

HDMI® Input Card w/Downmixing for DM® Switchers

- > Modular input card for a DM-MD8X8, DM-MD16X16, or DM-MD32X32 switcher
- > Provides a single HDMI® input
- > Handles video resolutions up to Full HD 1080p
- > Handles computer resolutions up to WUXGA
- > Handles 3D video and Deep Color
- > Handles Dolby® TrueHD, DTS-HD®, and uncompressed 7.1 linear PCM audio
- > HDCP compliant
- > Includes an HDMI output for pass-through of the input signal
- > Includes a stereo analog line-level audio output with volume control
- > Allows extraction of stereo 2-channel audio signals
- > Built-in downmixing enables simultaneous distribution of multi-channel surround sound and 2-channel stereo audio signals
- > Enables device control via CEC
- > Enables USB HID signal extension for a local computer
- > Compatible with Crestron USB over Ethernet Extenders^[2]
- > Occupies a single DM switcher input card slot
- > Provides an HDMI problem solving solution using the optional DMCI card interface^[3]

The DMC-HD-DSP is an input card designed for use with any card-based Crestron® DigitalMedia™ Switcher. It provides one HDMI® input, with associated HDMI pass-through and analog audio outputs. A USB HID port is also provided. The HDMI input handles Full HD 1080p video signals with support for HDCP, Deep Color, 3D, and high-bitrate 7.1 audio, as well as computer signals up to WUXGA. The HDMI input can also handle DVI and DisplayPort Multimode signals using an appropriate adapter or interface cable.^[1]

The DMC-HD-DSP provides all of the features of the [DMC-HD](#) with the addition of downmixing to enable the simultaneous distribution of multichannel 7.1 surround sound and 2-channel stereo signals. It is recommended for use with surround sound sources to allow the original multichannel signal to be distributed to rooms with surround sound systems, while simultaneously distributing a 2-channel downmix signal to stereo-only rooms and devices.

NOTE: Refer to model [DMC-4K-HD-DSP](#) for applications requiring support for higher resolutions up to 4K.

HDMI® Pass-Through

Every DM switcher input card includes an HDMI output port, which can be used to pass the input signal through to a local audio processor or video monitor, or to feed a second DM switcher for output expansion purposes.

Audio Extracting and Downmixing

The DMC-HD-DSP also includes an unbalanced analog audio output, allowing stereo audio signals to be extracted from the digital input and fed to a multiroom audio distribution system. Built-in DSP allows multi-channel surround sound signals to be decoded and downmixed to stereo.



The stereo downmix signal is automatically routed to the analog output, and can also be routed via any switcher output for distribution to stereo-only displays and other equipment. The analog output includes volume control that is adjustable via a control system using a keypad, touch screen, handheld remote, or mobile device.

USB Extender

Built-in USB HID signal routing allows a connected computer (or other USB HID-compliant host) to be controlled by a mouse and/or keyboard located at a presentation lectern, conference table, or some other remote location. Expanded USB signal routing capability is available using Crestron [USB over Ethernet Extenders](#).^[2]

CEC Embedded Device Control

DigitalMedia offers an alternative to conventional IR and RS-232 device control by harnessing the CEC (Consumer Electronics Control) signal embedded in HDMI. Through its connection to a Crestron control system (via the DM switcher), the DMC-HD-DSP provides a gateway for controlling the connected source device right through the HDMI connection, potentially eliminating the need for any dedicated control wires or IR emitters.

Standalone HDMI Problem Solver

In addition to its use as an input card for DM switchers, the DMC-HD-DSP may also be used with the [DMCI DigitalMedia Card Interface](#)^[3] to provide a handy problem-solving tool with many useful functions. It can be used to extract an analog audio signal from an HDMI stream, to downmix surround sound signals to stereo, to provide a gateway for CEC device control, and to extend a USB HID mouse/keyboard signal over Ethernet. It can also be used to detect a device's video and audio information, manage its EDID, and assess its HDCP capabilities.

To configure a DM switcher complete with input and output cards, cables, and other peripherals, please use the online [DigitalMedia Switcher Configuration Tool](#).

