



Instruction Manual

VS-226
HDMI to CV/SV Stereo
Down Converter

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1.0 INTRODUCTION

Thanks for purchasing this product from the AV Toolbox Division of TV One. The VS-226 HDMI to CV/SV/Stereo Down Converter is designed to convert digital HDMI signals (or a DVI input signal with S/PDIF coaxial audio) to NTSC or PAL analog video signals plus a L/R stereo audio output. Besides S-Video and Composite Video outputs, it also provides a re-clocked HDMI signal which delivers a jitter free bypass output of the original HDMI signal. In addition, either a bitstream derived HDMI audio signal or the coaxial input signal is provided to an external audio amplifier via a coaxial S/PDIF digital audio connector. The VS-226 provides a convenient way for the user to watch a high definition television program while also recording it in standard resolution via a DVR or VCR. This is but one of our complete range of video and audio products.

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.

TV One reserves the right to revise any of its hardware and software following its policy to modify and/or improve its products where necessary or desirable. This statement does not affect the legal rights of the user in any way.

All third party trademarks and copyrights are recognised. The TV One logo, AV Toolbox logo, TV One-task and CORIO are the registered Trademarks of TV One. All other trademarks are the property of their respective holders.

1.2 Features

- HDMI 1.2, HDCP1.1 and DVI1.0 compliant.
- Accepts HDMI or DVI HDTV Signals from 480p to 1080p.
- Provides Jitter corrected, Re-Clocked HDMI signal via bypass connector.
- Converts HDMI or DVI HDTV to NTSC or PAL SDTV signals.
- Converts Bitstream audio from HDMI to S/PDIF Coaxial Audio.
- Provides analog L/R Stereo Audio Output.
- Converts PC signals from VGA/60Hz to UXGA/60Hz to NTSC or PAL.

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 Scan Converter.

- **Output display device** – The quality of the output signal will depend largely upon the type and quality of display device used. For instance, some video projectors just look better than others.
- **Distance between the Converter 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 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. Coax-type computer cables are recommended because of their superior internal shielding characteristics.
- **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

Video Input Format	HDMI or DVI HDTV Video (Excepting 1080p@24Hz)
Video Input Connector	1x HDMI
Input Signal Types	480p through 1080p*, VGA@60Hz through UXGA@60Hz
Video Output Format	NTSC or PAL + Re-Clocked HDMI Bypass Signal
Video Output Connectors	CV via 1x RCA, SV via 1x 1x4 Pin DIN, HDMI via 1x HDMI
Video Output Type	S-Video (SV) or Composite Video (CV)
Video Bypass Output	Re-clocked HDMI Signal
Audio Input	HDMI Bitstream or Coaxial Audio
Audio Output	Coaxial or L/R Stereo Audio
Device Control	Auto HDTV resolution sense, Manual NTSC/PAL Select
Output Adjustments	NTSC/PAL Selection
Weight	1.12 lbs (510g)
Dimensions–HxWxD	1.5"x5.55"x5.0" (38x141x127mm)
Power Source	100~240VAC to 5VDC/2A Adapter

* Except 1080p@24Hz

3.0 CHECKING PACKAGE CONTENTS

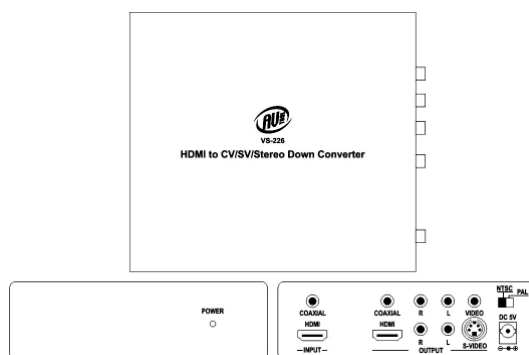
Before attempting to use this unit, please check the packaging and make certain the following items are contained in the shipping carton:

- 1x VS-226 HDMI to CV/SV/Stereo Audio Converter
- 1x 100~240VAC to 5VDC 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.

