DM-DA4-4K-C

DigitalMedia™

1:4 4K HDMI® to DM 8G+® & HDBaseT® Splitter

> Converts and splits one HDMI® input to four DM 8G+® outputs

> Single HDMI output enables cascading to additional units

> Supports 4K UHD and DCI 4K video at 60 Hz

> Handles Dolby® TrueHD, Dolby Atmos®, DTS-HD®, DTS:X®, and uncompressed 7.1 linear PCM audio

> Passes the AV signal to all outputs without change or degradation

> Simple setup, no programming required

> Compatible with HDBaseT® certified equipment

> Selectable HDCP 2.2 or 1.4 compliance

> Supports PoDM+ and HDBaseT PoE+ power sourcing [1]

> Provides LAN connectivity for DM 8G+ receivers [2]

> Supports Ethernet over HDBaseT [2]

> Single-space, half-width 19-inch rack-mountable [4]

> Under-table mountable [4]

> Universal 100-240V external power pack included

The DM-DA4-4K-C is a DigitalMedia™ accessory that converts and splits a single 4K60 HDMI® signal to feed four separate DM 8G+® or HDBaseT® receivers. A single HDMI output is included to pass the input through to a local display, audio processor, switcher, or another DM-DA4-4K-C. Video and audio are passed from the input to all five outputs simultaneously without any change or degradation.

PoDM+ and HDBaseT PoE+ power sourcing is enabled at all four DM® ports by adding a PoDM power supply (model PW-4830DUS or DM-PSU-3X8-RPS, sold separately). This enables certain DM receivers and HDBaseT devices to receive power through the CATx cable, eliminating the need for a separate power supply at each endpoint location.[1]

A Gigabit Ethernet port is included to provide a single-point LAN connection for all connected devices, including DM receivers and HDBaseT devices. Gigabit connectivity at the DM-DA4-4K-C ensures a full 100 megabit connection for each connected device.[2]

HDCP is globally selectable on the DM-DA4-4K-C to support version 2.2, 1.4, or none. EDID functionality is configurable to either pass EDID to the input from the device connected to the first DM output port, or to use a pre-fined default EDID optimized for 1080p60. CEC signals are not passed through the DM-DA4-4K-C, although most DM receivers can support CEC through integration with a control system via Ethernet.[3]

One or two DM-DA4-4K-C units can be rack-mounted in a single rack space using the ST-RMK rack mount kit. Installation beneath a table or counter is enabled using the UTK-1U-HALF under-table mounting kit. Both mounting kits are sold separately.

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 w/Deep Color, 3D, & 4K (DVI & Dual-Mode DisplayPort compatible [6])
Output Signal Types: DM 8G+ & HDBaseT w/Deep Color, 3D, & 4K; HDMI w/Deep Color, 3D, & 4K (DVI compatible [6])

Maximum Resolutions:

Scan Type	Resolution	Frame Rate	Color Sampling	Color Depth
Progressive	4096x2160 DCI 4K or 3840x2160 4K UHD	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 [6])
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

Ethernet: 10/100/1000 Mbps, provides a single-point LAN connection for four DM or HDBaseT devices [2]
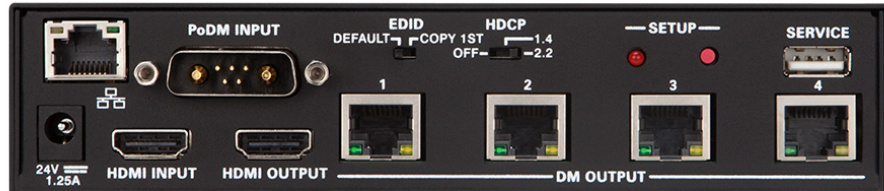**USB:** USB host for firmware update via USB mass storage device
DigitalMedia: DM 8G+, HDCP 2.2 or 1.4 HDCP, EDID, CEC, PoDM, PoDM+, 100 Mbps Ethernet [1,2,3,7,8]

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DM-DA4-4K-C – Front View

DM-DA4-4K-C – Rear View

HDBaseT: HDBaseT Class A, HDCP 2.2 or 1.4 HDCP, EDID, PoE, PoE+, 100 Mbps Ethernet [1,2, 7,8]
HDMI: HDCP 2.2 or 1.4 HDCP, EDID [7,8]

