

# **TV One Multimedia Solutions**

## **USER MANUAL**

**CSC-1100A Video Scaler**  
**CSC-1100A/RS Video Scaler**



---

## Table Of Contents

Section		Page
1	INTRODUCTION .....	4
1.1	Getting the Best Results.....	4
2	SPECIFICATIONS.....	5
3	CHECKING THE PACKAGE CONTENTS.....	6
4	CONNECTING THE HARDWARE.....	6
4.1	Rack Mounting.....	6
4.2	Connecting the Video Inputs.....	7
4.3	Connecting the Video Output.....	7
4.4	Connecting the AC Power.....	7
5	CONTROLLING THE VIDEO SCALER.....	8
6	INPUT SELECTION.....	8
7	OUTPUT SELECTION.....	8
8	VIDEO SIGNAL ADJUSTMENT.....	9
8.1	Select, + and – Buttons .....	9
9	RS-232 CONTROL OF THE VIDEO SCALER.....	10
10	TROUBLESHOOTING.....	12
11	WARRANTY POLICY.....	13
12	REGULATORY COMPLIANCE.....	13

## 1 INTRODUCTION

Thanks for purchasing a TV One Video Scaler. Our professional video conversion products have been serving the industry for over ten years. In addition to Video Scalers, TV One offers a full line of high quality Scan Converters, Genlock Adapters, Standards Converters, DV-to-Analog Converters, Digital Video Recorders, Time Base Correctors, LCD Monitors and Distribution Amplifiers. This manual includes operational information on the CSC-1100A and CSC-1100A/RS models.

TV One's Video Scalers are designed to convert Composite and S-Video signals to a variety of computer resolutions. They handle numerous NTSC, PAL and SECAM TV standards. TV One Video Scalers have many features to enhance performance. AFM (Adaptive Film Mode) is an automatic 3:2 pull-down detector that provides clear and crisp de-interlacing video from 24 frames-per-second film. This offers significant enhancements when viewing movies on a large screen. VT (Vertical Temporal Filter) can remove jagged edges and other de-interlacing artifacts for video motion sequences. Our Static Picture Detector uses a simple field merging technique to perform de-interlacing and it is very beneficial for static images or scenes with very little or no motion.

### 1.1 Getting the Best Results

There are many factors affecting the quality of results when Composite or S-Video signals are up-converted to computer resolutions. Some basic precautions will ensure the best possible performance from your Video Scaler.

- **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 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 (coax-type) cables or adding line amplifiers.
- **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 SPECIFICATIONS

	<b>CSC-1100A</b>	<b>CSC-1100A/RS</b>
<b>Computer Input (Loop-thru)</b>	RGB with HV Sync	RGB with HV Sync
<b>Max Computer Input Resolution</b>	1600x1200	1600x1200
<b>Computer Input Connector Type</b>	HD15 Female	HD15 Female
<b>Computer Input Signal Level</b>	RGB @ 0.7V, H&V Sync @ TTL	RGB @ 0.7V, H&V Sync @ TTL
<b>Video Inputs</b>	Composite Video @ 1V P-P S-Video @ 1V P-P	Composite Video @ 1V P-P S-Video @ 1V P-P
<b>Video Standard</b>	NTSC 3.58, NTSC 4.43, PAL-B/G/I/D, PAL-N, PAL-M, SECAM	NTSC 3.58, NTSC 4.43, PAL-B/G/I/D, PAL-N, PAL-M, SECAM
<b>Video Input Connectors</b>	Composite Video on BNC S-Video on 4-Pin Mini-DIN	Composite Video on BNC S-Video on 4-Pin Mini-DIN
<b>Scaled Output Resolutions</b>	VGA 640x480 SVGA 800x600 XGA 1024x768 16:9 RGBHV 852x480p (NTSC) 16:9 YpBpR 852x480p (NTSC) 16:9 RGBHV 852x576p (PAL) 16:9 YpBpR 852x576p (PAL)	VGA 640x480 SVGA 800x600 XGA 1024x768 16:9 RGBHV 852x480p (NTSC) 16:9 YpBpR 852x480p (NTSC) 16:9 RGBHV 852x576p (PAL) 16:9 YpBpR 852x576p (PAL)
<b>Scaled Output Vertical Refresh Rates</b>	With NTSC Input: 59.94Hz With PAL Input: 50Hz	With NTSC Input: 59.94Hz With PAL Input: 50Hz
<b>Scaled Output Horizontal Scan Rates</b>	VGA 31.5KHz SVGA 37.8KHz XGA 48.4KHz 16:9 RGBHV 31.5KHz 16:9 YpBpR 31.5KHz	VGA 31.5KHz SVGA 37.8KHz XGA 48.4KHz 16:9 RGBHV 31.5KHz 16:9 YpBpR 31.5KHz
<b>Manual Control</b>	Front Panel Buttons	Front Panel Buttons
<b>RS-232 Control</b>	N/A	Via Rear Panel DB9F Connector
<b>Video Adjustments</b>	Horizontal Position, Vertical Position, Brightness, Contrast Color Saturation, Tint (NTSC), Sharpness	Horizontal Position, Vertical Position, Brightness, Contrast Color Saturation, Tint (NTSC), Sharpness
<b>Weight</b>	2.0 kg (4.4 lbs.) Approx.	2.0 kg (4.4 lbs.) Approx.
<b>Dimensions - Desktop Version</b>	1.75"H x 9.5"W x 9.5"D (44 x 242 x 242mm)	1.75"H x 9.5"W x 9.5"D (44 x 242 x 242mm)
<b>Dimensions - Rackmount Version</b>	1.75"H x 19"W x 9.5"D (44 x 482 x 242mm)	1.75"H x 19"W x 9.5"D (44 x 482 x 242mm)
<b>Power Source</b>	100-240VAC to 5VDC 2A Desktop Switching Adapter	100-240VAC to 5VDC 2A Desktop Switching Adapter

