

HD-SCALER-HD-E

High-Definition Video Scaler, HDMI® In, HDMI Out

- > Automatically scales any input signal to match the native resolution of your display
- > Supports a range of display resolutions up to Full HD 1080p and WUXGA
- > Perfect for adapting all kinds of video devices to handle any input resolution
- > Supports any input resolution up to Full HD 1080p and WUXGA^[5]
- > Performs deinterlacing of NTSC, PAL, and 1080i sources
- > Handles HDMI® signals with Deep Color and HDCP
- > Also handles DVI and Dual-Mode DisplayPort sources^[1]
- > Handles Dolby Digital® 5.1, DTS® 5.1, and uncompressed 7.1 linear PCM audio
- > Includes stereo analog audio input and output
- > Allows embedding of analog stereo audio to HDMI^[3]
- > Allows extraction of digital stereo audio to analog^[4]
- > Provides up to 150 ms lip-sync audio delay
- > Affords easy setup via on-screen display
- > Compact, low-profile surface mount design
- > Universal 100-240V external power pack included

The HD-SCALER-HD-E is a simple, cost-effective video scaler designed to enable an HD, SD, or computer display device to handle virtually any input resolution up to Full HD 1080p or WUXGA. Its low-profile, surface-mountable design and set-and-forget simplicity allow the HD-SCALER-HD-E to be installed discreetly in the back of an equipment rack, behind a flat panel display, or above a ceiling projector.

HD Scaler

True, most video displays include a built-in scaler. But, too often these displays just can't handle all the different formats and resolutions that you're likely to encounter day-to-day in a dynamic presentation environment. The HD-SCALER-HD-E simply connects to the HDMI® or DVI input^[1] of your video display and ensures that every source you feed it appears reliably and beautifully. Fully automatic operation is achieved using the display's EDID^[2] — just insert the HD-SCALER-HD-E into the incoming video signal path and it intelligently converts and enhances that signal for optimal appearance on your display.

The HD-SCALER-HD-E handles standard and high-definition digital video sources with resolutions up to Full HD 1080p60 progressive and 1080i interlaced, as well as computer sources up to WUXGA 1920x1200. Whatever the source, the HD-SCALER-HD-E is capable of scaling it up or down, deinterlacing it, reducing noise artifacts, and adjusting its aspect ratio to match the native resolution of your video display or computer monitor. A wide selection of display resolutions up to 1920x1200 can be supported, with auto-calibration ensuring a quick and easy setup and hands-off operation.

The HD-SCALER-HD-E provides a single HDMI input and is compatible with HDMI, DVI, and Dual-Mode DisplayPort sources.^[1]



Audio Support

Via its HDMI input and output, the HD-SCALER-HD-E handles 5.1 audio formats like Dolby Digital® and DTS®, as well as uncompressed 7.1 linear PCM. The audio signal is passed through unprocessed, with the option of delaying the signal up to 150 ms for lip-sync alignment.

Audio Embedding

In addition to HDMI, the HD-SCALER-HD-E includes an analog audio input to accommodate the stereo signal from a line-level audio source, or the headphone output from a laptop or mobile device. The analog input signal is combined with the HDMI video input signal and routed to the scaler's HDMI output.^[3]

Audio Extracting

The selected audio input signal is routed simultaneously to the HDMI output and the stereo analog output, allowing distribution of the audio signal to the display device, or to a sound bar, amplified speakers, or a separate sound system.^[4]

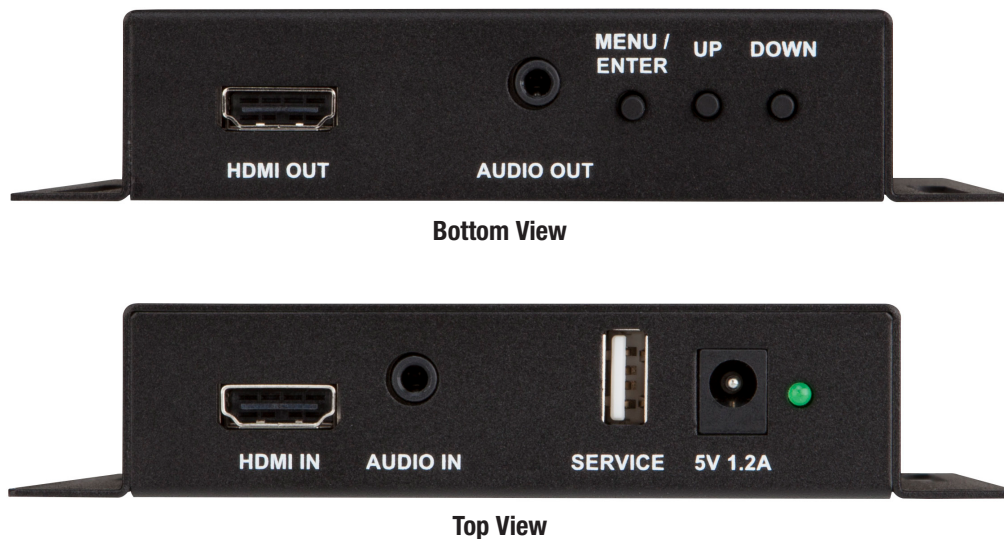
On-Screen Display

Setup and diagnostics are facilitated through an on-screen display (OSD). The OSD appears right on the video display with navigation enabled using simple controls located on the scaler unit. The OSD displays detailed information about the connected source and display device, and includes settings for selecting the audio input, output resolution, and aspect ratio, and for adjustment of the picture and color settings, audio delay, and other parameters.

Simple and Versatile

The HD-SCALER-HD-E is well-suited for a wide range of applications including boardrooms and classrooms, home entertainment, rental and staging, and digital signage. Its simple set-and-forget nature and compact size let it go anywhere a high-quality video scaler is needed.

