



# Instruction Manual

**VS-223**  
**YPbPr to CV/SV Scan Converter**



## Table of Contents

<b>1.0</b>	<b>Introduction</b>	<b>2</b>
<b>2.0</b>	<b>Specifications</b>	<b>4</b>
<b>3.0</b>	<b>Checking Package Contents</b>	<b>4</b>
<b>4.0</b>	<b>Connecting the Hardware</b>	<b>4</b>
<b>5.0</b>	<b>Operating The Unit</b>	<b>6</b>
<b>6.0</b>	<b>Troubleshooting</b>	<b>6</b>
<b>7.0</b>	<b>Limited Warranty</b>	<b>6</b>
<b>8.0</b>	<b>Regulatory Compliance</b>	<b>7</b>
<b>9.0</b>	<b>Contact Information</b>	<b>8</b>

## **1.0 INTRODUCTION**

Thanks for purchasing this product from the AV Toolbox Division of TV One. The VS-223 YPbPr to Video Scan Converter is designed to convert a variety of HDTV images, ranging from 480p to 1080p, to interlaced NTSC or PAL Video. The VS-223 provides both Composite and S-Video output signals and is ideal for use in applications requiring the viewing of HDTV images on a standard television monitor. A bypass function is also provided which allows a HDTV signal to be passed through when necessary. 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**

- Automatically down converts incoming HDTV images to NTSC or PAL.
- Support HDTV inputs up to 1080p.
- Scales HDTV video to Composite/S-Video.
- Supports both NTSC/PAL Television Standards.
- Provision for Image Overscan and Underscan.
- Easy to install and simple to operate.
- Small, palm size footprint.

### 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 Scan 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 (coax-type) VGA 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

<b>Input Format</b>	YPbPr HDTV Video
<b>Input Signal Types</b>	480p through 1080p
<b>Output Format</b>	S-Video (SV) or Composite Video (CV)
<b>Output Signal Types</b>	NTSC or PAL Standard
<b>Input Connector</b>	3x RCA
<b>Output Connectors</b>	Composite Video via 1x RCA, S-Video via 1x4 Pin DIN YPbPr Bypass via 3XRCA Connectors
<b>Device Control</b>	Power On/Off, Auto HDTV resolution sense, NTSC/PAL Select
<b>Output Adjustments</b>	NTSC/PAL Selection, Overscan, Underscan
<b>Weight</b>	0.51lbs (230g)
<b>Dimensions–HxWxD</b>	0.98”x4.1”x4.0” (25x105x102mm)
<b>Power Source</b>	100~240VAC to 5VDC Adapter

## 3.0 CHECKING PACKAGE CONTENTS

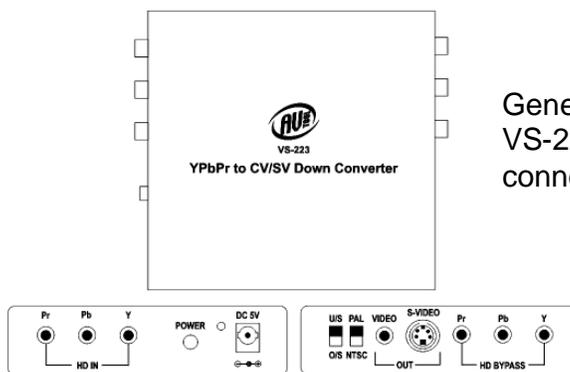
Before attempting to use this unit, please check the packaging and make certain the following items are contained in the shipping carton:

- 1x VS-223 YPbPr to Video Scan 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

