

USER MANUAL

Model:

CSC-550

Video to SXGA / HD Scaler



For maximum results, use Comprehensive Brand Premium High Resolution cables and connectors.

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1 Introduction

Congratulations on purchasing your **CSC-550 Video to SXGA / HD Scaler**. This product is ideal for:

- Projection systems in conference rooms, boardrooms, hotels and churches
- Home theater up-scaling

The package includes the following items:

- **CSC-550 Video to SXGA / HD Scaler**
- Power adapter (12V DC input)
- Infra red remote control transmitter
- This user manual

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual

3 Overview

The **CSC-550 Video to SXGA / HD Scaler** is a high quality converter for up-scaling composite video, s-Video (YC), and SD component video to XGA¹ and HD resolutions. It also has a computer graphics (XGA) input, which – when selected, or when the machine is not powered - is routed directly (bypassed) to the output. Video inputs are de-interlaced and scaled to the selected PC or HDTV resolutions, as follows:

- | | | |
|------------------|--------------------|---------|
| • VGA (640x480) | • SXGA (1280x1024) | • 720p |
| • SVGA (800x600) | • 480p | • 1080i |
| • XGA (1024x768) | • 576p | |

¹ The terminology XGA is used throughout this manual, where this implies any RGBHV signal on an HD15 connector having a resolution from VGA up to SXGA

The **CSC-550 Video to SXGA / HD Scaler** also features:

- Automatic detection of NTSC, PAL-B, PAL-G, PAL-I, PAL-D, and SECAM video standards
- An On-Screen Display (OSD) for easy setup and adjustment, accessible via the IR remote control and via the front-panel buttons
- A high-performance adaptive 3D comb filter (for precise color management)
- Per-pixel motion compensated de-interlacing for artifact-free video images
- Automatic detection for 3:2 pulldown for 24fps film source material
- Frame rate conversion of 50Hz to 60Hz for PAL input signals
- A Vertical Temporal (VT) Filter for removing jagged artifacts
- Advanced color/luminance transient improvement circuitry
- A PC Input connector for easy integration into an existing system
- A built-in procamp for convenient signal adjustment
- A non-volatile memory that retains the last settings used

The machine is fed from an external 12V DC source, making it suitable for field operation.

Control your **CSC-550**:

- Directly, via the front panel push buttons
- Remotely, from the infra-red remote control transmitter

To achieve the best performance:

- Connect only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise-levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances and position your **CSC-550** away from moisture, excessive sunlight and dust



Caution – No operator-serviceable parts inside unit.

Warning – Use only the input power wall adapter that is provided with this unit.

Warning – Disconnect power and unplug unit from wall before installing or removing device or servicing unit.

4 Your CSC-550 Video to SXGA / HD Scaler

Figure 1, Table 1 and Table 2 define the **CSC-550 Video to SXGA / HD Scaler**.