Connectors

LAN: (1) 8-pin RJ45 female;
10Base-T/100Base-TX/1000Base-T Ethernet port

PoDM INPUT: (1) Combo D-Sub 7w2, male;
48 Volt DC power input for PoDM power supply [1];
Enables PoDM+ power sourcing on each DM OUTPUT port

SERVICE: (1) USB Type A female;
Supports USB mass storage devices for firmware update

24VDC 1.25A: (1) 2.1 x 5.5 mm DC power connector;
24 Volt DC power input;
PW-2412WU power pack included

HDMI INPUT: (1) 19-pin Type A HDMI female;
HDMI digital video/audio inputs;
(DVI & Dual-Mode DisplayPort compatible [6])

HDMI OUTPUT: (1) 19-pin Type A HDMI female;
HDMI digital video/audio output (DVI compatible [6])

DM OUTPUT 1 – 4: (4) 8-pin RJ45 female, shielded;
DM 8G+ outputs, HDBaseT compliant;
PoDM+ PSE ports (HDBaseT PoE+ compatible) [1];
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 [5]

Controls & Indicators

PWR: (1) Bi-color green/amber LED, indicates operating power supplied from power pack, turns amber while booting and green when operating
HDMI INPUT: (1) Bi-color green/amber LED, green indicates a source is detected with a video signal present at the HDMI INPUT port, amber indicates a source is detected without a video signal present

HDMI OUTPUT: (1) Bi-color green/amber LED, green indicates a sink is detected and a video signal is being transmitted at the HDMI OUT port, amber indicates a sink is connected but a video signal is not being transmitted
DM OUTPUT 1 – 4 (front): (4) Bi-color green/amber LED, green indicates a link is detected and a video signal is being transmitted at the corresponding DM OUTPUT port, amber indicates a link is detected but a video signal is not being transmitted
LAN (rear): (2) LEDs, green LED indicates Ethernet link status, amber LED indicates Ethernet activity
EDID (rear): (1) 2-position slide switch, DEFAULT position sends a predefined EDID to the HDMI INPUT port [2-channel LPCM audio, 1920x1080@60Hz (preferred), 1920x1080@30Hz, 1280x720@60Hz, 720x480@60Hz], COPY 1ST position copies the EDID from a device connected to the HDMI OUTPUT 1 port to the HDMI INPUT port
HDCP (rear): (1) 3-position slide switch, selects the HDCP version (OFF, 1.4, or 2.2) [7]
SETUP (rear): (1) Red LED and (1) recessed pushbutton for firmware update
DM OUTPUT 1 – 4 (rear): (8) LEDs, green LEDs indicate DM link status and amber LEDs indicate video and HDCP signal presence for each corresponding DM OUTPUT port

Power

Power Pack (included): Input: 100-240 Volts AC, 50/60 Hz;
                              Output: 1.25 Amps @ 24 Volts DC;
                              Model: PW-2412WU
Power over DM (PoDM): IEEE 802.3at compliant PoDM+ PSE (Power Sourcing Equipment), each DM OUTPUT port supplies up to 30 Watts to power one PoDM (Class 0-3) or PoDM+ (Class 4) PD (Powered Device) [1]
Power over HDBaseT: IEEE 802.3at PoE+ compliant PSE (Power Sourcing Equipment), each DM INPUT/OUTPUT port supplies up to 30 Watts to power one HDBaseT PoE or PoE+ PD (Powered Device) [1]
PoDM Power Supply: Compatible with model PW-4830DUS or DM-PSU-3X8-RPS (each sold separately)

Power Consumption:

102 Watts peak with four DM-RMC-4K-SCALER-C receivers connected and powered via PoDM;

33 Watts typical with four DM-RMC-4K-100-C receivers connected and powered via PoDM;

16 Watts idle with no connections

Environmental

Temperature: 32° to 104° F (0° to 40° C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation:

346 BTU/hr peak with four DM-RMC-4K-SCALER-C receivers connected and powered via PoDM;

111 BTU/hr typical with four DM-RMC-4K-100-C receivers connected and powered via PoDM;

55 BTU/hr idle with no connections

Enclosure

Chassis: Metal, black finish, vented sides
Front Panel: Metal, black finish with polycarbonate label overlay
Mounting: Freestanding, under-table mountable, or 1 RU half-width 19-inch rack-mountable (adhesive feet included, under-table and rack mounting kits sold separately)

Dimensions

Height: 1.70 in (44 mm)
Width: 7.07 in (180 mm)
Depth: 9.19 in (234 mm)

