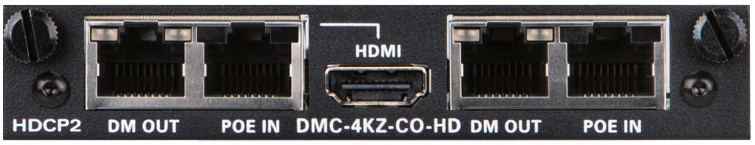
DMC-4KZ-CO-HD

DigitalMedia™

2-Channel DigitalMedia 8G+® 4K60 4:4:4 HDR Output Card for DM® Switchers

- *Modular output card for a DM-MD8X8, DM-MD16X16, or DM-MD32X32 switcher*
- *Provides two independent 4K DM 8G+® outputs*
- *HDBaseT® compatible — Enables direct connection to other HDBaseT certified equipment*
- *Includes a parallel HDMI® port on the first output [2]*
- *Handles UHD and 4K video resolutions up to 4K60 4:4:4 [2]*
- *Handles HDR (High Dynamic Range) video (HDR10) [2]*
- *Handles 3D video and Deep Color*
- *Handles Dolby® TrueHD, Dolby Atmos®, DTS HD®, DTS:X®, and uncompressed 7.1 linear PCM audio*
- *HDCP 2.2 compliant*
- *Supports cable lengths up to 330 ft (100 m) for all resolutions up to UHD and 4K using DM® Ultra cable [1]*
- *Supports cable lengths up to 330 ft (100 m) for 1080p, WUXGA, and 2K using DM 8G® cable or CAT5e [1]*
- *Supports cable lengths up to 230 ft (70 m) for UHD and 4K using DM 8G cable, or 165 ft (50 m) using CAT5e [1]*
- *Enables HDMI and HDBaseT device control via CEC*
- *Supports PoDM and HDBaseT PoE power sourcing [3]*
- *Occupies a single DM switcher output card slot*



The DMC-4KZ-CO-HD is an output card designed for use with any card-based Crestron® DigitalMedia™ Switcher. It provides two independent DM 8G+® outputs, plus one HDMI® output. The HDMI output carries the same signal as the first DM 8G+ output. Both DM 8G+ outputs are compatible with HDBaseT®. Using a single CAT type twisted pair cable, each DM 8G+ output enables connection to a DM 8G+ receiver, the input of another DM® switcher, or an HDBaseT certified display device or receiver.[1]

4K60 4:4:4 & HDR Support

Crestron DigitalMedia (DM) was the world's first AV signal distribution solution to deliver end-to-end 4K signal management for large-scale commercial and residential applications. DM "4KZ" cards and endpoints enable new and existing DM systems to handle full 4K60 4:4:4 video signals, as well as HDR video signals (HDR10), without having to replace any wiring or switchers. Any Crestron DM system that supports 4K can be upgraded to handle 4K60 4:4:4 and HDR by simply installing DM 4KZ based cards, transmitters, and receivers. The DMC-4KZ-CO-HD is designed to replace an existing DMC-4K-CO-HD or DMC-4K-CO-HD-HDCP2 output card without requiring any extra configuration or programming.[2]

DM 4KZ technology employs VESA® Display Stream Compression (DSC) to enhance the capabilities of DigitalMedia to handle the extreme bandwidth requirement of resolutions beyond 4K30 4:4:4 and 4K60 4:2:0. DSC is a lightweight, line-based 2:1 compression standard that delivers visually lossless performance for 4K60 4:4:4 and HDR signals. DSC is applied only to 4K60 4:4:4 and HDR input signals. All other signals are transported uncompressed.

DigitalMedia 8G+®

Engineered for ultra high-bandwidth and ultimate scalability, DigitalMedia 8G+ (DM 8G+) provides a true one-wire lossless transport for moving high-definition video, audio, power, Ethernet, and control signals over twisted pair copper wire. DM 8G+ transports uncompressed Full HD 1080p, WUXGA, and 2K signals over distances up to 330 feet (100 m) using Crestron DM Ultra Cable, Crestron DM 8G® Cable, or third-party CAT5e. Higher resolution signals up to UHD and 4K are supported over distances up to 330 feet (100 m) using DM Ultra Cable, 230 feet (70 m) using DM 8G Cable, or 165 feet (50 m) using CAT5e.[1]

HDBaseT® Compatible

Crestron DigitalMedia 8G+ technology is designed using HDBaseT Alliance specifications, ensuring interoperability with other HDBaseT certified products. Either DM 8G+ output can be connected directly to an HDBaseT compliant device without requiring a DM receiver.

