

# DSC 301 HD

## THREE INPUT COMPACT HDCP-COMPLIANT VIDEO SCALER

- ▶ HDMI, RGB, HDTV, and video scaling to HDMI
- ▶ Auto-switching between inputs
- ▶ HDMI audio embedding
- ▶ Selectable output rates from 640x480 to 1920x1200, including HDTV 1080p/60 and 2K
- ▶ Advanced scaling engine with 30-bit processing and 1080i deinterlacing
- ▶ HDCP compliant
- ▶ Aspect ratio control
- ▶ Seamless switching



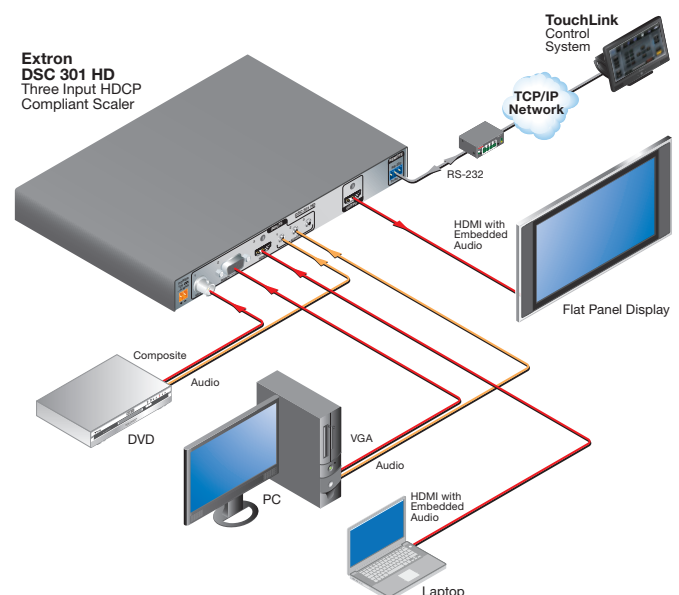
The Extron DSC 301 HD is a compact video scaler that accepts a wide variety of video formats including HDMI, HDTV, RGB, and standard definition video. Analog audio from any of three stereo inputs may be selectively embedded onto the HDMI output. Designed for professional integration, the DSC 301 HD provides scaling and format conversion in a low profile enclosure that enables quick and simple installation in many environments.



**Extron® Electronics**  
INTERFACING, SWITCHING AND CONTROL

## FEATURES

- ▶ **HDMI, RGB, HDTV, and video scaling to HDMI** – Digital and analog video sources can all be scaled to high resolution HDMI output.
- ▶ **Auto-switching between inputs** – Auto-switching allows for simple, unmanaged installation in locations such as in a podium or under a conference table. When multiple inputs are active, the switching priority is configurable.
- ▶ **HDMI audio embedding** – Analog input audio signals can be embedded onto the HDMI output signal.
- ▶ **Advanced scaling engine with 30-bit processing and 1080i deinterlacing** – Image scaling and video format conversion are performed at 30-bit precision for enhanced color accuracy and picture detail. High performance deinterlacing for 1080i signals from HD sources delivers optimized image quality.
- ▶ **HDCP compliant** – Fully supports encrypted content, with selectable authorization for unencrypted content.
- ▶ **Supported HDMI specification features include data rates up to 6.75 Gbps, Deep Color, and HD lossless audio formats**
- ▶ **Key Minder® continuously verifies HDCP compliance for quick, reliable switching** – Key Minder authenticates and maintains continuous HDCP encryption between input and output devices to ensure quick and reliable switching in professional AV environments.
- ▶ **EDID Minder® automatically manages EDID communication between connected devices** – EDID Minder ensures that all sources power up properly and reliably output content for display.
- ▶ **Aspect ratio control** – The aspect ratio of the video output can be controlled by selecting a FILL mode, which provides a full screen output, or a FOLLOW mode, which preserves the original aspect ratio of the input signal.
- ▶ **HDCP Visual Confirmation provides a green signal when encrypted content is sent to a non-compliant display** – A full-screen green signal is sent when HDCP-encrypted content is transmitted to a non-HDCP compliant display, providing immediate visual confirmation that protected content cannot be viewed on the display.
- ▶ **Seamless switching** – Seamless cut and fade to black transition effects are available to enhance presentations by eliminating distractions during switching.
- ▶ **AFL™ - Accu-RATE Frame Lock** – A patented technology exclusive to Extron that locks the output frame rate to a designated input to eliminate stuttering caused by frame rate conversion.
- ▶ **Image freeze control** – A live image can be frozen using RS-232 serial control or USB.
- ▶ **Auto-Image™ setup** – When activated, the unit automatically detects the resolution of the incoming video signal and sets the total pixels, active pixels, and active lines, as well as the horizontal and vertical starting points. This can save time and effort in setting up a newly connected source, particularly in presentation environments where the input is not connected to a fixed source, but instead goes to an open connection for a presenter's laptop.
- ▶ **Output Standby Mode** – The scaler can be set to automatically mute video and sync output to the display device when no active input signal is detected. This allows the projector or flat-panel display to automatically enter into standby mode to save energy and enhance lamp or panel life.
- ▶ **Power Save Mode** – The scaler can be placed in a low power standby state to conserve energy when not in use.
- ▶ **Automatic 3:2 and 2:2 pulldown detection** – Advanced film mode processing techniques that help maximize image detail and sharpness for NTSC, PAL, and HDTV 1080i sources that originated from film.
- ▶ **Quad standard, 3D composite video decoding** – A temporal, 3D adaptive comb filter provides advanced decoding of composite NTSC 3.58, NTSC 4.43, PAL, and SECAM for integration into systems worldwide.
- ▶ **Internal test patterns for calibration and setup** – The DSC 301 HD offers a crop pattern, crosshatch, grayscale, color bars, alternating pixels, blue mode, and audio pink noise.
- ▶ **Audio switching transitions** – The audio output level automatically ramps down and then ramps up to match the video during switching transitions.
- ▶ **Front panel security lockout** – This feature locks out all front panel functions except for input selection; all functions, however, are available through RS-232 control.
- ▶ **RS-232 control port** – Enables the use of serial commands for complete control and configuration via the Extron Windows®-based control program or integrated into a control system. Extron products use the SIS™ - Simple Instruction Set command protocol, a set of basic ASCII code commands that allow for quick and easy programming.
- ▶ **Front panel USB configuration port** – Enables easy configuration without having to access the rear panel.
- ▶ **1" (2.5 cm) high, half rack width metal enclosure**