### 3 CHECKING THE PACKAGE CONTENTS

The following items are contained in shipping carton:

- Video Scaler Unit
- AC Power Adapter with AC Power Cable
- VGA Cable – HD15 to HD15
- Composite Video Input Cable
- S-Video Input Cable
- HD-15 to 5 BNC Output Cable
- 3x BNC to RCA Adapters
- User Manual
- 4x Rackmount Screws (Rackmount Versions only)
- Sample Windows Control Panel Software (CSC-1100A/RS only)

**Note** - Please retain the original packing material should the need arise to return the unit to the Dealer for any reason.

### 4 CONNECTING THE HARDWARE

The first step is to connect a video source to the input of the Video Scaler and to connect its output to a display device. Below is a photo of the CSC-1100A rear panel followed by one of the CSC-1100A/RS rear panel.



#### 4.1 Rack Mounting

The CSC-1100A-R and CSC-1100A/RS-R units are mountable in a standard 19" (1RU) EIA rack assembly. Desktop versions can be converted to rackmount versions by changing the unit's front panel. Please contact our Technical Support Department should assistance be required with this conversion.

## 4.2 Connecting the Video Inputs

The Video Scaler can accept a Composite Video or an S-Video input signal for scaling, as well as a computer signal input that is passed through the unit when the PC In (Bypass) is selected.

- **Composite Video** - use a Composite Video cable to connect the Composite Video output of the source equipment to the connector labeled “V In” on the back of the Video Scaler.
- **S-Video** - use an S-Video cable to connect the S-Video output of the source video equipment to the connector labeled “S In” on the back of the Video Scaler. S-Video provides improved performance over Composite Video and is recommended whenever possible.
- **Computer RGB with H&V Sync** - connect the source computer’s VGA output signal to the HD15 connector labeled “PC In” on the back of the Video Scaler. **Note** – This Computer Input Signal is not scaled, but is available for pass-through when the Video Scaler is in the PC In (Bypass) Mode.

## 4.3 Connecting the Video Output

Connect the Video Scaler’s RGBHV output to the destination computer monitor, video projector or other display device via the HD15 connector on the back labeled “Output”.

**Note:** The units provide a YpBpR output for use with certain types of HDTV TV Sets and Monitors. Refer to Section 7 of this manual for that information.

## 4.4 Connecting the AC Power

The Video Scalers are shipped with a Switching Power Adapter to convert 100-240VAC@50-60Hz to 5VDC. Connect the DC Output Cord from the Power Adapter to the Video Scaler and then plug the Power Adapter into an AC Receptacle. When the Video Scaler’s rear panel Power Switch is turned On, some of the LED indicators on the front panel will illuminate. If a video input signal is present, an image should be seen on the output display device. If there is no picture on the display device, go to the Troubleshooting section of this manual.

