

DigitalMedia 8G+® 4K60 4:4:4 HDR Transmitter 302

- > DigitalMedia 8G+® transmitter and multimedia interface
- > Built-in 3x1 auto-switcher with two HDMI® inputs and one DisplayPort input^[3]
- > Connects to a DM® switcher or receiver over a single CAT type twisted pair cable^[1]
- > HDBaseT® compatible — Enables direct connection to other HDBaseT certified equipment
- > Local HDMI output (DVI compatible^[6])
- > 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]
- > Detects and reports detailed video and audio input information
- > Performs automatic AV signal format management via EDID
- > QuickSwitch HD™ manages HDCP keys for fast, reliable switching
- > Provides a 10/100 Ethernet LAN connection
- > Enables device control via CEC, IR, RS-232, and Ethernet
- > Enables USB HID signal extension for a local keyboard/mouse or computer
- > Compatible with Crestron® USB over Ethernet Extenders^[7]
- > Compatible with Crestron Connect It™ Cable Caddies^[8]
- > Quick, easy setup and diagnostics
- > Low-profile surface-mount design
- > Powered via the DM connection or local power pack (included)^[4,5]

**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" endpoints and cards 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 transmitters, receivers, and I/O cards.^[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.

The **DM-TX-4KZ-302-C** provides a versatile interface for ultra high-definition AV and computer sources as part of a complete Crestron® DigitalMedia™ system. It functions as a DM 8G+® transmitter and switcher with HDMI® and DisplayPort inputs. It also functions as a control module, providing RS-232 and IR control ports, plus Ethernet and USB HID ports for a total connectivity solution.

Its low-profile, surface-mountable design makes the DM-TX-4KZ-302-C ideal for installation beneath a conference table, inside a lectern or equipment rack, or at virtually any other location in a boardroom, classroom, auditorium, or residence. It connects to the head end or display location using a single CAT type twisted pair cable. In addition to DM 8G+, it is also compatible with HDBaseT®, which allows it to be connected directly to the input of an HDBaseT certified display device.^[1]

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. Via its DM 8G+ output, the DM-TX-4KZ-302-C can be connected directly to an HDBaseT compliant device without requiring a DM receiver.

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Multimedia Computer/AV Interface

The DM-TX-4KZ-302-C provides simple switching among two HDMI inputs and one DisplayPort input. All three inputs support resolutions up to UHD and DCI 4K. The HDMI inputs can also handle DVI and Dual-Mode DisplayPort signals using an appropriate adapter or interface cable.^[3]

The inputs can be switched automatically for plug-and-play simplicity, or programmatically through a Crestron control system.

A single CAT type cable connects the DM-TX-4KZ-302-C to a DM switcher or receiver, or to an HDBaseT device, transporting video, audio, control, networking, and power signals all through one simple RJ45 connection.^[1,4,5] Multiple DM-TX-4KZ-302-Cs may be installed and connected to a single DM-MD series switcher to provide input connectivity and signal routing for multiple sources at different locations throughout a room or facility. Or, a single DM-TX-4KZ-302-C can be fed straight to a single DM 8G+ receiver, affording a simple solution for extending a computer or AV signal to a single display.

Local HDMI Output

An HDMI output is included to enable pass-through of the selected input signal to feed a local display, monitor, or sound system.^[6]

LAN Connectivity

Along with high-definition AV and control, DigitalMedia also integrates high-speed Ethernet networking for a total signal distribution solution. The DM-TX-4KZ-302-C includes a 10/100 Ethernet port, which can be used to provide a convenient LAN connection for a local network device.

Embedded Device Control

The DM-TX-4KZ-302-C includes built-in IR, RS-232, and Ethernet control ports to enable programmable control of the devices connected to it (via a control system). It also offers an alternative to such conventional control methods by harnessing the CEC (Consumer Electronics Control) signal embedded in HDMI. Through its connection to the control system, the DM-TX-4KZ-302-C provides a gateway for controlling the connected source devices right through their HDMI connections, potentially eliminating the need for any dedicated control wires or IR emitters.

