SC-CSV-HD
Composite & S-Video to HDMI Video Processor

CUSTOMER SUPPORT INFORMATION

Order toll-free in the U.S. 800-959-6439
FREE technical support, Call **714-641-6607** or fax **714-641-6698**
Mail order: **Hall Research**, 1163 Warner Ave. Tustin, CA 92780
Web site: www.hallresearch.com   E-mail: info@hallresearch.com

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TRADEMARKS USED IN THIS MANUAL

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FCC RADIO FREQUENCY INTERFERENCE STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

    This device may not cause harmful interference, and

    This device must accept any interference received, including interference that may cause undesired operation
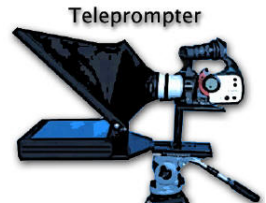
$C \, \epsilon$ **FC**   **RoHS Compliant**

1.0 Introduction

1.1 General

Thank you for purchasing Hall Research's SC-CSV-HD. This unit can convert and scale composite video or S-video into an HDMI signal of user specified resolution. The unit takes advantage of the HDMI signal's ability to embed audio with video, and supports a wide range of HDTV and PC resolutions up to 1080p. For convenience, both stereo analog and optical digital audio inputs and outputs are provided.

Along with video, the SC-CSV-HD converts analog or digital optical fiber (TOSLink) audio inputs into both an analog and digital format for simultaneous output on the HDMI, Optical Fiber (TOSLink) and analog 3.5mm L/R connectors.

The SC-CSV-HD has an easy to use OSD (on-screen display) menu for configuration, picture setup, system information and other advanced options. It also includes a horizontal mirroring feature, which is useful for Teleprompters and rear projection systems.

For convenience, the unit features integrated mounting brackets.

1.2 Features

- Scales and converts Composite Video or S-Video to HDMI, at PC (VGA~WUXGA) or HD(480i~1080p) resolutions
- Can automatically detect the connected monitors' NATIVE resolution and adjust the output scaling to match
- Supports 50/60 Hz frame rate conversion
- Supports 3D motion video adaptive, 3D de-interlacing and 3:2/2:2 pull down detection and recovery
- Horizontal mirroring (X-axis flip)
- Provides OSD with contrast, brightness, hue, saturation, sharpness, RGB (color tone), aspect ratio size and audio delay
- Supports stereo LPCM analog/digital audio input, and stereo LPCM analog/digital output
- Easy- to- use push buttons and OSD menu control
- Powerful video scaling for real-time frame rate conversion
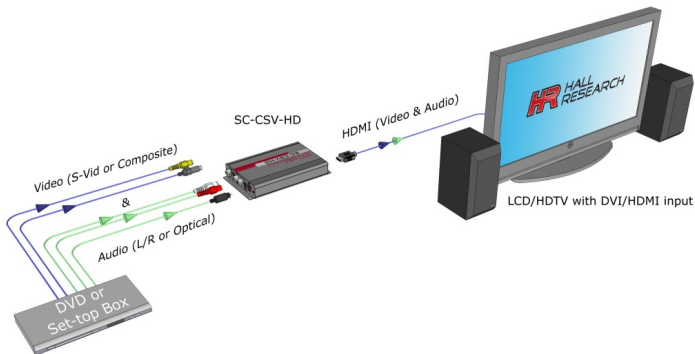
2.0 Installation

2.1 Connections

The SC-CSV-HD accepts either S-video or Composite inputs. The output is HDMI, but can also connect to DVI monitors using an HDMI-to-DVI cable (not included).

Connect the audio source to the analog L/R input connectors or use the TOSLink connecter if using an optical fiber audio input.

Connect the display device to the HDMI output connector

Connect the audio output device to either 3.5mm Audio output connector or the TOSLink (Optical Fiber) connector. Note that audio comes from both audio outputs simultaneously.