Please refer to the [DigitalMedia Resources Webpage](#) at <http://www.crestron.com/dmresources/> for additional design tools and reference documents.

DMC-HD-DSP HDMI® Input Card w/Downmixing for DM® Switchers

SPECIFICATIONS

Video

Input Signal Types: HDMI®, DVI^[1], DisplayPort Multimode^[1]

Output Signal Types: HDMI or DVI^[1] to switcher backplane and HDMI OUT connector

Formats: HDMI w/Deep Color & 3D, DVI, HDCP content protection support

Input Resolutions, Progressive: 640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 848x480@60Hz, 852x480@60Hz, 854x480@60Hz, 1024x768@60Hz, 1024x852@60Hz, 1024x1024@60Hz, 1280x720@50Hz (720p50), 1280x720@60Hz (720p60), 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1365x1024@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@24Hz (1080p24), 1920x1080@25Hz (1080p25), 1920x1080@50Hz (1080p50), 1920x1080@60Hz (1080p60), 1920x1200@60Hz, 2048x1080@24Hz, 2048x1152@60Hz, plus any other resolution allowed by HDMI up to 165MHz pixel clock

Input Resolutions, Interlaced: 720x480@30Hz (480i), 720x576@25Hz (576i), 1920x1080@25Hz (1080i25), 1920x1080@30Hz (1080i30), plus any other resolution allowed by HDMI up to 165MHz pixel clock

Output Resolutions: Matched to input

Audio

Input Signal Types: HDMI or DisplayPort Multimode^[1]

Output Signal Types: HDMI (simultaneous multichannel and 2-channel downmix) to switcher backplane, HDMI (multichannel pass-thru from input) at HDMI OUT, analog stereo 2-channel, allows audio breakaway

Digital Formats: Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby® TrueHD, DTS®, DTS-ES, DTS 96/24, DTS-HD High Res, DTS-HD Master Audio™, up to 8ch PCM

Analog Formats: Stereo 2-channel

Decoder: Cirrus Logic® CS49700 HD Audio Decoder DSP with dual 32-bit cores

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

Performance (analog): Frequency Response: 20Hz to 20kHz ±0.5dB;
S/N Ratio: >95dB, 20Hz to 20kHz A-weighted;
THD+N: <0.005% @ 1kHz;
Stereo Separation: >90dB

Volume Gain Range (analog): -80dB to 0dB

Communications

HDMI: HDCP, EDID, CEC

USB: Supports signal extension of USB HID class devices, expandable to support virtually any USB 1.1 or 2.0 device using Crestron USB-EXT-DM USB over Ethernet Extenders^[2]

Connectors

HDMI OUT: (1) 19-pin Type A HDMI female;

HDMI digital video/audio output;

Also supports DVI^[1]

HDMI IN: (1) 19-pin Type A HDMI female;

HDMI digital video/audio input;

Also supports DVI and DisplayPort Multimode^[1]

USB HID: (1) USB Type B female, USB device port for connection to the USB host interface of a computer or other USB HID-compliant host

AUDIO OUT: (2) RCA female;

Unbalanced stereo line-level audio output;

Maximum Output Level: 2 Vrms;

Output Impedance: 100 Ohms nominal

Construction

Plug-in card, occupies (1) DM switcher input card slot, includes metal faceplate w/black finish

Weight

8.0 oz (227 g)

MODELS & ACCESSORIES

Available Models

DMC-HD-DSP: HDMI® Input Card w/Downmixing for DM® Switchers

Available Accessories

CBL Series: Crestron® Certified Interface Cables

MP-WP Series: Media Presentation Wall Plates

MPI-WP Series: Media Presentation Wall Plates - International Version

DMCI: DigitalMedia™ Card Interface

USB-EXT-DM: USB over Ethernet Extender with Routing

Notes:

1. HDMI requires an appropriate adapter or interface cable to accommodate a DVI or DisplayPort Multimode signal. [CBL-HD-DVI](#) interface cables are available separately.
2. Compatible with Crestron [USB-EXT-DM-LOCAL](#) and [USB-EXT-DM-REMOTE](#) USB over Ethernet Extender modules, sold separately.
3. Item(s) sold separately.

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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