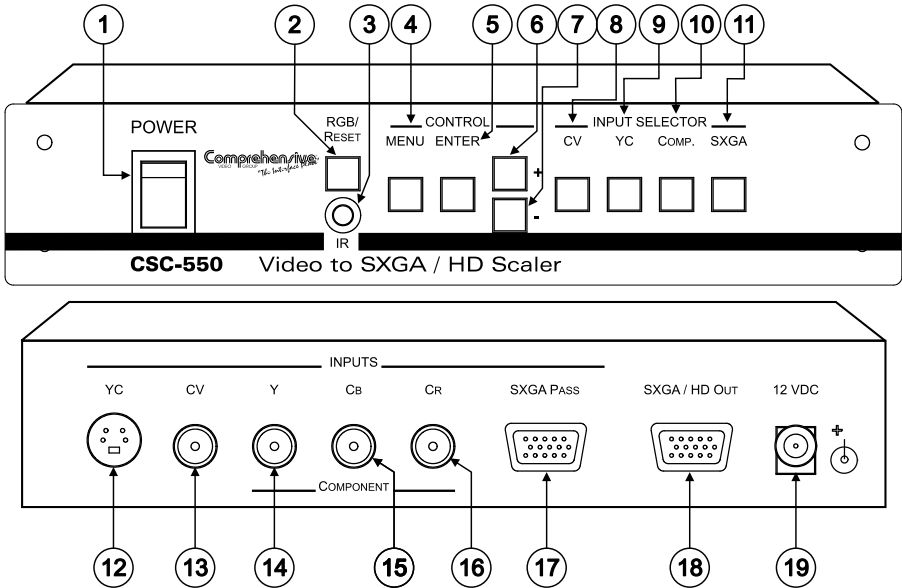


Figure 1: CSC-550 Video to SXGA / HD Scaler – Front and Rear View

Table 1: CSC-550 Video to SXGA / HD Scaler Front Panel Features

#	Feature	Function	
1	POWER Switch	Switch for turning the unit ON or OFF	
2	RGB/RESET Button	Illuminates when the output resolution is set to RGB. Press to set output to Y Pb Pr (the button no longer illuminates). Press and hold for more than 3 seconds to reset to VGA. Press and hold for 10 seconds to reset to 480p	
3	IR Receiver	Lights when receiving signals from the remote control transmitter	
4	CONTROL	MENU Button	Displays the OSD menu (see section 6.2)
5		ENTER Button	Press to accept changes and change the SETUP parameters (see section 6.2.3)
6		+ Button	Press to go up the menu list or adjust the PICTURE submenu values (see section 6.2.2)
7		- Button	Press to go down the menu list or adjust the PICTURE submenu values (see section 6.2.2)
8	INPUT SELECTOR	CV Button	Press to select the composite video source
9		YC Button	Press to select the s-Video (YC) video source
10		COMP. Button	Press to select the component video source
11		SXGA Button	Press to select the SXGA source

Table 2: CSC-550 Video to SXGA / HD Scaler Rear Panel Features

#	Feature	Function
12	YC 4p Connector	Connects to the s-Video source
13	CV RCA Connector	Connects to the composite video source
14	Y RCA Connector	Connects to the interlaced ¹ component video source ²
15	Cb RCA Connector	
16	Cr RCA Connector	
17	SXGA PASS HD15 Connector	Connects to the VGA/Y, Pb, Pr source ³
18	SXGA / HD OUT HD15 Connector	Connects to the SXGA or HDTV (component video) acceptor
19	12 VDC	+12V DC connector for powering the unit

5 Connecting the CSC-550 Video to SXGA / HD Scaler

Connect⁴ your **CSC-550**, as illustrated in the example in Figure 2:

1. Connect an s-Video source (for example, an s-Video camcorder) to the YC INPUT 4p connector.
2. Connect a composite video source (for example, a composite video player) to the CV INPUT RCA connector.
3. Connect a component video source (for example, a DVD player) to the Y, Cb and Cr INPUT RCA connectors.
4. Connect an SXGA graphics source to the SXGA PASS INPUT HD15 connector⁵.
5. Connect the SXGA/HD OUT HD15 connector to a video acceptor (for example, a plasma display) as follows:
 - When connecting to an XGA acceptor (RGBHV), then connect to the acceptor's XGA connector
 - When connecting to a component acceptor (Y, Cb, Cr), then connect as shown in Table 3

Table 3: HD15 PINOUT for HD⁶

PIN #	Signal
1	Cr
2	Y
3	Cb

1 Not compatible with progressive scan Y, Pb, Pr or HDTV

2 For component video, connect all three connectors: Y, Cb, Cr (also known as YUV)

3 This PC input signal is not scaled, but is available for pass-through when the PC source is selected

4 You do not have to connect all the inputs, connect only those that are required

5 This PC input signal is not scaled, but is available for pass-through when the PC Source is selected

6 The PINOUT should be: PIN 1 = Cr, PIN 2 = Y and PIN 3 = Cb (with pins 6, 7 and 8 as ground respectively)

6. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity (not shown in Figure 2).

