Instruction Manual

1T-PCDVI-PCDVI
PC/HD/DVI Scaler

Table of Contents

1.0   INTRODUCTION

The 1T-PCDVI-PCDVI Video Scaler is a high bandwidth, professional Cross Converter for Analog and DVI formats. The unit has separate Analog and DVI inputs and outputs via HD-15 and DVI-I connectors respectively. It accommodates resolutions up to WUXGA and 1080p and allows conversion between them. The unit also accepts 480i/576i YUV interlaced analog component video, such as from a DVD Player for up-conversion. 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, 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-PCDVI-PCDVI has many features that enable it to perform in a superior manner. Among those features you will find:

- DVI and Analog Inputs and Outputs
- Input and Output Resolutions up to 1080p and WUXGA@60Hz
- YUV and YPbPr Component plus RGBHV Input Formats
- RGBHV Output Format
- DVI Inputs and Outputs are fully HDCP Compliant
- 3-D Motion Adaptive De-Interlace and 3-D Noise Reduction
- 3:2 Pull-Down w/2:2 Pull-Down Recovery

2.0   SPECIFICATIONS

Video Inputs	
DVI-D	1x via DVI-I Connector
Analog RGBHV	1x via HD-15 Connector
Analog Component (YPbPr/YUV)	1x via 3x RCA Connectors
Video Outputs	
DVI-D	1x via DVI-I Connector
Analog (RGBHV)	1x via HD-15 Connector
Formats Supported	
Input	RGBHV, YPbPr, YUV
Output	RGBHV
Maximum I/O Resolution	WUXGA@60Hz and 1080p
Scaling Engine	
Number of Engines	Two (2)
Phased Lock Loops	8-bit triple ADC
De-Interlace	3D Motion Adaptive
Noise Reduction	3D
Pull-Down	3:2 + 2:2 Recovery
Bandwidth	165 Mbs Digital, 100MHz Analog
HDCP Support	
DVI I/O	Fully Compliant
Mechanical	
Size (H-W-D)	25.5x180x125mm (1x7x4.9")
Weight (Net)	480 g (1.06 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 +140° F)
Storage Humidity	10% to 90%, 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	US, UK or Euro Type
1x Operations Manual	
1x IR Remote Control	

2.1 Supported Input Formats and Resolutions

The 1T-PCDVI-PCDVI accepts DVI and Analog PC plus Analog Component inputs via separate connectors. The resolutions and formats processed for these inputs are as follows:

Resolution		V. Rate/Hz	Scan	Format / Connector
480i	720x480	60 (NTSC)	Interlaced	YUV via 3x RCA
576i	720x576	50 (PAL)	Interlaced	
480p	720x480	60	Progressive	RGBHV via HD-15 & DVI YPbPr via 3x RCA
576p	720x576	50	Progressive	
720p	1280x720	50,60	Progressive	
1080p	1920x1080	50,60	Progressive	
1080i	1920x1080	50,60	Interlaced	RGBHV via DVI YPbPr via 3x RCAI
VGA	640x480	60,72,75,85	Progressive	RGBHV via HD15 & DVI
SVGA	800x600	56,60,72,75,85	Progressive	
XGA	1024x768	60,70,75,85	Progressive	
SXGA	1280x1024	60,75,85	Progressive	
UXGA	1600x1200	60	Progressive	
WXGA	1280x800	60	Progressive	
WSXGA	1680x1050	60	Progressive	
WUXGA	1920x1200	60	Progressive	

2.2 Supported Output Formats and Resolutions

The 1T-PCDVI-PCDVI can provide a large number of output resolutions in the RGBHV format as shown in the following table:

