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 audio 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 multichannel 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,[1] 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 (1080p25), 1920x1080@30Hz (1080p30), 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 (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®[2], 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]**

**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
- **DMC:** 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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**Weights**

- **Weight:** 8.0 oz (227 g)