## 5 CONTROLLING THE VIDEO SCALER

The Video Scaler is controlled via Front Panel Push Buttons and its status is indicated by Front Panel LED's. The front panels of the CSC-1100A and CSC-1100A/RS are identical and the following photograph shows the Control Buttons and LED Indicators. The description that follows covers both models.



## 6 INPUT SELECTON

Pressing the Input Button allows manual selection of the Video Input signal. Repeatedly pressing the button toggles through the available inputs:

- **SV-IN LED** - This is illuminated when the S-Video input has been selected.
- **CV-IN LED** - This is illuminated when the Composite Video input has been selected.
- **PC-IN LED** – This is illuminated when the Bypass Mode has been selected.

## 7 OUTPUT SELECTION

The Output Button chooses the resolution of the scaled output video signal. Repeatedly pushing this button toggles through the selections of VGA, SVGA, XGA and 480p.

- **VGA LED** – This illuminates when the 640x480 Output has been selected.
- **SVGA LED** – This illuminates when the 800x600 Output has been selected.
- **XGA LED** – This illuminates when the 1024x768 Output has been selected.
- **480p LED** – This illuminates when the 480p Output has been selected. An NTSC input results in an 852x480p output and a PAL input results in a 852x576p output.  
**Note:** Since the Video Input signal has a 4:3 aspect ratio, the 16:9 scaled output must be distorted in some manner to fit. The units employ the Horizontal Stretch method, which maintains the original height, while increasing the width. This is generally agreed to be the most acceptable method of aspect ratio alteration.
- **480p YpBpR Mode** – This mode is provided for compatibility with certain HDTV Sets and is selected by simultaneously pressing the “Select” and “-“ Buttons, when in the 480p Output Mode. (Pressing these buttons again returns the 480p output to the RGBHV Mode). While in the YpBpR Mode, the VGA, SVGA, XGA and 480p LED's will illuminate in Red, but the output signal in those modes is not usable – only the YpBpR output works.

## 8 VIDEO SIGNAL ADJUSTMENT

The Video Scaler has an integral processing amplifier, capable of adjusting various signal parameters of the incoming Composite or S-Video. This is done by using the Select Button to choose the desired parameter and the + and – Buttons to make the adjustment.

### 8.1 Select, + and – Buttons

Repeatedly pressing the Select Button toggles through the available adjustments, as indicated by their respective LED. Pressing the + Button increases the value of the selection, while pressing the – Button decreases the value. Pressing the + and – Buttons at the same time returns all settings to the factory preset positions. When the end of an adjustment range has been reached, the LED will flash, indicating that the minimum or maximum has been reached. The settings are automatically saved after adjustment.

**Note** - These adjustments have no effect on the incoming computer signal, which is simply passed through the Video Scaler in the Bypass Mode.

- **Horiz LED** – The Horizontal Position LED illuminates when the Select Button is pressed repeatedly until this parameter is available for adjustment. This is for horizontally centering the image. When this LED is illuminated, pressing the + Button moves the position of the image to the right on the output screen. Pressing the – Button moves the position of the image to the left on the output screen.
- **Vert LED** – The Vertical Position LED illuminates when the Select Button is pressed repeatedly until this parameter is available for adjustment. This is for vertically centering the image. When this LED is illuminated, pressing the + Button moves the image up on the output screen. Pressing the – Button moves the image down.
- **Tint LED** – The Tint LED illuminates when the Select Button is pressed repeatedly until this parameter is available for adjustment. Tint is sometimes called Hue or Color Phase. When this LED is illuminated, pressing the + Button increases the chroma phase in relation to the current setting and pressing the – Button decreases it. **Note** – This adjustment is only available when and NTSC signal is present.
- **Color LED** - The Color Saturation LED illuminates when the Select Button is pressed repeatedly until this parameter is available for adjustment. When this LED is illuminated, pressing the + Button increases the chroma saturation and pressing the – Button decreases it.
- **Bright LED** – The Brightness LED illuminates when the Select Button is pressed repeatedly until this parameter is available for adjustment. When this LED is illuminated, pressing the + Button increases the Brightness level and pressing the – Button decreases it.
- **Cont LED** – The Contrast LED illuminates when the Select Button is pressed repeatedly until this parameter is available for adjustment. When this LED is illuminated, pressing the + Button increases the Contrast level and pressing the – Button decreases it.
- **Sharp LED** – The Sharpness LED illuminates when the Select Button is pressed repeatedly until this parameter is available for adjustment. Sharpness is sometimes called Detail or Enhancement. When this LED is illuminated, pressing the + Button increases the Sharpness level and pressing the – Button decreases it.