Resolution		V. Rate/Hz	Scan	Format / Connector
480p	720x480	60	Progressive	RGBHV via HD15 & DVI
576p	720x576	50	Progressive	
720p	1280x720	50,60	Progressive	
1080p	1920x1080	50,60	Progressive	
1080i	1920x1080	50,60	Interlaced	
VGA	640x480	60	Progressive	
SVGA	800x600	60	Progressive	
XGA	1024x768	60	Progressive	
SXGA	1280x1024	60	Progressive	
SXGA+	1400x1050	60	Progressive	
UXGA	1600x1200	60	Progressive	
WXGA	1280x800	60	Progressive	
WXGA+	1440x900	60	Progressive	
WSXGA	1680x1050	60	Progressive	
WUXGA	1920x1200	60	Progressive	

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:
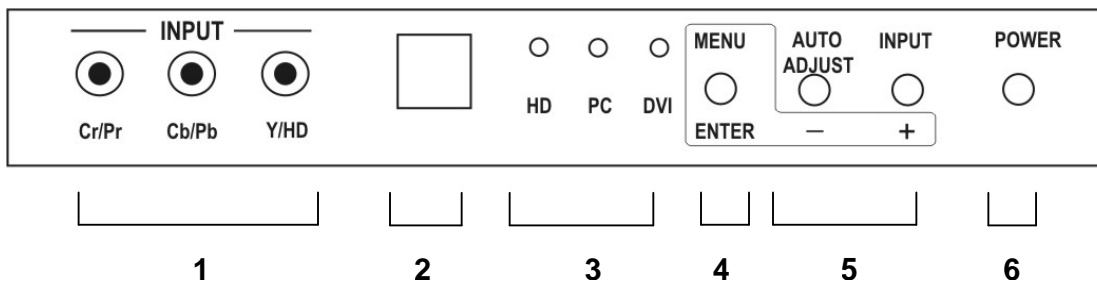
- 1x 1T-PCDVI-PCDVI Scaler
- 1x Power Supply
- 1x IR Remote Control
- 1x Operations Manual

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

Referring to the drawing below, connect the proper cable (3x RCA to 3x RCA for YPbPr component input, HD-15 to HD-15 for PC input or DVI to DVI for DVI input) and then connect the AC power adaptor.
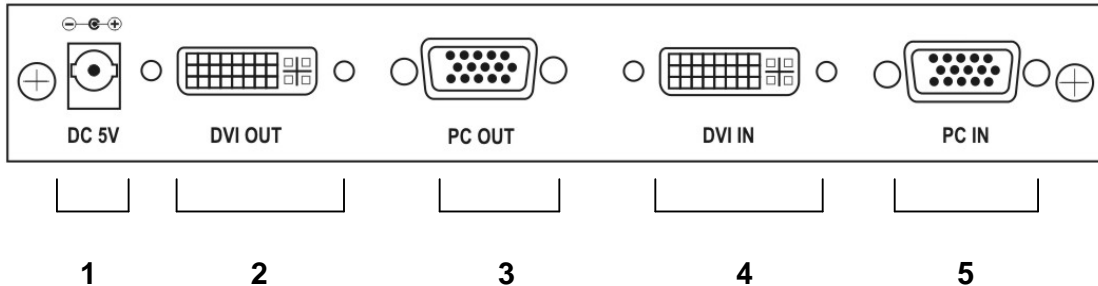
Next, study the panel drawings and connector/control descriptions below and become familiar with the control actions, connector functions and power requirements.

1   Component (YPbPr) inputs – used with HDTV analog source device
2   Infrared Sensor – For use with Remote Control
3   Status LEDs – Show which type source is in use
4   Menu/Enter – Brings up OSD menu and acts as Enter Key for selections
5   See Note Below
6   Power On/Off

NOTE: Item 5 is multipurpose: Pressing the "+" key (without first pressing the Menu/Enter key) will step the 1T-PCDVI-PCDVI through the various possible input sources (YPbPr, PC or DVI) in a sequential manner. Next, pressing the "-" key (without first pressing the Menu/Enter key) causes the 1T-PCDVI-PCDVI to execute an automatic alignment of the PC signal components such as picture centering, color, etc. Lastly, if you press the Menu/Enter key (which causes selection of the OSD or "On

Screen Display" menu mode), the "+" and "-"keys can be used to navigate up and down through the various menu parameters. Once the desired parameter is highlighted, the Menu/Enter key is pressed to select the highlighted item. The "+" and/or "-"keys are then used to effect the actual change or selection.