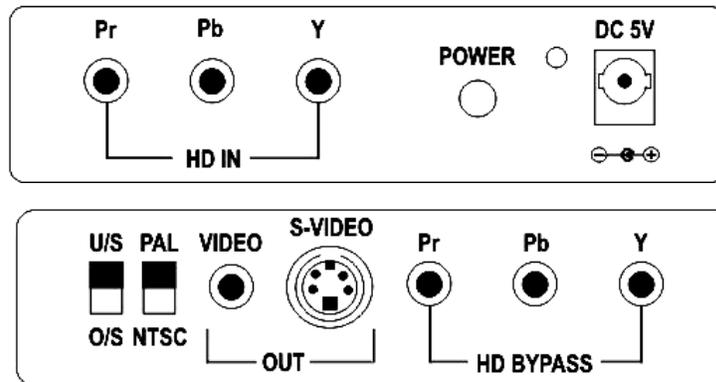
The first step is to connect an HDTV video source to the input of the VS-223 Scan Converter, connect its output to a display device and lastly connect the AC to DC converter. The series of drawings below show the locations of the input, outputs, power switch and power connector.



General overview drawing of the VS-223 showing input and output connectors and controls.

The input panel on the VS-223 is where the YPbPr input connectors are located.

The Power Connector, Power Switch and Power “On” LED devices are also located on the input panel.



The NTSC/PAL switch on the output panel of the VS-223 allows selection of the desired television standard. The U/S – O/S switch allows selection of Underscan or Overscan video output.

The output panel of the VS-223 is where the S-Video, Composite Video output connectors as well as the YPbPr Bypass connectors are located.

#### 4.1 Connecting the Input

Before using the VS-223, make certain that the HDTV source is producing a picture on its regular monitor. If it is, disconnect the monitor and connect three 75 coax cables between the output of the HDTV source and the input of the VS-223.

#### 4.2 Connecting the Output

Determine if the display 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.

### **4.3 Connecting Power to the Unit**

The VS-223 Scan Converter is shipped with a 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 Power Switch is pressed, the Power LED indicator will illuminate if power is present.

### **5.0 OPERATING THE UNIT**

After connecting the input of the VS-223 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. If you wish to make the display's image smaller or larger, you can move the Underscan-Overscan switch as required. Connecting three coaxial cables to the bypass connectors allow you to display YPbPr images on a monitor capable of reproducing HDTV analog signals.

*Note: The VS-223 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 HDTV input resolutions and position all imagery automatically without manual intervention.*

### **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 or powering the unit up with a letterbox image as an input. If power is present and there are no faulty cables, make certain you have the NTSC/PAL switch set correctly and a full screen image present then power the unit off, wait a few seconds and power the unit back on.

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-223 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.

### **TV One USA**

2791 Circleport Drive  
Erlanger, KY 41018  
USA  
Tel 859-282-7303  
Fax 859-282-8225  
sales@tvone.com  
www.tvone.com

### **TV One Europe**

Continental Approach  
Westwood Industrial Estate  
Margate, Kent CT9 4JG, UK  
Tel +44 (0)1843 873311  
Fax +44 (0)1843 873312  
sales.europe@tvone.com  
www.tvone.eu

### **TV One Latin America**

6991 NW 82 Avenue #8  
Miami, FL 33166  
USA  
Tel 305-396-6275  
Fax 305-418-9306  
sales.latinamerica@tvone.com  
www.tvonela.com

### **TV One Mercosur**

Av. Diaz Velez 3965 #PB  
(1200) Capital Federal  
Buenos Aires, Argentina  
Tel +54 11 5917-2525  
Fax +54 11 4032-0281  
sales.mercosur@tvone.com  
www.tvonela.com

### **TV One Asia**

16F-4, NO.75, Sec. 1  
Hsin Tai Wu Road, Hsichih  
Taipei Hsien 22101  
Taiwan R.O.C.  
Tel +886 2 2698-2296  
Fax +886 2 2698-2297  
sales.asia@tvone.com  
www.tvoneasia.com

### **TV One China**

Rm. 1007, Golden Peach Bldg.  
No. 1900 Shangcheng Road  
Pudong, Shanghai  
China 200120  
Tel +86 21 5830-2960  
Fax +86 21 5851-7949  
Email: sales.china@tvone.com  
www.tvonechina.com

End of Manual