Weight

3.2 lb (1.5 kg)

Maximum DM 8G+ & HDBaseT Cable Lengths

Cable Type: Resolution:	DM-CBL-ULTRA DM® Ultra Cable	DM-CBL-8G DM 8G® Cable	CAT5e (or better) [5]
1080p60 Full HD	330 ft (100 m)	330 ft (100 m)	330 ft (100 m)
1920x1200 WUXGA			
1600x1200 UXGA			
2048x1080 DCI 2K			
2560x1440 WQHD		230 ft (70 m)	165 ft (50 m)
2560x1600 WQXGA			
3840x2160 4K UHD			
4096x2160 DCI 4K			

MODELS & ACCESSORIES

Available Models

DM-DA4-4K-C: 1:4 4K HDMI® to DM 8G+® & HDBaseT® Splitter

Included Accessories

PW-2412WU: Wall Mount Power Pack, 24VDC, 1.25A, 2.1mm, Universal (Qty. 1 included)

Available Accessories

ST-RMK: Rack Mount Kit
UTK-1U-HALF: Under-Table Mounting Kit
PW-4830DUS: 150W PoDM Power Pack
DM-PSU-3X8-RPS: PoDM+ Redundant Power Supply
DM-CBL-ULTRA-PC: DigitalMedia™ Ultra Patch Cables
DM-CONN-ULTRA-RECP: DigitalMedia™ Ultra Keystone RJ45 Jack
DM-CBL-ULTRA: DigitalMedia™ Ultra Cable
DM-CONN: Connector for DM-CBL-ULTRA
DM-CBL-8G: DigitalMedia 8G™ Cable
DM-8G-CONN: Connector for DM-CBL-8G
DM-8G-CRIMP: Crimping Tool for DM-8G-CONN
DM-8G-CONN-WG: Connector with Wire Guide for DM-CBL-8G
DM-8G-CRIMP-WG: Crimping Tool for DM-8G-CONN-WG
CBL Series: Crestron® Certified Interface Cables
MP-WP Series: Media Presentation Wall Plates
MPI-WP Series: Media Presentation Wall Plates - International Version

Notes:

1. Enabling PoDM and PoE power sourcing requires an external power supply, model PW-4830DUS or DM-PSU-3X8-RPS, sold separately. Due to the inherent power loss that occurs over CATx cable, a maximum of 25.5 Watts is delivered at each PoDM+ or HDBaseT PoE+ powered device. Any wiring that is connected to a PoDM or 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.

2. With regard to Ethernet, the DM-DA4-4K-C effectively functions as a basic 5-port network switch to provide LAN connectivity for the connected DM and HDBaseT devices. This allows those devices to be addressed, controlled, and monitored by a Crestron control system. The DM-DA4-4K-C itself is not addressable and has no controllable functions. Please note, a model DM-RMC-4K-100-C-1G receiver cannot be controlled through its connection to the DM-DA4-4K-C, and thus will only function as a simple AV signal receiver. All other Crestron DM 8G+ receivers are fully controllable via Ethernet through the DM-DA4-4K-C. For HDBaseT devices, please consult the specifications for each device to determine its compatibility with Ethernet over HDBaseT.

3. CEC (Consumer Electronics Control) is a communications protocol used by many AV devices to enable remote control through an HDMI connection. CEC signals are not passed between the inputs and outputs on the DM-DA4-4K-C. However, Crestron DM 8G+ receivers can support CEC via an Ethernet connection to a control system through the DM-DA4-4K-C, which allows the control system to control devices through each receiver's HDMI output. Please note, model DM-RMC-4K-100-C-1G receivers do not support this capability when connected to the DM-DA4-4K-C. HDMI and HDBaseT devices cannot be controlled using CEC through the HDMI or DM ports on the DM-DA4-4K-C.

4. ST-RMK rack mount kit and UTK-1U-HALF under-table mounting kit each sold separately.

5. 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 DM 8G+ & HDBaseT 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 recommended 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.

6. HDMI connections require an appropriate adapter or interface cable to accommodate a DVI or Dual-Mode DisplayPort signal. CBL-HD-DVI interface cables are available separately.
7. The HDCP version selection affects all inputs and outputs globally.
8. EDID is handled between the DM OUTPUT 1 and HDMI INPUT connections only. Alternately, a pre-defined default can be selected.

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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