DC 5V	DVI OUT	PC OUT	DVI IN	PC IN
1	**2**	**3**	**4**	**5**

1   Power Adaptor Jack – Connect the provided AC Adaptor here[1]
2   DVI Output – Connect to DVI capable device[2]
3   PC Out (RGB). Connect to PC Monitor or RGB capable Projector
4   DVI In – Connect to output from DVI capable device[3]
5   PC In – Connect to a PC's VGA (Monitor) out

Connect the appropriate cables to the desired connector. Use only the highest quality cables.
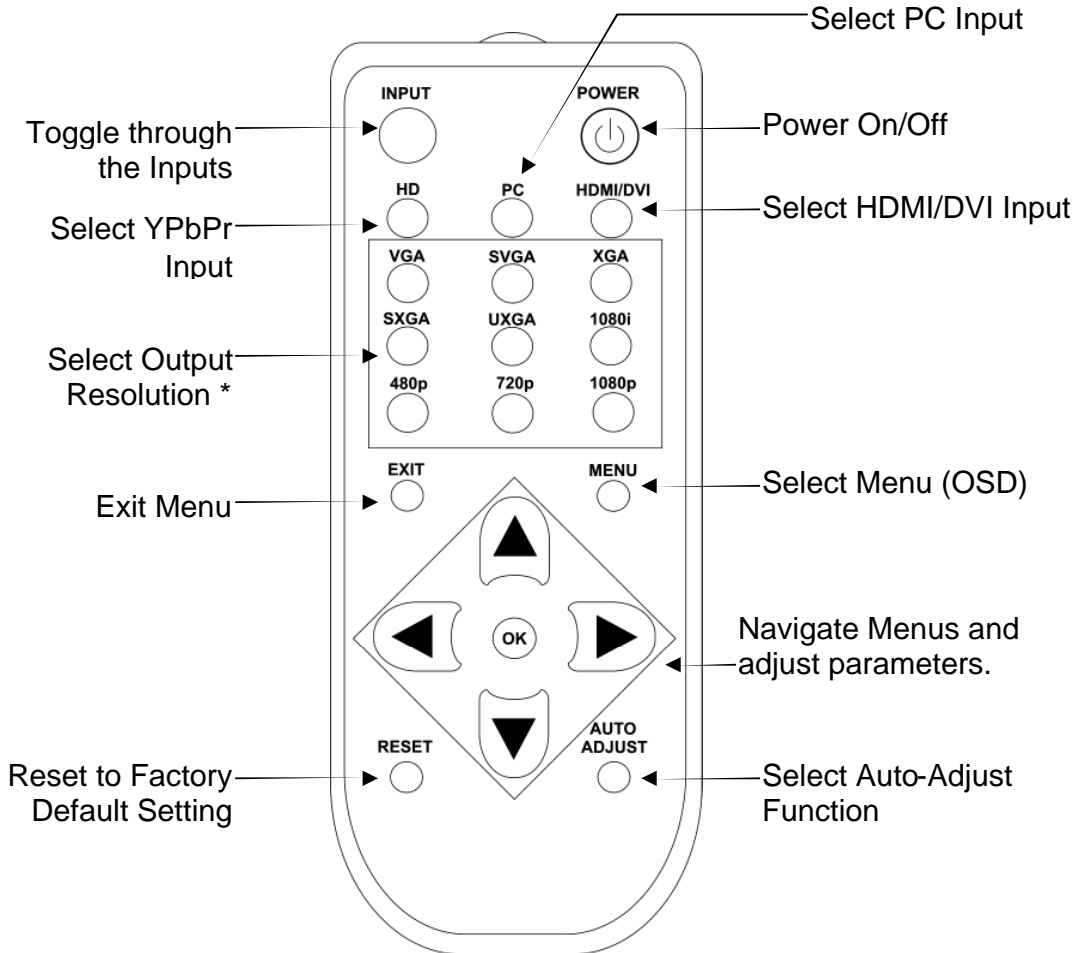
The 1T-PCDVI-PCDVI is very capable and will automatically identify, accept and scale a host of input types and resolutions (including analog and PC type signals). The output however will be either DVI with a resolution of 480i to 1080p or RGB with resolutions from VGA to WUXGA. You must use a display or other destination device that is either DVI or RGB capable in order to use the output from this product. Since you can specify the output resolution, you'll need to know the highest resolution your destination device is capable of handling and set the 1T-PCDVI-PCDVI's output resolution accordingly.