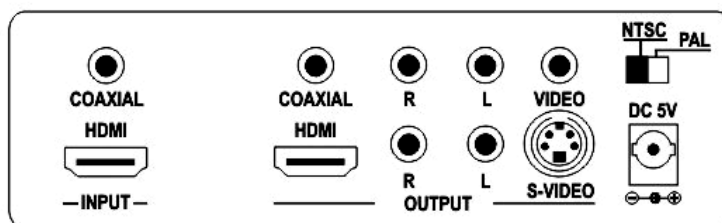
4.0 CONNECTING THE HARDWARE

The first step is to connect an HDTV video source to the input of the VS-226 Down Converter, connect its output to a display device and lastly connect the AC adapter. The series of drawings below show the locations of the input, outputs, controls and power connector.



A general overview drawing of the VS-226 shows the input and output connectors and controls.

The I/O connectors and the Power Connector are located on the rear panel. The Power LED is located on the front panel of the unit



The rear panel of the VS-226 is where the HDMI Input connector as well as the Coaxial Audio Input connector are located.

The NTSC/PAL switch allows selection of the desired television standard. There are also Composite Video, S-Video, Coaxial and analog Stereo audio output connectors plus a re-clocked HDMI output connector on the output panel.

4.1 Connecting the Inputs

Before using the VS-226, make certain that the HDMI or DVI HDTV source is producing a picture on its regular monitor. If it is, connect either an HDMI cable or a DVI cable via a DVI to HDMI adapter cable between the output of the HDTV source and the HDMI input of the VS-226.

If a HDMI cable is used, digital audio will be stripped from the HDMI bitstream and applied to the coaxial audio output connector plus the L/R stereo audio output connectors. If a DVI cable and HDMI adapter is used, the source audio will need to be digital format and connected to the coaxial input connector.

Note: If the coaxial input is used for the audio source, the output must also be coaxial audio and the L/R audio output connectors will be muted.

4.2 Connecting the Output

Determine if the device you will be using accepts an S-Video input or a Composite Video input or both. If you have a choice, you'll want to use the S-Video input as it will produce the best picture in most cases. Next, position the PAL/NTSC switch to the proper position. In the United States you will generally set the switch to the NTSC position, elsewhere you will set the switch to PAL.

To use the HDMI bypass output, simply connect a HDMI cable between the bypass output and the display.

4.3 Connecting Power to the Unit

The VS-226 Scan Converter is shipped with a Power Adapter to convert 100~240VAC@50-60Hz to 5VDC. Connect the DC Output from the Power Adapter to the back of the unit and then plug the Power Adapter into an AC Receptacle. When the unit is receiving power, the Power LED indicator will illuminate.

5.0 OPERATING THE UNIT

After connecting the input of the VS-226 to an HDTV source and the output to an appropriate display, apply power and the unit will automatically detect the resolution being output by the HDTV source. Select the proper television standard (NTSC/PAL) and an image will appear on the display.

A typical use of the VS-226 would be to connect the HDMI bypass to your regular high definition display and connect the CV or SV video output plus the appropriate audio signal to your VCR or DVR so that you can record the HDTV input signal in standard definition while you continue to view the program in HDTV.

5.1 Operational Notes

- The VS-226 performs a turn on sequence each time that power is applied. During this initialization, a full screen image is required on the input as opposed to letterbox. Once initialization has occurred, the unit will track HDMI input formats and position all imagery automatically without manual intervention. In the event the user is technically skilled, setting the HDMI source to a colorspace of YCbCr will match the default condition of the VS-226 negating the need for a full screen signal each time the VS-226 is turned on.
- If the input signal is HDMI, the input Coaxial Audio connector will not be used since the HDMI signal has the audio component embedded in the digital bitstream. The input Coaxial Audio Connector should be used when a DVI signal is being applied to the HDMI connector via a DVI to HDMI adapter cable.
- The VS-226 will not pass a 1080p@24Hz signal. All other HDTV signals will be processed correctly.
- The VS-226 passes all HDCP encryption signals so you must make certain that your monitor or projector is HDCP compliant if you utilize the HDMI bypass connector.

6.0 TROUBLESHOOTING

Other than checking for faulty cables and for a lighted power LED, the only common problem would be choosing a wrong television standard setting, attempting to use the unit with a 1080p@24Hz signal as an input or powering the unit on initially with other than a full screen input. Please make certain none of these conditions are present before assuming that the VS-226 is malfunctioning.

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 VS-226 has been tested for compliance with appropriate FCC and CE rules and regulations. The Power Adaptor/Supply has been tested for compliance with

appropriate UL, CUL, CE, PSE, GS Rules, Regulations and/or Guidelines. This Product and Power Adapter is 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