

# DMC-4K-HD-DSP

## 4K HDMI® Input Card w/Down-mixing for DM® Switchers

The DMC-4K-HD-DSP is an input card for a Crestron® DigitalMedia™ Switcher, providing one HDMI® input. The HDMI input supports Full HD 1080p, Ultra HD, 2K, and 4K video signals with HDCP, Deep Color, 3D, and high-bitrate HD multichannel audio. The HDMI input can also handle DVI and DisplayPort Multimode signals using an appropriate adapter or interface cable<sup>[1]</sup>.

The DMC-4K-HD-DSP provides all of the features of the DMC-4K-HD with the addition of internal surround sound down-mixing to enable the simultaneous distribution of uncompressed 7.1 surround sound and 2-channel downmix signals. The DMC-4K-HD-DSP is recommended for use with Blu-ray Disc® players and other HD sources that output multichannel surround sound audio via HDMI, allowing the multichannel signal to reach the surround sound system without requiring any decoding, while also providing a 2-channel downmix to feed a stereo zone or audio distribution system.

In addition to the HDMI input, the DMC-4K-HD-DSP also includes HDMI and stereo analog audio outputs, and a USB HID device port. The HDMI output 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. The analog audio output, which features programmable volume control, outputs the 2-channel downmix signal to feed a multiroom audio distribution system.

The USB HID port connects to the source device (i.e. computer or media server) at the central equipment rack, allowing it to be controlled by a mouse or keyboard located in another room, or at a presentation lectern, conference table, or some other remote location. Expanded USB signal routing capability is available using USB-EXT-DM USB Extenders<sup>[2]</sup>.

The DMC-4K-HD-DSP may also be used with the DMCI DigitalMedia Card Interface to create a very handy problem-solving tool with many useful functions. For instance, it can be used to extract an analog audio signal from an HDMI or DisplayPort Multimode stream, and downmix multichannel surround sound signals to stereo. As part of a complete Crestron control system, it can be used to detect and manage EDID and input source format information, to enable CEC device control, to assess a device's HDCP capabilities, and to extend a USB HID mouse/keyboard signal over Ethernet.

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

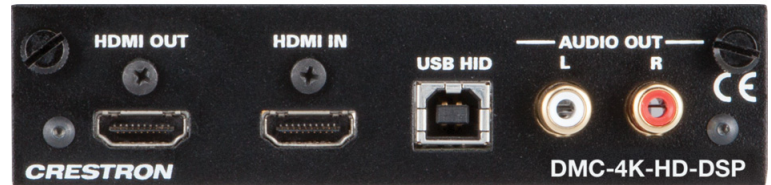
## SPECIFICATIONS

### Video

**Input Signal Types:** HDMI®, DVI<sup>[1]</sup>, DisplayPort Multimode<sup>[1]</sup>

**Output Signal Types:** HDMI or DVI<sup>[1]</sup> to switcher backplane and HDMI OUT connector

**Formats:** HDMI w/Deep Color, 3D, & 4K; 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, 2560x1440@60Hz, 2560x1600@60Hz, 3840x2160@24Hz, 3840x2160@25Hz, 3840x2160@30Hz, 3840x2160@50Hz<sup>[3]</sup>, 3840x2160@60Hz<sup>[3]</sup>, 4096x2160@24Hz, 4096x2160@50Hz<sup>[3]</sup>, 4096x2160@60Hz<sup>[3]</sup>, plus any other resolution allowed by HDMI up to 300MHz 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 300MHz pixel clock

**Output Resolutions:** Matched to inputs

### Audio

**Input Signal Types:** HDMI, DisplayPort Multimode<sup>[1]</sup>

**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

**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

**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, adjustable from 0% to 100%

# DMC-4K-HD-DSP 4K HDMI® Input Card w/Down-mixing for DM® Switchers

## USB

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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 Extenders<sup>[2]</sup>

## Connectors

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

**HDMI IN:** (1) 19-pin Type A HDMI female;  
HDMI digital video/audio input;  
Also supports DVI and DisplayPort Multimode<sup>[1]</sup>

**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 with level control;  
Maximum Output Level: 2 Vrms;  
Output Impedance: 100 Ohms nominal

## Construction

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

## Weight

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8.0 oz (227 g)

## MODELS & ACCESSORIES

### Available Models

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**DMC-4K-HD-DSP:** 4K HDMI® Input Card w/Down-mixing for DM® Switchers

## Available Accessories

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**CBL Series:** Crestron® Certified Interface Cables

**MP-WP Series:** Media Presentation Wall Plates

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

**USB-EXT-DM-LOCAL:** USB Extender Module for Host

**DMCI:** DigitalMedia™ Card Interface

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. Item(s) sold separately.
3. 4K support at 50/60 Hz with 4:2:0 color sampling will be enabled through a future firmware update.

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](http://www.crestron.com/salesreps) or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: [patents.crestron.com](http://patents.crestron.com).

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