

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 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 associated 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 DisplayPort Multimode 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 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](#)^[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 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-4K-HD 4K HDMI® Input Card 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, & 4K; DVI; HDCP content protection support

Maximum Resolutions:

| Scan Type | Maximum Resolution | Frame Rate | Color Sampling |
|-------------|--------------------|-------------|----------------------|
| Progressive | 4096x2160 4K DCI | Up to 24 Hz | 4:4:4 |
| Progressive | 3840x2160 Ultra HD | Up to 30 Hz | 4:4:4 |
| Progressive | 2560x1600 WQXGA | Up to 60 Hz | 4:4:4 |
| Progressive | 4096x2160 4K DCI | Up to 60 Hz | 4:2:0 ^[5] |
| Progressive | 3840x2160 Ultra HD | Up to 60 Hz | 4:2:0 ^[5] |
| Interlaced | 1920x1080 1080i30 | Up to 30 Hz | 4:4:4 |

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

Audio

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

Output Signal Types: HDMI (multichannel) to switcher backplane and HDMI OUT connector, analog stereo 2-channel^[2], 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 Format: Stereo 2-channel

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

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, 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;
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 ^[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 DisplayPort Multimode 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.
5. Support for 4K and UHD 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 or by calling 800-237-2041.

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

Crestron, the Crestron logo, DigitalMedia, and DM are either trademarks or registered trademarks of Crestron Electronics, Inc. in the United States and/or other countries. Dolby and Dolby Digital are either trademarks or registered trademarks of Dolby Laboratories in the United States and/or other countries. DTS, DTS-HD, and DTS-HD Master Audio are either trademarks or registered trademarks of DTS, Inc. in the United States and/or other countries. HDMI and the HDMI Logo are either trademarks or registered trademarks of HDMI Licensing LLC in the United States and/or other countries. Other trademarks, registered trademarks, and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Crestron disclaims any proprietary interest in the marks and names of others. Crestron is not responsible for errors in typography or photography. Specifications are subject to change without notice. ©2015 Crestron Electronics, Inc.