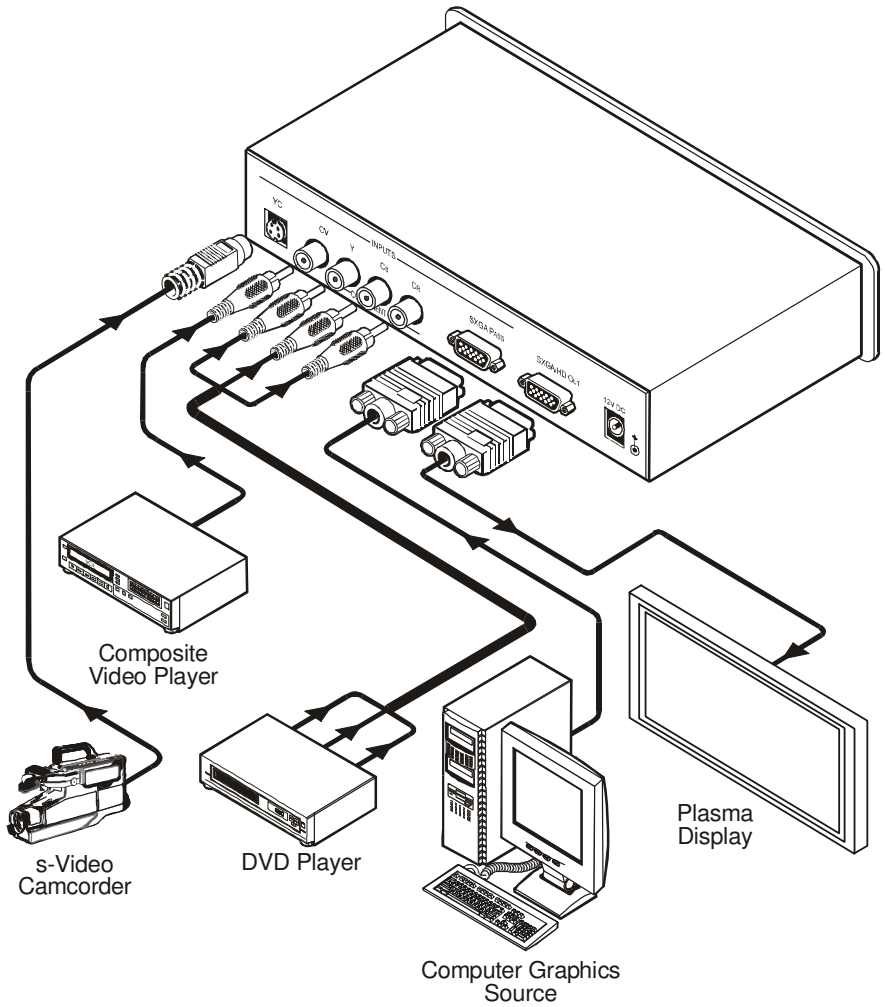


Figure 2: Connecting the CSC-550 Video to SXGA / HD Scaler

6 Controlling the CSC-550

The **CSC-550** can be controlled directly via the front panel buttons (see section 6.1), via the OSD menu (see section 6.2), and/or remotely from the infra-red remote control transmitter (see section 6.3).

6.1 Controlling via the Front Panel Buttons

The **CSC-550** includes the following control front panel buttons:

- An RGB/RESET button for setting the output to either RGB or Y, Pb, Pr or resetting¹ the resolution to VGA or 480p
- CONTROL buttons, including the MENU, ENTER, + and – buttons
- INPUT SELECTOR buttons for selecting the required input (CV, YC, COMP. or SXGA)

6.2 Using the CONTROL Buttons

The CONTROL buttons let you control the **CSC-550** via the OSD menu:

- Press the MENU button to enter the menu²
- Press the ENTER button to accept changes and to change the menu settings
- Press the + and – buttons to move through the OSD menu, which is displayed on the video output, or adjust the PICTURE parameters

On the OSD menu, select EXIT to exit the menu.

6.2.1 The MAIN MENU

Table 4 defines the MAIN MENU features and functions.

Table 4: The MAIN MENU Features

Mode	Function
PICTURE	Set the picture parameters (contrast, brightness, color, hue, detail and reset), see section 6.2.2
SOURCE	Select the desired input source: video, s-Video, Y, CB, CR or computer
RESOLUTION	After selecting the output type ³ , select between the RGB output resolutions (VGA, SVGA, XGA or SXGA) or the YPbPr output resolutions (480p, 576p, 720p or 1080i)
SETUP	Select the aspect, output, 3D enhance, digital NR, display and HV output (see section 6.2.3)
INFORMATION	Displays the source, resolution and software version
EXIT	Select to exit the menu

1 Press for 3 seconds to reset to VGA and press for 10 seconds to reset to 480p

2 The menu times out after 8 seconds

3 By pressing the RGB/RESET button or via the OSD menu

6.2.2 The PICTURE Menu

Table 5 defines the PICTURE menu.

Table 5: The PICTURE Menu Features

Parameter	Function	Range	Default
CONTRAST	Adjust the contrast	From 0 to 63	58
BRIGHT	Adjust the brightness	From 0 to 63	31
COLOR	Adjust the color	From 0 to 63	31
HUE	Adjust the hue	From 0 to 63	31
DETAIL	Adjust the sharpness	From 0 to 63	10
RESET	Select RESET and press ENTER to reset to the default parameters		
EXIT	Select to exit to the MAIN MENU		

6.2.3 The SETUP Menu

Table 6 defines the SETUP menu.