USB Signal Extension

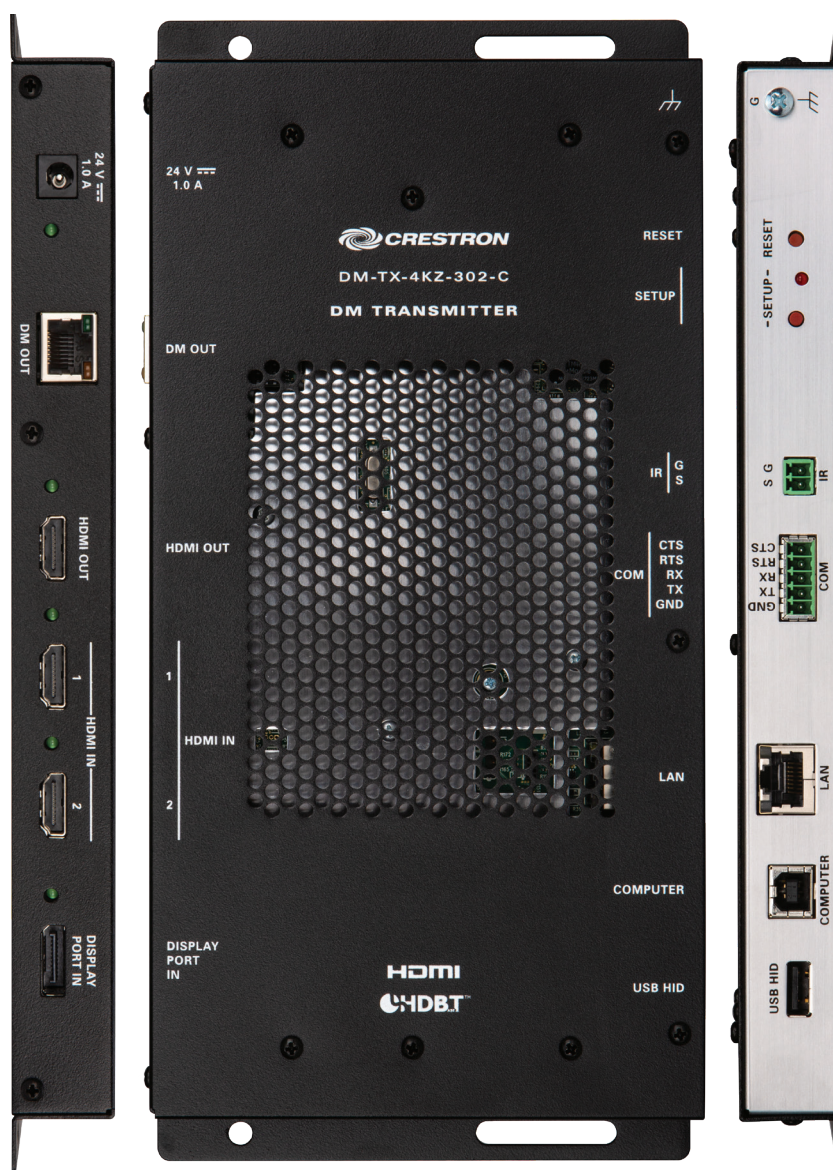
The DM-TX-4KZ-302-C functions as a versatile USB keyboard/mouse extender with both host and device ports provided onboard. This allows a computer (or other USB HID-compliant host) to be connected to the DM-TX-4KZ-302-C and controlled remotely by a USB HID keyboard and/or mouse located elsewhere. Alternately, the keyboard/mouse may be connected locally and used to control a remote computer. Routing of the USB HID signals is handled through the DigitalMedia system. Support for other types of USB devices can be enabled using Crestron USB over Ethernet Extenders (model [USB-EXT-DM-LOCAL](#) and [USB-EXT-DM-REMOTE](#)).^[7]

Crestron Connect It™

A Crestron Connect It Cable Caddy ([TT-100](#) or [TT2-100](#) series) offers a convenient tabletop connectivity solution that works seamlessly with the DM-TX-4KZ-302-C. The cable caddy gets its power and control from the DM-TX-4KZ-302-C through a simple USB connection.^[8]

Compact and Versatile

The DM-TX-4KZ-302-C is designed to be mounted to a flat surface or placed on a shelf. It is compact enough to fit discreetly inside a presentation lectern or beneath a table, and can even be attached to a rack rail in the back of an equipment cabinet. It can be powered using the wall mount power pack (included), or PoDM+ (Power over DigitalMedia Plus) for a true one-wire solution.^[4,5] All connections and LED indicators are positioned on the sides, ensuring optimal access and visibility for a clean, serviceable installation. An array of indicators is provided for easy setup and troubleshooting.