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SPECIFICATIONS

Features

HD video scaler and deinterlacer, noise reduction, 3:2/2:2 pull-down detection and recovery, aspect ratio selection, picture and RGB color adjustments, OSD setup, analog audio embedding and de-embedding

Video

Input Signal Types: HDMI w/Deep Color (DVI & Dual-Mode DisplayPort compatible^[1])

Output Signal Types: HDMI w/Deep Color (DVI compatible^[1])

Input Resolutions, Progressive: 640x480@60/72/75/85Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@56/60/72/75/85Hz, 848x480@60Hz, 852x480@60Hz, 854x480@60Hz, 1024x768@60/70/75/85Hz, 1024x852@60Hz, 1024x1024@60Hz, 1280x720@50/60Hz (720p50/60), 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60/75/85Hz, 1360x768@60Hz, 1365x1024@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x900@60Hz^[6], 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@24/25/50/60Hz (1080p24/25/50/60), 1920x1200@60Hz^[6], plus any other resolution up to 165MHz pixel clock

Input Resolutions, Interlaced: 720x480@60Hz (480i), 720x576@50Hz (576i), 1920x1080@50/60Hz (1080i50/60), plus any other resolution up to 165MHz pixel clock

Scaler Output Resolutions, Progressive: 640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 1024x768@60Hz, 1280x720@50/60Hz (720p50/60), 1280x800@60Hz, 1280x1024@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x900@60Hz^[6], 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@50/60Hz (1080p50/60), 1920x1200@60Hz^[6], native

Scaler Output Resolutions, Interlaced: 1920x1080@50/60Hz (1080i50/60)

Picture Settings: Contrast, brightness, hue, saturation, sharpness, noise reduction, red, green, blue

Size Selections: Aspect, full, overscan, underscan, letterbox, pan scan

Audio

Input Signal Types: HDMI (Dual-Mode DisplayPort compatible^[1]), analog stereo

Output Signal Types: HDMI, analog stereo

Digital Formats: Dolby Digital®, Dolby Digital EX, DTS®, DTS-ES, DTS 96/24, LPCM up to 8 channels at up to 48 kHz

Analog Formats: Stereo 2-channel

Analog-To-Digital Conversion: 24-bit 48 kHz

Digital-to-Analog Conversion: 24-bit 48 kHz

Delay: 0, 40, 110, or 150 ms selectable

Mute: On/Off

Communications

HDMI: HDCP compliant, responds to EDID from display device, copies EDID from display device to input; does not pass CEC

USB: For factory use only

Connectors

5V 1.2A: (1) 1.3 x 3.5 mm DC power connector; 5 Volt DC power input (PW-0510WU power pack included)

SERVICE: (1) USB Type A female; For factory use only

AUDIO IN: (1) 3.5 mm TRS mini phone jack; Unbalanced stereo line-level audio input^[3]; Input Level: 2 Vrms maximum; Input Impedance: 44k Ohms

HDMI IN: (1) 19-pin Type A HDMI female; HDMI digital video/audio input; Also supports DVI and Dual-Mode DisplayPort^[1]

HDMI OUT: (1) 19-pin Type A HDMI female; HDMI digital video/audio output; Also supports DVI^[1]

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AUDIO OUT: (1) 3.5 mm TRS mini phone jack;
Unbalanced stereo line-level audio output^[4];
Output Level: 1 Vrms maximum;
Output Impedance: 100 Ohms

Controls & Indicators

5V 1.2A: (1) Green LED, indicates operating power supplied via power pack
MENU/ENTER: (1) Pushbutton, used to open the onscreen setup menu and enter settings
UP, DOWN: (2) Pushbuttons, used to navigate the on-screen setup menu and adjust settings

Power Requirements

Power Pack: 1.2 Amps @ 5 Volts DC;
100-240 Volts AC, 50/60 Hz power pack, model PW-0510WU included
Power Consumption: 5.5 Watts

Environmental

Temperature: 32° to 104° F (0° to 40° C)
Humidity: 20% to 90% RH (non-condensing)
Heat Dissipation: 19 BTU/hr

Enclosure

Chassis: Metal, black finish; with (2) integral mounting flanges
Mounting: Freestanding, surface mount, or attach to a single rack rail

Dimensions

Height: 6.01 in (153 mm)
Width: 5.22 in (133 mm)
Depth: 1.00 in (26 mm)

MODELS & ACCESSORIES

Available Models

HD-SCALER-HD-E: High-Definition Video Scaler, HDMI® In, HDMI Out

Included Accessories

PW-0510WU: Wall Mount Power Pack, 5VDC, 1.2A, 2.1mm, Universal (Qty. 1 included)

Available Accessories

CBL Series: Crestron® Certified Interface Cables

Notes:

1. The HDMI input requires an appropriate adapter or interface cable to accommodate a DVI or Dual-Mode DisplayPort signal. The HDMI output requires an appropriate adapter or interface cable to accommodate a DVI signal. [CBL-HD-DVI](#) interface cables are available separately.
2. EDID (Extended Display Identification Data) is data embedded in an HDMI or DVI signal that enables the display device to tell the scaler what resolutions and formats it can support, allowing the scaler to configure itself automatically to feed an optimal output signal to the display.
3. The analog and HDMI audio inputs are mutually exclusive. The audio input can only be selected manually via the built-in OSD setup menu.
4. The analog stereo audio output is only active when the input is receiving a 2-channel stereo signal via either the analog input or HDMI.
5. Supports any input resolution and scan rate that has a pixel clock of 165 MHz or lower.
6. With reduced blanking only.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: patents.crestron.com.

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