# OVERVIEW

**Dual color LED displays signal presence and power**

**Convenient front mounted USB configuration port**

**Input select buttons and LED indicators**  
Direct access buttons and indicators simplify system setup and operation

**Dual color LEDs show HDCP input and output status**

**Menus navigation controls**  
Full access to configuration parameters is provided by the on-screen menus



DSC 301 HD - Front



DSC 301 HD - Back

**Auto-switching inputs**  
HDMI, configurable analog, and SD video inputs with selectable switching priority

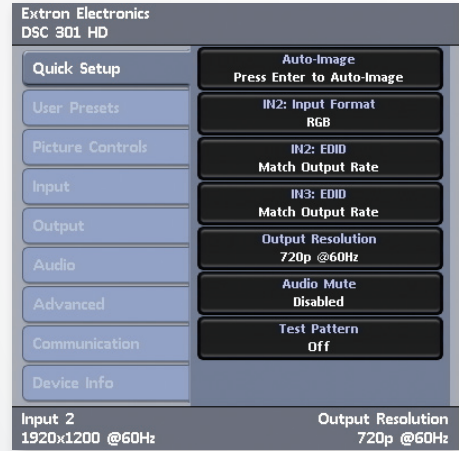
**HDMI audio embedding**  
Audio from any of three stereo audio inputs may be embedded onto the HDMI output

**Compact metal enclosure**  
1" high, half rack width

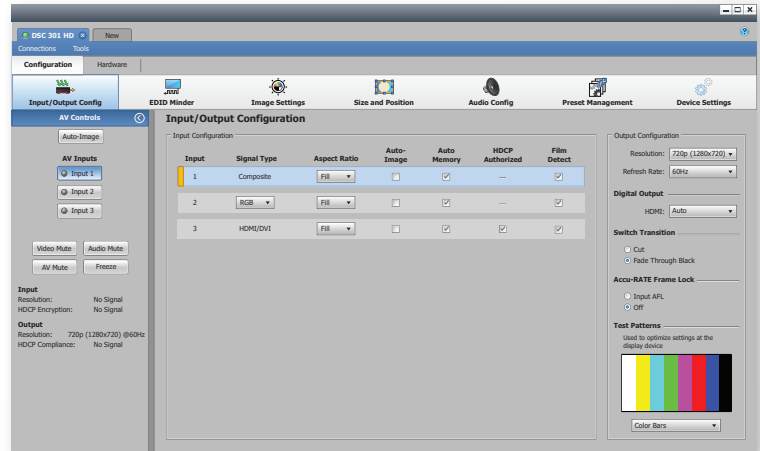
**RS-232 serial control**  
An RS-232 port enables professional grade control and monitoring

# SIMPLE, COMPREHENSIVE SETUP AND CONFIGURATION

The DSC 301 HD features intuitive on-screen menus for setup using the front panel controls. Key parameters, such as input and output video formats and resolutions, are conveniently grouped on the initial Quick Setup screen, while additional screens provide full control over the scaler's other functions and settings. Alternatively, the DSC 301 HD can be controlled over RS-232 using available software, which simplifies configuration with a user-friendly interface. The software GUI allows easy adjustment of picture and audio settings for optimal quality images and sound.