Bonus HDMI® Output

A single HDMI output is included on the DMC-4KZ-CO-HD, which functions in parallel with the first DM 8G+ output. Both outputs may be used simultaneously to split a single switched signal to feed two separate devices.[2]

CEC Embedded Device Control

For controlling third-party AV devices, DigitalMedia offers an alternative to conventional IR, RS-232, and Ethernet by harnessing the CEC (Consumer Electronics Control) signal embedded in HDMI. Through its connection to a control system (via the DM switcher), the DMC-4KZ-CO-HD provides a gateway for controlling display devices right through their HDMI or HDBaseT connections, potentially eliminating the need for any dedicated control wires or IR emitters.

Power over DM®

Power over DM (PoDM) technology affords a true one-wire solution by supplying power to each connected device over the same wire that carries video, audio, and data signals. To enable PoDM power sourcing through either DM 8G+ output port (DM OUT), simply connect a compatible PoDM or PoE power source to its companion PoE/PoDM input port (POE IN). Compatible power sources include Crestron models DM-PSU-8-PLUS, DM-PSU-16-PLUS, DM-PSU-ULTRA-MIDSPAN, and CEN-SWPOE-16, or any IEEE 802.3af or 802.3at compliant PoE PSE (Power Sourcing Equipment).

Support for PoDM+ is enabled using any of the Crestron models listed above, or a third-party 802.3at Type 2 PSE. PoDM++ power sourcing is enabled using the DM-PSU-ULTRA-MIDSPAN only. PoDM may also be used to power HDBaseT PoE powered devices.[3]

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

Are you upgrading an existing DM switcher that has older "multi-gang" DMCO-series output cards? Use the online Output Card Additions and Upgrades Tool to update your existing output cards and switcher to the new "single-gang" output card format.

Please refer to the DigitalMedia webpage at https://www.crestron.com/digitalmedia for additional design tools and reference documents.

SPECIFICATIONS

Video

Output Signal Types: DM 8G+ & HDBaseT w/HDR10, Deep Color, 3D, & 4K60 4:4:4 support; HDMI w/HDR10, Deep Color, 3D, & 4K60 4:4:4 support[2] (DVI compatible[4])
Copy Protection: HDCP 2.2

Maximum Resolutions:

Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
Progressive	4096x2160 DCI 4K & 3840x2160 4K UHD	24 Hz	4:4:4	36 bit
		30 Hz	4:4:4	36 bit
		60 Hz	4:2:2	36 bit
		60 Hz	4:4:4	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 600 MHz

Audio

Output Signal Types: DM 8G+, HDBaseT, HDMI
Formats: Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS®, DTS ES, DTS 96/24, DTS HD High Res, DTS-HD Master Audio, DTS:X, LPCM up to 8 channels

Communications

DigitalMedia: DM 8G+, HDCP 2.2, EDID, CEC, PoDM, PoDM+, PoDM++, Ethernet
HDBaseT: HDCP 2.2, EDID, CEC, RS-232, PoE, PoE+, Ethernet
HDMI: HDCP 2.2, EDID, CEC

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

Connectors

DM OUT: (2) 8-pin RJ45 connectors, female, shielded;
Comprises (2) DM 8G+ outputs, HDBaseT compliant;
PoDM PSE port (HDBaseT PoE compatible)[3];
Each connects to the DM 8G+ input of a DM receiver or other DM device, or to an HDBaseT device, via CAT5e, Crestron DM-CBL-8G, or Crestron DM-CBL-ULTRA cable[1]

POE IN: (2) 8-pin RJ45 connectors, female;
Comprises (2) PoE/PoDM inputs;
Each connects to one port of an IEEE 802.3af or 802.3at compliant PoDM or PoE PSE (Power Sourcing Equipment) to enable PoDM or HDBaseT PoE power sourcing via the corresponding DM OUT port. Compatible with PoE+, PoDM+, and PoDM++. Supports Crestron models DM-PSU-8-PLUS, DM-PSU-16-PLUS, DM-PSU-ULTRA-MIDSPAN, and CEN-SWPOE-16.[3]

HDMI: (1) HDMI Type A connector, female;
HDMI digital video/audio output (DVI compatible[4])[2];
Outputs same signal as the first (left) DM OUT port

Indicators

DM OUT: (4) LEDs, green LEDs indicate DM link status, amber LEDs indicate video and HDCP signal presence, for each corresponding DM 8G+ output

Construction

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

Weight

6.2 oz (176 g)

Maximum Cable Lengths

Cable Type: / Resolution:	DM-CBL-ULTRA DM® Ultra Cable	DM-CBL-8G DM 8G® Cable	CAT5e (or better)[1]
1920x1080 FHD 1080p	330 ft (100 m)	330 ft (100 m)	330 ft (100 m)
1920x1200 WUXGA			
1600x1200 UXGA			
2048x1080 DCI 2K			
2048x1152 QWXGA			
2560x1080 UWFHD		230 ft (70 m)	165 ft (50 m)
2560x1440 WQHD			
2560x1600 WQXGA			
3840x2160 4K UHD			
4096x2160 DCI 4K			