Table 6: The SETUP Menu Features

Parameter	Function
ASPECT ¹	Select between STANDARD, 4:3 and 16:9
OUTPUT	Select a PC (RGB) output or an HDTV (Y, Pb, Pr) output
3D ENHANCE	Turn the 3D comb filter function ON or OFF ²
DIGITAL NR	Turn the digital noise reduction function ON or OFF
DISPLAY	Set to ON to display the input standard and the output resolution on the screen; otherwise, set to OFF
HV OUTPUT	Select ON to send H and V synchronization when Y, Pb, Pr is selected for the output ³
EXIT	Select to exit to the MAIN MENU

1 STANDARD will output the signal in the same aspect ratio as the input aspect ratio. 4:3 and 16:9 will always output as 4:3 and 16:9 respectively, regardless of the input aspect ratio

2 When a video player or a non-standard video source is connected to the input, the output picture may jitter. If this occurs, turn the 3D Comb Filter to OFF

3 H and V are always sent when RGB is selected at the output

6.3 Controlling via the Infra-Red Remote Control Transmitter

You can control the **CSC-550** from the infra-red remote control transmitter, as Figure 3 and Table 7 define:

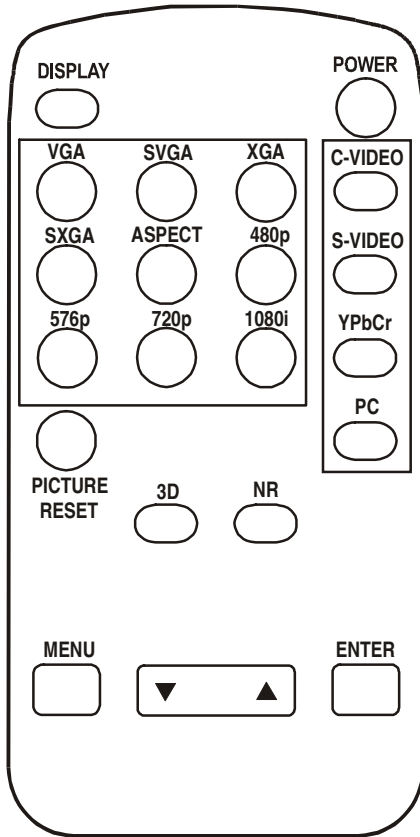


Figure 3: Infra-Red Remote Control Transmitter

Table 7: Infra-Red Remote Control Transmitter Functions

Keys	Function
POWER	Turn power ON or OFF
DISPLAY	Turn input standard and output resolution information display ON or OFF
C-VIDEO	Select the composite video input
S-VIDEO	Select the s-Video input
YCbCr	Select the component video input
PC	Select the input PC to loop-through
VGA	Set the output resolution to 640x480
SVGA	Set the output resolution to 800x600
XGA	Set the output resolution to 1024x768
SXGA	Set the output resolution to 1280x1024
480p	Set the output resolution to 852x480p
576p	Set the output resolution to 852x576p
720p	Set the output resolution to 1280x720p
1080i	Set the output resolution to 1920x1080i
ASPECT	Select the standard, normal (4:3) or the wide (16:9) aspect ratio
PICTURE RESET	Press and hold for 2 seconds to reset all the ProcAmp settings (contrast, brightness and so on) ¹
3D	Turn the 3D enhance feature ON or OFF
NR	Turn the digital noise reduction feature ON or OFF
MENU	Enter the OSD menu
ENTER	Press to accept changes and to change SETUP parameters
▼ ▲	Press to adjust the picture parameters

¹ In some versions, you need to be within the PICTURE menu to do this

7 Technical Specifications

Table 8: Technical Specifications¹ of the CSC-550

INPUTS:	1 VGA/SVGA/XGA/SXGA on an HD15F connector 1 composite video on an RCA connector 1 component video (Y, Cb, Cr) on RCA connectors 1 s-Video on a 4p connector
OUTPUT:	1 RGB/YPbPr on an HD15F connector
OUTPUT RESOLUTIONS:	VGA (640x480), SVGA (800x600), XGA (1024x768), SXGA (1280x1024), HDTV: 480p, 576p, 720p, 1080i
PROCESSING DELAY:	2 frames
CONTROLS:	Front panel buttons and infra red remote for menu driven OSD control
ADDITIONAL CONTROLS:	Contrast, brightness, color, tint and sharpness; Resolution, output image scaling, output mode, 3D comb filter function and aspect ratio
POWER SOURCE:	12V DC, 350mA
DIMENSIONS:	21.5cm x 16.3cm x 4.36cm (8.46" x 6.4" x 1.7") W, D, H
WEIGHT:	0.25kg (0.55lb.) approx.
ACCESSORIES:	Power supply, IR remote control

¹ Specifications are subject to change without notice