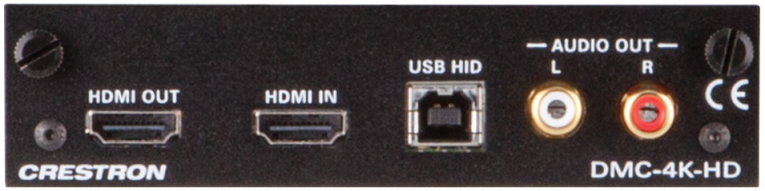
DMC-4K-HD

4K HDMI® Input Card for DM® Switchers

- > *Modular input card for a DM-MD8X8, DM-MD16X16, or DM-MD32X32 switcher*
- > *Provides a single 4K HDMI® input*
- > *Handles video resolutions up to 4K and Ultra HD*
- > *Handles 3D video and Deep Color*
- > *Handles Dolby® TrueHD, DTS-HD®, and uncompressed 7.1 linear PCM audio*
- > *HDCP 1.1 compliant*
- > *Includes an HDMI output for pass-through of the input signal*
- > *Includes a stereo analog line-level audio output with volume control*[2]
- > *Allows extraction of stereo 2-channel audio signals*
- > *Enables device control via CEC*
- > *Enables USB HID signal extension for a local computer*
- > *Compatible with Crestron USB over Ethernet Extenders*[3]
- > *Occupies a single DM® switcher input card slot*
- > *Provides an HDMI problem solving solution using the optional DMCI card interface*[4]



The DMC-4K-HD is an input card designed for use with any card-based Crestron® DigitalMedia™ Switcher. It provides one HDMI® input, with complementary HDMI pass-through and analog audio outputs. A USB HID port is also provided. The HDMI input handles Full HD 1080p, Ultra HD, 2K, and 4K video signals with support for HDCP, Deep Color, 3D, and high-bitrate 7.1 audio. The HDMI input can also handle DVI and Dual-Mode DisplayPort signals using an appropriate adapter or interface cable.[1]

NOTE: Refer to model DMC-4K-HD-DSP for use with surround sound sources.

4K Ultra HD

The DMC-4K-HD is capable of handling video resolutions up to 4K and Ultra HD. Support for 4K video also ensures support for the latest generation of computers and monitors with native resolutions beyond 1080p and WUXGA.

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

The DMC-4K-HD 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. The output volume is adjustable via a control system using a keypad, touch screen, handheld remote, or mobile device.[2]

NOTE: For applications requiring the simultaneous distribution of multichannel surround sound and 2-channel stereo audio signals, use model DMC-4K-HD-DSP.

USB Signal Extension

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. Additional USB devices of virtually any type can be supported using Crestron USB over Ethernet Extenders (USB-EXT-DM) [3].

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-4K-HD 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-4K-HD may also be used with the DMCI DigitalMedia Card Interface[4] 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 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 deviceís 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-4K-HD 4K HDMI® Input Card for DM® Switchers

SPECIFICATIONS

Video

Input Signal Types: HDMI® w/Deep Color, 3D, & 4K (DVI & Dual-Mode DisplayPort compatible [1])
Output Signal Types: HDMI w/Deep Color, 3D, & 4K (DVI compatible [1])
Maximum Resolutions:

Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
Progressive	4096x2160 4K DCI & 3840x2160 Ultra HD	24 Hz	4:4:4	30 bit
		30 Hz	4:4:4	24 bit
		30 Hz	4:2:2	36 bit
		60 Hz	4:2:0	24 bit
	2560x1600 WQXGA	60 Hz	4:4:4	36 bit
	1920x1080 HD1080p	60 Hz	4:4:4	36 bit
Interlaced	1920x1080 HD1080i	30 Hz	4:4:4	36 bit

NOTE: Common resolutions are shown; other custom resolutions are supported at pixel clock rates up to 300 MHz

Audio

Input Signal Types: HDMI (Dual-Mode DisplayPort compatible [1])
Output Signal Types: HDMI (multichannel pass-through from input), analog stereo (2-channel pass-through from input [2])
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™, LPCM up to 8 channels
Analog Format: Stereo 2-channel
Digital-To-Analog Conversion: 24-bit 48 kHz
Analog Performance: Frequency Response: 20 Hz to 20 kHz ±0.5 dB;
S/N Ratio: >95 dB, 20 Hz to 20 kHz A-weighted;
THD+N: <0.005% @ 1 kHz;
Stereo Separation: >90 dB
Analog Volume Adjustment: -80 to 0 dB

Communications

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 [3]
HDMI: HDCP 1.1, EDID, CEC

NOTE: Supports management of HDCP and EDID; supports management of CEC between the connected HDMI devices and a control system

Connectors

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

HDMI IN: (1) 19-pin Type A HDMI female;
HDMI digital video/audio input;
(DVI and Dual-Mode DisplayPort compatible [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 [2];
Output Impedance: 100 Ohms nominal;
Maximum Output Level: 2 Vrms

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-4K-HD: 4K HDMI® Input Card 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
USB-EXT-DM: USB over Ethernet Extender with Routing
DMCI: DigitalMedia™ Card Interface

Notes:

1. HDMI requires an appropriate adapter or interface cable to accommodate a DVI or Dual-Mode DisplayPort signal. CBL-HD-DVI interface cables are available separately.
2. The analog stereo audio output is only active when the input source is outputting a 2-channel stereo signal. For applications using a multichannel surround sound source, use model DMC-4K-HD-DSP which provides simultaneous surround sound and stereo downmix output signals.
3. USB-EXT-DM USB over Ethernet Extender Modules are sold separately. Refer to the USB-EXT-DM spec sheet for more information.
4. 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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