2.2 Connection Block Diagram

2.3 Package Contents

      (1) Model SC-CSV-HD
      (1) 5V DC Universal Power Supply
           (Do Not Substitute)
      (1) 2-RCA to 2-RCA audio cable
      (1) Composite video cable
      (1) User's Manual

3.0 Configuration & Operation

3.1 Input and Output

3.2 OSD Menu

Pressing the Menu button will bring up the OSD menu controls on the screen. Use the up and down arrows to your desired item, then press MENU to select and enter into sub menu. Select EXIT from a submenu to go back to the main menu or from the main menu to exit the OSD.

Top Menu	Sub-Menu	Value
PICTURE SETTING	CONTRAST	0 to 100% (DEFAULT=43)
	BRIGHTNESS	0 to 100% (DEFAULT=54)
	EXIT	
FINETUNE	HUE	0 to 100% (DEFAULT=55)
	SATURATION	0 to 100% (DEFAULT=37)
	SHARPNESS	0 to 100% (DEFAULT=18)
	NR	OFF/LOW/MIDDLE/HIGH (DEFAULT=OFF)
	EXIT	
COLOR SETTING	RED	0 to 100% (DEFAULT=48)
	GREEN	0 to 100% (DEFAULT=48)
	BLUE	0 to 100% (DEFAULT=52)
	EXIT	
OUTPUT SETTING	SIZE	FULL, OVERSCAN, UNDERSCAN, LETTERBOX, PANSCAN (DEFAULT=FULL)
	RESOLUTION	NATIVE* , 640x480, 800x600, 1024x768, 1280x800, 1440x900, 1280x1024, 1400x1050, 1600x900, 1600x1200, 1680x1050, 1920x1200, 480p, 576p, 720p50, 720p60, 1080i50, 1080i60, 1080p50, 1080p60 (DEFAULT= NATIVE)
	MIRROR	OFF or ON (DEFAULT = OFF)
	TIMING SHIFT	OFF or ON (DEFAULT = OFF)
	EXIT	
AUDIO SETTING	DELAY	OFF/40ms/110ms/150ms (DEFAULT = OFF)
	INPUT	ANALOG / OPTICAL(DEFAULT = ANALOG)
	SOUND	ON or MUTE (DEFAULT = ON)
	EXIT	
OSD SETTING	H-POSITION	0 to 100% (DEFAULT=10)
	V-POSITION	0 to 100% (DEFAULT=90)
	TIMER	0 to 100% (DEFAULT=10)
	BACKGROUND	0 to 100% (DEFAULT=63)

	DISPLAY	INFO/ON/OFF (DEFAULT = OFF)
FACTORY RESET		Reset unit parameters to default state
INFORMATION		SOURCE (Input Interface) INPUT (Input Resolution) OUTPUT (Output Resolution) VERSION (Firmware Version) MODEL SC-CSV-HD
EXIT		EXIT OSD

* The NATIVE output setting causes the scaler output to be the best matched to the native resolution of the connected display.

3.3 Setting the Output Resolution

3.3.1 Obtaining an image on the screen

As shipped from the factory, or after a factory default reset, the video input is set to composite video (CV).

To switch between composite and S-video, press the **UP ARROW ↑**. Additionally, the unit output resolution setting will be "NATIVE".

This means that at power up, the device will read the EDID of your display and output a compatible resolution.

However, if the output setting is not "NATIVE", or if the unit cannot read the EDID of the display, you may not get a picture. Since most settings are changed through the on-screen display (OSD), it is necessary to get an image on the display first, before you can navigate through the OSD menus.

For this purpose, you can use one of two preset button combinations to set a resolution that your display supports. Two options are available (depending on the display device):

1. If the display is HDTV compatible (with an HDMI connection) then 720p (1280x720), should result in an image.
2. If the display is PC compatible (DVI), then XGA (1024x768) should result in an image.

Once you have an image, you can call up the OSD menu to make further changes as necessary.