**9 RS-232 CONTROL OF THE CSC-1100A/RS VIDEO SCALER**

The Video Input selection and signal parameter settings for the CSC-1100A/RS can also be controlled via an external control system by using the RS-232 port on the unit. If information for this control method is required, beyond the scope of the instructions provided in this section, please contact TV One Technical Support. A disk is provided with the CSC-1100A/RS containing a sample Windows Control Panel that permits remote control of the unit from a PC via RS-232.

**Note** – The connection between the CSC-1100A/RS unit and the RS-232 remote controller is made with a modem cable.

Pins definition of modem cable:

Video Scaler			Remote Controller	
PIN	Definition		PIN	Definition
1	NC		1	NC
2	TxD		2	RxD
3	RxD	→	3	TxD
4	NC		4	NC
5	GND	←	5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

RS-232 transmission format:

BaudRate	9600bps
Data Bit	8 bits
Parity	None
Stop Bit	1 bit

Command/Response codes of RS-232 transmission:

(The command/response code is the combination of 3 characters.)

Remote Controller		→	Video Scaler	
Command Code	Comment	←	Response Code	Comment
none			OK1	video scaler power on ready
IN0 IN1 IN2	INPUT		IN0 IN1 IN2	S-video Composite Video PC
OU0 OU1 OU2 OU3	OUTPUT		OU0 OU1 OU2 OU3	VGA SVGA XGA 480p
SE0 SE1 SE2 SE3 SE4 SE5 SE6	SELECT		SE0 SE1 SE2 SE3 SE4 SE5 SE6	Horizon Vertical Hue Color Bright Contrast Sharpness
MI!	[-] minus		MI0	If excess minimum value
PL!	[+] plus		PL0	If excess maximum value
RY0 RY1	RGB/YpBpR		RY0 RY1	RGB YpBpR
AL!	ALL		IN? OU? SE? RY?	Return all video scaler status
RE!	RESET		None	
none			RE1	video scaler reset

## 10 TROUBLESHOOTING

If the recommended actions listed below do not result in satisfactory operation, please consult your Dealer or contact TV One's Technical Support Department directly by phone at 859-282-7303 or by email at [tech@tvone.com](mailto:tech@tvone.com).

Problem	Possible Solution
No picture on the output monitor	If the Video Scaler's Power Switch is ON, but no LED's are illuminated, check that the proper AC Power Adapter is being used. If the LED's are illuminated, check that there is a correct Video Input signal and that the display device connected to the output is switched on and set to the correct input and its Brightness and Contrast are set correctly. Check to make sure the unit has not been switched to the YpBpR mode.
Colors appear wrong on the output monitor	Try adjusting the Color, Tint, Contrast and Brightness settings on your display. These are usually set up for viewing computer images, which may be somewhat different from viewing images that have been up-converted from video. Make sure your output cable assembly is not faulty, which could prevent either the Red, Green or Blue signal from being passed through the cable.
Too much smearing	Smearing usually occurs when a Composite Video input is used and is generally unavoidable, unless you can switch to using S-Video. Using good quality video cable will help towards reducing this affect. Smearing that may not be noticeable on a small video monitor may become objectionable on a large screen video projector.
No color on the output monitor, only a black and white image	Check the condition of the cables being used. A faulty S-Video cable can often cause a black and white image. Ensure that the color controls on your computer monitor or video projector are all set correctly. Ensure that the color adjustment on the Video Scaler is not adjusted completely down. It may be necessary to reset the video levels by pressing the + and – Buttons simultaneously.

## 11 WARRANTY POLICY

**LIMITED WARRANTY** - TV One warrants the original purchaser that the equipment it sells will be free from defects in materials and workmanship for a period of one year from the date of purchase. Should this 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 one year from the date of purchase. TV One assumes no liability to end-users 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.

## 12 REGULATORY COMPLIANCE

The Video Scaler has been tested for compliance with: FCC Class A and CE  
The Power Adapter has been tested for compliance with: UL, CSA and CE





---

**TV One Multimedia Solutions**

1445 Jamike Drive #8 - Erlanger, KY 41018  
Phone 859-292-7303 – Fax 859-282-8225  
Website [www.tvone.com](http://www.tvone.com) - Email [sales@tvone.com](mailto:sales@tvone.com)