DSC 301 HD on-screen menus



DSC 301 HD control software

# SPECIFICATIONS

VIDEO INPUT	
Number/signal type	1 Composite 1 RGBHV/YUV (YUVi, YUVp, and YUV-HD) 1 HDMI/DVI
Connectors	1 female BNC for composite 1 female 15-pin HD for RGB/YUV 1 female HDMI for HDMI/DVI
Resolution range	640x480 to 1600x1200 and 1920x1200* NTSC, PAL, SECAM, 480p, 576p, 720p, 1080i, 1080p, and 2k *reduced blanking
VIDEO PROCESSING	
Analog sampling	12 bits per color; 13.5 MHz standard (video) 170 MHz standard (RGB)
Digital pixel data bit depth	8, 10, or 12 bits per channel; 165 Mhz pixel clock (HDMI)
VIDEO OUTPUT	
Number/signal type	1 HDMI (HDCP)
Connectors	1 female HDMI
Scaled resolutions	640x480 <sup>6,8,9</sup> , 800x600 <sup>6,8,9</sup> , 852x480 <sup>6,8,9</sup> , 1024x768 <sup>6,8,9</sup> , 1024x852 <sup>6,8,9</sup> , 1024x1024 <sup>6,8,9</sup> , 1280x768 <sup>6,8,9</sup> , 1280x800 <sup>6,8,9</sup> , 1280x1024 <sup>6,8,9</sup> , 1360x765 <sup>6,8,9</sup> , 1360x768 <sup>6,8,9</sup> , 1365x768 <sup>6,8,9</sup> , 1365x1024 <sup>6,8,9</sup> , 1366x768 <sup>6,8,9</sup> , 1400x1050 <sup>6,8</sup> , 1440x900 <sup>6,8,9</sup> , 1600x900 <sup>6,8</sup> , 1600x1200 <sup>6,8</sup> , 1680x1050 <sup>6,8</sup> , 1920x1200 <sup>6,8</sup> , HDTV 480p <sup>7,8</sup> , 576p <sup>6</sup> , 720p <sup>3,4,5,6,7,8</sup> , 1080i <sup>6,7,8</sup> , 1080p <sup>1,2,3,4,5,6,7,8</sup> , 2048x1080 <sup>1,2,3,4,5,6,7,8</sup> <sup>1</sup> = at 23.98 Hz, <sup>2</sup> = at 24 Hz, <sup>3</sup> = at 25 Hz, <sup>4</sup> = at 29.97 Hz, <sup>5</sup> = 30 Hz, <sup>6</sup> = at 50 Hz, <sup>7</sup> = at 59.94 Hz, <sup>8</sup> = at 60 Hz, <sup>9</sup> = at 75 Hz
AUDIO	
Frequency response	20 Hz to 20 kHz, ±0.5 dB
THD + Noise	< 0.1% @ 1 kHz, 20 Hz to 20 kHz bandwidth (at nominal level)
S/N	>90 dB, at maximum output (unweighted)
AUDIO INPUT	
Number/signal type	3 stereo unbalanced
Connectors	(3) 3.5 mm TRS connectors
AUDIO OUTPUT	
Number/signal type	(1) 2-channel LCPM audio or digital pass-through
Connectors	1 female HDMI (shared with HDMI video)
CONTROL/REMOTE – DECODER/SCALER	
Serial control port	1 bidirectional RS-232 rear panel 3 pole captive screw connector
USB control ports	1 front panel female mini USB B

GENERAL		
Power supply	External Input: 100-240 VAC, 50-60 Hz Output: 12 VDC, 1 A, 12 watts	
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing	
Cooling	Convection, vents on top and sides	
Mounting	Rack mount: Yes, with optional rack shelf Furniture mount: Yes, with optional under-desk or through-desk mounting kit	
Enclosure dimensions	1.0 H x 8.75" W x 6.0" D (half rack wide) (2.5 cm H x 22.2 cm W x 15.2 cm D) (Depth excludes connectors and knobs.)	
Product weight	1.3 lbs (0.6 kg)	
Regulatory compliance	Safety: CE, c-UL, UL EMI/EMC: CE, C-tick, FCC Class A, ICES, VCCI Environmental: Complies with the appropriate requirements of RoHS, WEEE.	
Warranty	3 years parts and labor	
<b>NOTE:</b> All nominal levels are at ±10%.		
<b>Model</b>	<b>Version Description</b>	<b>Part number</b>
DSC 301 HD	Three Input HDCP-Compliant Scaler	60-1253-01

For complete specifications, please go to [www.extron.com](http://www.extron.com)  
Specifications are subject to change without notice.

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