Setting Output Resolution using **Quick Select** buttons
*At any time, press the **UP ARROW** ⬆ and **MENU** buttons together to directly set the output resolution to XGA (1024x768 @ 60 Hz).*   *Press the **MENU** and **DOWN ARROW** ⬇ together to set the output resolution to 720p @ 60 Hz.*

Switching the input source between CV and SV
*Exit from any OSD menus and then press the **UP ARROW** ⬆ button to toggle between composite video (CV) and S-video (SV) inputs.*

3.3.2 Recalling Factory Defaults
Factory defaults may be recalled via (2) methods:

1. Press the MENU button to display the OSD. Using the ⬇⬆ arrow b**u**ttons, move to highlight the 'FACTORY RESET' option and press the **MENU** button. The unit will reset all parameters to the factory defaults. (Input = CV, Output = "Native".) The actual resolution of the output in this mode is dependent on the monitor and not the SC-CSV-HD.

2. Press and hold the **UP ARROW** ⬆ and **DOWN ARROW** ⬇ buttons simultaneously for 3 seconds.

3.3.3 Setting the output resolution
Press the **MENU** button to open the OSD and use the arrow buttons (⬆⬇) to select the OUTPUT option. Press the **MENU** button.

Use arrows to scroll thru the available resolutions listed. See Section 5 below for a list of all available resolutions.

The default output resolution after a factory reset is "Native".

If connected to an HDTV via HDMI input, then use the highest resolution your display supports from among 480p, 720p50/60 or 1080i/p. If a DVI LCD is used, you have a wide range of PC resolutions available (see section 5 for a complete listing).

4.0 Troubleshooting

There are no field serviceable parts or circuits in the device. If you think the device is malfunctioning (or you have no picture output), please try to use the methods described in Section 3.3 to obtain a picture first.

4.1 Contacting Hall Research

If you determine that your SC-CSV-HD is malfunctioning, do not attempt to repair the unit. Instead, contact Hall Research Technical Support at 714-641-6607. To return the unit to Hall Research you must first get a Return Authorization (RMA) number. Package the unit carefully, if returning. We recommend that you use the original container.

5.0 Output Resolutions

Output Resolutions Available	
NATIVE	
640x480 (VGA)	60 Hz
800x600 (SVGA)	60 Hz
1024x768 (XGA)	60 Hz
1280x800 (WXGA)	60 Hz
1440x900 (WXGA+)	60 Hz
1280x1024 (SXGA)	60 Hz
1400x1050 (SXGA+)	60 Hz
1600x1200 (UXGA)	60 Hz
1680x1050 (WSXGA)	60 Hz
1920x1200 (WUXGA)	60 Hz
480I	60 Hz
480P	60 Hz
576I	50 Hz
576P	50 Hz
720P50	50 Hz
720P60	60 Hz
1080I50	50 Hz
1080I60	60 Hz
1080P50	50 Hz
1080P60	60 Hz

6.0 Specifications

Video Bandwidth	225 MHz / 6.75 Gbps
Input Ports	1x CV, 1x SV, 1x L/R, 1x optical audio, 1x USB (Service only)
Output Ports	1x HDMI, 1x optical audio, 1x 3.5mm audio
Power Supply	5 VDC @ 2.6A DC (US/EU Standard, CE/FCC/UL Certified)
Output Resolution	Up to 1080p & WUXGA@60 (see section 5.0 for list)
Audio Sample Rate	Up to 48 kHz / Optical & HDMI
Mounting	Brackets at each end with screw holes for rack or wall
Dimensions	6.9" (177 mm) D x 4.02" (102 mm) W x 0.9" (25 mm) H/ Jack excluded 7.4"(186.75 mm) D x 4.02"(102 mm)W x 0.9" (25 mm)H/ Jack included
Weight	Shipping: 2.50 lbs (1.13 kg) Product: 1.80 lbs (0.81 kg)
Chassis Material	Aluminum
Temperature/Humidity	Operating: +32 to +122 °F (0 to 50 °C) 20%~90% Storage : -20°C~60°C / 32°F~104°F
Power Consumption	4.1W
ESD Protection	Human Body model: ±8 kV (air-gap discharge) ±6 kV (contact discharge)
MTBF	90,000 estimated

> **Notice**
> Use only regulated 5v DC supply (center positive) as supplied with the unit. Use of any other voltage will cause damage to the unit and void the warranty.

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