DMC-4KZ-CO-HD 2-Channel DM 8G+® 4K60 4:4:4 HDR Output Card for DM® Switchers

MODELS & ACCESSORIES

Available Models

DMC-4KZ-CO-HD: 2-Channel DigitalMedia 8G+® 4K60 4:4:4 HDR Output Card for DM® Switchers

Available Accessories

DM-PSU-8-PLUS: 8-Port PoDM+ Power Supply for DM® Switchers
DM-PSU-16-PLUS: 16-Port PoDM+ Power Supply for DM® Switchers
DM-PSU-ULTRA-MIDSPAN: DigitalMedia™ Ultra Midspan PoDM++ Injector
DM-RPP-K24: DigitalMedia™ 24-Port Keystone Patch Panel
DM-CONN-ULTRA-RECP Series: DigitalMedia™ Ultra Keystone RJ45 Jacks
DM-CBL-ULTRA-PC Series: DigitalMedia™ Ultra Patch Cables
DM-CBL-ULTRA-NP Series: DigitalMedia™ Ultra Cable, Non-Plenum Type CMR
DM-CBL-ULTRA-P Series: DigitalMedia™ Ultra Cable, Plenum Type CMP
DM-CBL-ULTRA-LSZH Series: DigitalMedia™ Ultra Cable, Low Smoke Zero Halogen
DM-CONN-20: Connectors for DM-CBL-ULTRA DigitalMedia Ultra Cable, 20-Pack
DM-CBL-8G-NP Series: DigitalMedia 8G™ Cable, non-plenum
DM-CBL-8G-P Series: DigitalMedia 8G™ Cable, plenum
DM-8G-CONN-WG-100: Connectors with Wire Guide for DM-CBL-8G DigitalMedia 8G™ Cable, 100-Pack
DM-8G-CRIMP-WG: Crimping Tool for DM-8G-CONN-WG
CBL Series: Crestron® Certified Interface Cables

Notes:

1. The maximum cable length for DigitalMedia 8G+ (DM 8G+) or HDBaseT is dependent upon the type of cable and resolution of the video signal. Refer to the "Maximum Cable Lengths" table for a detailed overview. Crestron legacy cable models DM-CBL DigitalMedia Cable and DM-CBL-D DigitalMedia D Cable support the same resolutions and cable lengths as CAT5e. Shielded cable and connectors are required when bundling multiple cables in a wire run, and are recommended for all applications to safeguard against unpredictable environmental electrical noise which may impact performance at resolutions above 1080p. Refer to the Crestron DigitalMedia Design Guide, Doc. #4546 for complete system design guidelines. DM 8G+ is compatible with HDBaseT Alliance specifications for connecting to HDBaseT compliant equipment. All wire and cables are sold separately.
2. 4K60 4:4:4 performance and HDR support require the use of HDMI cables and couplers with a minimum TMDS bandwidth of 18 Gbps. If 4K60 4:2:0 or 4K30 4:4:4 performance is acceptable, cables and couplers with a minimum bandwidth of 10.2 Gbps may be used. Please be aware that bandwidth loss is cumulative, so performance may be reduced when inserting multiple cables and couplers inline.
3. To enable PoDM or HDBaseT PoE power sourcing via either DM OUT port, the corresponding POE IN port must be connected to a PoDM power supply (DM-PSU-8-PLUS, DM-PSU-16-PLUS, or DM-PSU-ULTRA-MIDSPAN) or an 802.3af or 802.3at compliant PoE PSE (CEN-SWPOE-16 or third-party). PoDM+ and HDBaseT PoE+ are supported using any of the listed Crestron models, or other 802.3at Type 2 Class 4 compliant PoE+ PSE. PoDM++ power sourcing is supported using the DM-PSU-ULTRA-MIDSPAN only. Refer to the connected DM 8G+ or HDBaseT devices for their PoDM or HDBaseT PoE capabilities and requirements. Any wiring that is connected to a PoDM, PoE, or HDBaseT PoE PSE port is for intra-building use only and should not be connected to a line that runs outside of the building in which the PSE is located.
4. DVI is supported via the HDMI output using a suitable adapter or interface cable. CBL-HD-DVI interface cables are available 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 https://www.crestron.com/How-To-Buy/Find-a-Representative or by calling 855-263-8754.

The specific patents that cover this and other Crestron products are listed online at https://www.crestron.com/legal/patents.

Certain Crestron products contain open source software. For specific information, visit https://www.crestron.com/opensource.

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Specifications subject to change without notice. Revised 06/26/18