Note 1: TV One utilizes a special "Twist-to-lock" connector to prevent the power cable coming loose. Insert the connector into the socket just as you would with other manufacturer's power adaptors but once securely inserted, gently twist the connector 90 degrees to the right or left which will lock it in place.

Notes 2&3: To realize maximum quality and performance, use only the highest quality cables with the 1T-PCDVI-PCDVI.   Low quality cables will cause degradation of the signal quality and limit the distance between both the source and destination devices and the 1T-PCDVI-PCDVI.

5.0 OPERATING THE UNIT

The 1T-PCDVI-PCDVI 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.

Select PC Input

Toggle through the Inputs

Power On/Off

Select YPbPr Input

Select HDMI/DVI Input

Select Output Resolution *

Exit Menu

Select Menu (OSD)

Navigate Menus and adjust parameters.

Reset to Factory Default Setting

Select Auto-Adjust Function

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 1T-PCDVI-PCDVI 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.
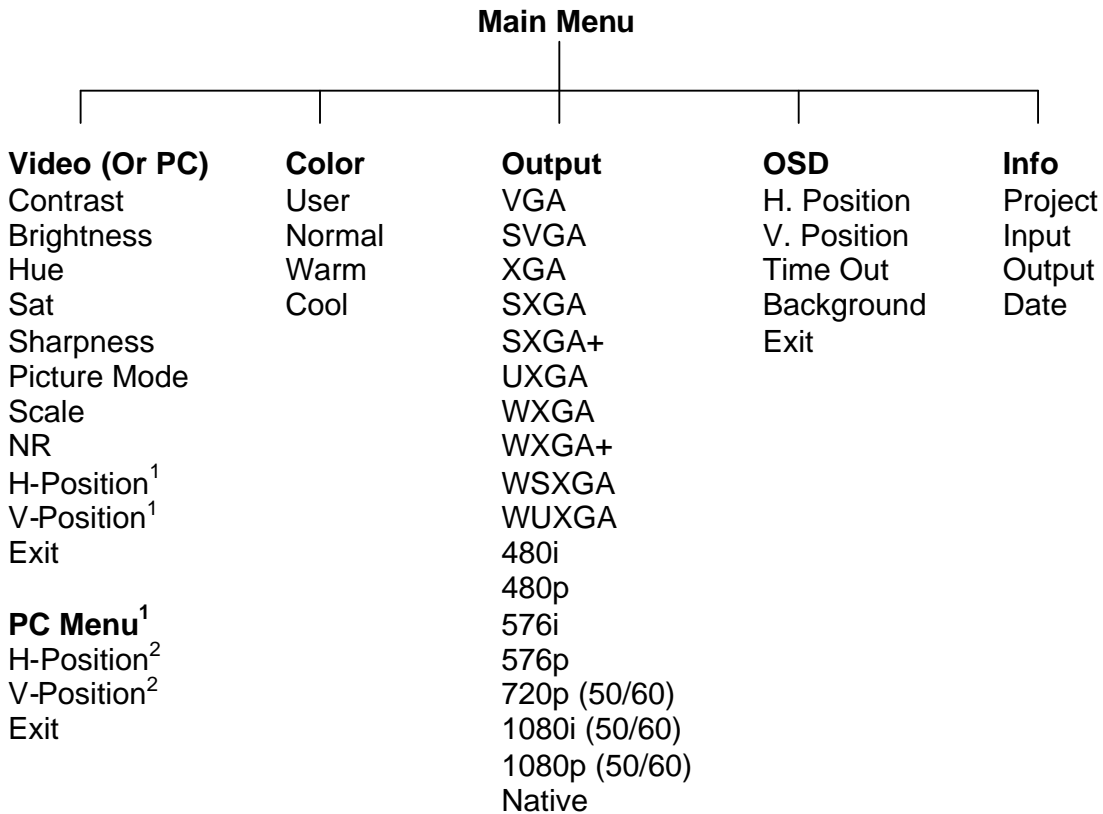
5.1.1 Menu Navigation:

Pressing the "Menu" button will display the OSD menu. If you are using the front panel control method, you select the desired function by using the "**+**" and "**-**" keys to navigate to the desired function and then press the Menu/Enter button again to make the selection. Next, use the "**+**" and "**-**"buttons to make the actual adjustment and press the Menu/Enter button yet again to save your selection. Escape from the OSD menu modes by highlighting the word "Exit" in any menu and then pressing the Enter button.

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:

Main Menu

Video (Or PC)	Color	Output	OSD	Info
Contrast	User	VGA	H. Position	Project
Brightness	Normal	SVGA	V. Position	Input
Hue	Warm	XGA	Time Out	Output
Sat	Cool	SXGA	Background	Date
Sharpness		SXGA+	Exit	
Picture Mode		UXGA		
Scale		WXGA		
NR		WXGA+		
H-Position[1]		WSXGA		
V-Position[1]		WUXGA		
Exit		480i		
		480p		
PC Menu[1]		576i		
H-Position[2]		576p		
V-Position[2]		720p (50/60)		
Exit		1080i (50/60)		
		1080p (50/60)		
		Native		

Note 1: *The PC sub-menu is only visible when you have selected PC as your source.*
Note 2: *H-Position and V-Position are only available when PC mode is selected.*

The Video and PC menus appear when Video or PC modes are selected as an input. Depending on the mode, additional functionality will be exposed when the following

functions are selected: **Picture Mode:** User, Standard and Movie, **Scale:** Overscan, Underscan Letterbox and Full Screen., **Noise Reduction:** Low, Middle, High and Off.

The Color sub-menu calls up four presets that cause the picture to take on a specific characteristic. Some people prefer the picture to have a slightly reddish ("Warm") appearance. This looks more lifelike to them. Others want a bluish ("Cool") hue and still others want to adjust the picture and save it as a "User" appearance. Finally, there is "Normal" which is an appearance that was created using special image analysis equipment and is therefore considered a standard appearance.

The Output sub-menu allows you to specify the resolution you want the 1T-PCDVI-PCDVI to produce. As an example, if you are using a DVI display device that can only accept a 1080i HDTV input signal, you would want to set the output resolution to 1080i. 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.*

The OSD sub-menu allows you to customize the way the On Screen Display appears when it has been accessed. This is a personal preference matter. You can change the default if you wish or simply leave it at the factory setting. Lastly, the Info sub-menu contains technical information. If you have problems with the 1T-PCDVI-PCDVI and require assistance, the technician may ask you to read information from this menu to him as part of the troubleshooting process.

6.0   TROUBLESHOOTING

If the 1T-PCDVI-PCDVI Scaler does not appear to be functioning make certain that the source and all other devices connected to the unit are functioning correctly by connecting each device currently connected to the 1T-PCDVI-PCDVI's outputs directly to the source using a short length of cable. (In other words, bypass the 1T-PCDVI-PCDVI to make certain 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 1T-PCDVI-PCDVI. 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 high quality 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 1T-PCDVI-PCDVI *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 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-PCDVI-PCDVI Scaler 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