certain the following items are contained in the shipping carton:

- 1x 1T-VGA-DVI Scaler
- 1x 100-240VAC AC/DC Power Adapter
- 1x User Manual

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 TV One immediately. Have the Model Number, Serial Number and Invoice available for reference when you call.

4.0 CONNECTING THE HARDWARE

The first step is to connect a video source to the input of the Scaler and to connect its output to a display device. Below you'll find drawings of the unit showing the locations of the input, output and power connectors.



4.1 Connecting the Input

The 1T-VGA-DVI can accept both PC and HDTV analog inputs. The 1T-VGA-DVI will automatically detect the mode and resolution of the PC/HDTV input.

4.2 Connecting the Output

The 1T-VGA-DVI Video Scaler can output a wide variety of PC and HDTV resolutions. To use the device with a DVI capable monitor or display, connect the DVI cable to the unit's DVI output connector then to the device's DVI input connector. Select DVI-D from the OSD menu. This is the standard configuration for the device. The 1T-VGA-DVI has an analog output mode that can be used to feed an analog monitor.

Note: Proper signal levels are very important to the operation of this product so make sure your inputs are of the levels specified on page 5. If improper operation of the unit occurs and the unit has power, the most likely cause of the problem is high or low signal levels, use of a low quality cable or the use of a wrong input cable.

4.3 Connecting Power to the Unit

The Video Scaler is shipped with an In-Plug Power Adapter to convert 100~240VAC @50-60Hz to 5VDC. Connect the DC Output Cord from the Power Adapter to the back of the unit and then plug the Power Adapter into an AC Receptacle. When the unit's front panel Power Switch is turned on, the Power LED indicator will illuminate.

5.0 OPERATING THE UNIT

The Scaler is controlled via three buttons with status indicated by On Screen Display.

- **Menu Button:** This Button displays the Menu Options via the On Screen Display on the display device connected to the output.
- **+ and - Buttons:** These Buttons allow navigation within the Menu and adjustments of the parameters available.
- **XGA Reset:** Simultaneously depressing the – and + buttons returns settings to factory defaults and sets the output to XGA@60 Hz.

Pressing the Menu Button results brings up the Initial or **Main Menu**, Move the cursor to the desired setup option by using the + and – buttons. Press the Menu Button again to call up that option. Once the desired option is reached and selected, a new Menu will appear and you once again use the + & - Keys to select the parameter you wish to change or adjust.

Input Set up Output Set up Picture Adjust HV Adjust OSD Adjust System Information Auto Adjust Exit

5.1 OSD Menus

If you select the first item on the main menu, **Input Set Up**, a secondary menu will show the following items:

5.1.1 Input Set Up

When it is selected, a simple, two-selection sub menu will appear. This menu allows you to manually select the type of input you are feeding to the scaler. You can select either YPbPr or RGB as the input type. Selecting the wrong type of input will cause unpredictable results on the output. Press the + or - buttons to select the input type, press menu to save your selection, press + and – as required to navigate to the Exit word and, once there, press Menu again to exit this menu.

5.1.2 Output Set Up

When Output Set Up is selected, a new sub-menu appears. Select DVI-A when you would like to use analog output (Rarely used format). Select DVI-D when you would like to use digital output of the T1-VGA-DVI. (This is the normal output for virtually all uses). Use the + and – buttons to choose your desired output for either DVI-A or DVI-D.

5.1.3a When DVI-A is selected, you are given the following output choices:

PC Resolutions		Vert Rate	Format	Scan Type
VGA	640x480	60,72,75,85 Hz	RGBHV	Progressive
VESA85	640X480	85 Hz	RGBHV	Progressive
VGA70	720X400	70 Hz	RGBHV	Progressive
SVGA	800x600	60,72,75,85 Hz	RGBHV	Progressive
XGA	1024x768	60,70,75,85 Hz	RGBHV	Progressive
MAC	1152X864	70,75 Hz	RGBHV	Progressive
WXGA	1280x768	60 Hz	RGBHV	Progressive
1280A	1280X960	60 Hz	RGBHV	Progressive
SXGA	1280x1024	60,75 Hz	RGBHV	Progressive
HDTV Resolutions		Vert Rate	Format	Scan Type
480p	720x480	60Hz	RGB	Progressive
576p	720x576	50Hz	RGB	Progressive
720p	1280x720	60Hz	RGB	Progressive
1080i Note 1	1920x1080	60Hz	RGB	Pseudo Interlaced
480p	720x480	60Hz	YPbPr	Progressive
576p	720x576	50Hz	YPbPr	Progressive
720p	1280x720	60Hz	YPbPr	Progressive



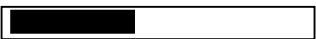



5.1.3b When DVI-D is selected, you're given the following output choices:

PC Resolutions		Vert Rate	Format	Scan Type
VGA	640x480	60,72,75,85 Hz	RGBHV	Progressive
VESA85	640X480	85 Hz	RGBHV	Progressive
VGA70	720X400	70 Hz	RGBHV	Progressive
SVGA	800x600	60,72,75,85 Hz	RGBHV	Progressive
XGA	1024x768	60,70,75,85 Hz	RGBHV	Progressive
MAC	1152X864	70,75 Hz	RGBHV	Progressive
WXGA	1280x768	60 Hz	RGBHV	Progressive
1280A	1280X960	60 Hz	RGBHV	Progressive
SXGA	1280x1024	60,75 Hz	RGBHV	Progressive
HDTV Resolutions		Vert Rate	Format	Scan Type
480p	720x480	60Hz	YPbPr, RGBHV	Progressive
576p	720x576	50Hz	YPbPr, RGBHV	Progressive
720p	1280x720	60Hz	YPbPr, RGBHV	Progressive
1080i (Note) 1	1920x1080	60Hz	YPbPr, RGBHV	Pseudo Interlaced

Note 1 - The 1080i Output is actually a doubled 540p signal. It will appear as 1080i on most displays; however, it is not a true 1080i signal format.

5.1.4 Output Adjustments When in DVI-D Mode:

Picture Adjust - When the Picture Adjust Menu is selected, the following adjust parameters will appear on the OSD:

Contrast		070
Bright		130
Color		070
Red		128
Green		128
Blue		128
Reset		
Exit		

Use the + and – buttons to choose the desired parameter, press Menu to select and then use + or – to increase or decrease the value. Press Menu to save the value. When finished with all adjustments, use the + and – buttons to move to Exit and then press Menu to actually exit the routine.

5.1.5 Menu Ranges and Defaults

The adjustment range and factory preset value as follows:

Value	Range	Default
Contrast	0~255	047
Bright	0~255	102
Color	0~255	064
Red	0~255	128
Green	0~255	128
Blue	0~255	128

Note: Select reset to reset all adjustment back to the factory preset value.

HV adjust- When selected, the following sub-menu appears.

H-position, V-position

Use the + and – buttons to adjust the best horizontal and vertical position of the picture.

- **OSD adjust-** When this mode is selected, you can adjust the Horizontal and Vertical position of the OSD menu.
- **System information-** When selected, this shows the input/output resolutions and their vertical refresh rate on the screen.
- **Auto adjust-** When selected, the T1-VGA-DVI will automatically adjust all the parameters to the factory presets.
- **Exit-** Select to exit from the current menu page.
- **Notes:** *The default output resolution of the T1-VGA-DVI is XGA @60 Hz. The unit has non-volatile memory and memorizes all your setting before power off and recalls those setting on next power on however changing output resolution erases all settings. At any time, pressing + and - buttons simultaneously will reset the output resolution to XGA @60Hz, and other settings back to factory default values.*

6.0 TROUBLESHOOTING

Other than checking for faulty cables, the only common problem would be choosing a wrong Output Setting. Make sure the display is capable of handling the resolution and refresh rate selected and make sure the output format selected (RGB or YPbPr) for the type of cable being used at the output.

After trying the above suggestions should the problem still persist, contact your dealer for additional suggestions before contacting TV One. Should the dealer's technical personnel be unable to assist you, contact TV One via our support website:

<http://tvone.crmdesk.com>. Create a technical support request on the site and our support team will respond within a short period of time.

7.0 LIMITED WARRANTY

TV One warrants the original purchaser that the equipment it manufactures or sells will be free from defects in materials and workmanship for a fixed term from the date of purchase. The warranty term for specific product lines is defined below.

1. TV One branded products based on TV One's CORIO technology are warranted for a period of five years from the date of purchase. This includes products with the model number prefix of C2, 1T-C2, CX, A2 or S2.
2. TV One-task branded products, other than those based on TV One's CORIO technology mentioned above, are warranted for a period of three years from the date of purchase. This includes products with the model number prefix of 1T, with the exception of 1T-C2.

3. LCD Monitors are warranted for a period of three years from the date of purchase, with the exception of the LCD panels integrated into the monitors that are supplied by third parties. LCD panels are limited to the term and conditions of the warranty offered by the respective LCD panel manufacturer. Such specific LCD panel warranties are available upon request to TV One.

Should a product, in TV One's opinion, prove defective within this warranty period, TV One, at its option, will repair or replace this product without charge. Any defective parts replaced become the property of TV One. This warranty does not apply to those products which have been damaged due to accident, unauthorized alterations, improper repair, modifications, inadequate maintenance and care, or use in any manner for which the product was not originally intended.

If repairs are necessary under this warranty policy, the original purchaser must obtain a Return Authorization Number from TV One and return the product to a location designated by TV One, freight prepaid. After repairs are complete, the product will be returned, freight prepaid.

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. TV One assumes no liability to distributors, resellers or end-users or any third parties for any loss of use, revenue or profit.

TV One 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 TV One with respect to any defective products will be limited to the repair or replacement of such products. In no event shall TV One 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

The 1T-VGA-DVI has been tested for compliance with appropriate FCC and CE rules and regulations. The Power Adaptor/Supplies have been tested for compliance with appropriate UL, CUL, CE, PSE, GS Rules, Regulations and/or Guidelines. These Products and Power Adapters are RoHS Compliant.

9.0 CONTACT INFORMATION

Should you have questions or require assistance with this product in areas not covered by this manual, please contact TV One at the appropriate location.

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End of Manual