DM-TX-4KZ-302-C – Left, Front, & Right Views

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

SPECIFICATIONS

Video

Switcher: 3x1 manual or auto-switching, Crestron QuickSwitch HD technology

Input Signal Types: HDMI w/HDR10, Deep Color, 3D, & 4K60 4:4:4 support^[2] (DVI & Dual-Mode DisplayPort compatible^[3]); DisplayPort w/Deep Color & 4K60 4:4:4 support^[2]

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^[6])

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

Switcher: 3x1, audio-follow-video

Input Signal Types: HDMI (Dual-Mode DisplayPort compatible^[3]), DisplayPort

Output Signal Types: DM 8G+ & HDBaseT, HDMI

Formats, HDMI: 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

Formats, DisplayPort: 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

Communications

Ethernet: 10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP

USB Host: Supports signal extension of USB HID class devices, supports a TT-100 or TT2-100 series cable caddy^[8]

USB Device: Supports USB HID signal extension to a USB host, supports computer console (for setup)

RS-232: 2-way device control and monitoring up to 115.2k baud with hardware and software handshaking (via control system)

IR/Serial: 1-way device control via infrared up to 1.1 MHz or serial TTL/RS-232 (0-5 Volts) up to 19.2k baud (via control system)

DigitalMedia: DM 8G+, HDCP 2.2, EDID, CEC, PoDM+, Ethernet

HDBaseT: HDCP 2.2, EDID, CEC, RS-232, PoE+, Ethernet

HDMI: HDCP 2.2, EDID, CEC

DisplayPort: HDCP 2.2, EDID

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

Connectors

24 VDC 1.0 A: (1) 2.1 x 5.5 mm DC power connector; 24 Volt DC power input;

PW-2412WU power pack included

DM OUT: (1) 8-pin RJ45 connector, female, shielded;

DM 8G+ output, HDBaseT compliant;

PoDM+ PD port (HDBaseT PoE+ compatible)^[4,5];

Connects to the DM 8G+ input of a DM switcher, receiver, or other DM device, or to an HDBaseT device, via CAT5e, Crestron DM-CBL-8G, or Crestron DM-CBL-ULTRA cable^[1]

HDMI OUT: (1) HDMI Type A connector, female;

HDMI digital video/audio output (DVI compatible^[6])^[2]

HDMI IN 1 – 2: (2) HDMI Type A connectors, female;

HDMI digital video/audio inputs;

(DVI & Dual-Mode DisplayPort compatible^[3])^[2]

DISPLAY PORT IN: (1) DisplayPort connector, female;

DisplayPort digital video/audio input^[2]

USB HID: (1) USB Type A connector, female;

USB 2.0 host port for connection of a mouse/keyboard or other USB HID-compliant device (USB signal extension & routing), or for connection of one TT-100 or TT2-100 series cable caddy^[8]

COMPUTER: (1) USB Type B connector, female;

USB 2.0 device port for computer console (setup), or for connection to a computer or other USB HID-compliant host (USB signal extension & routing)

LAN: (1) 8-pin RJ45 connector, female;

10Base-T/100Base-TX Ethernet port

COM: (1) 5-pin 3.5 mm detachable terminal block;

Bidirectional RS-232 port;

Up to 115.2k baud, hardware and software handshaking support

IR: (1) 2-pin 3.5 mm detachable terminal block;

IR/Serial port;

IR output up to 1.1 MHz;

1-way serial TTL/RS-232 (0-5 Volts) up to 19200 baud

Ground: (1) 6-32 screw;

Chassis ground lug

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Controls & Indicators

24 VDC: (1) Green LED, indicates operating power supplied via PoDM+, HDBaseT PoE+, or a local power pack

DM OUT: (2) LEDs, green LED indicates DM link status, amber LED indicates video and HDCP signal presence

HDMI OUT: (1) Green LED, indicates HDMI signal presence at the HDMI output

HDMI IN 1 – 2: (2) Green LEDs, each indicates HDMI signal presence at the corresponding HDMI input

DISPLAY PORT IN: (1) Green LED, indicates video signal presence at the DisplayPort input

LAN: (2) LEDs, green LED indicates Ethernet link status, amber LED indicates Ethernet activity

SETUP: (1) Red LED and (1) recessed pushbutton for Ethernet setup

RESET: (1) Recessed pushbutton for hardware reset

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 Type 2 Class 4 (25.5 W) compliant PoDM+ PD (Powered Device), capable of being powered by a PoDM+ PSE (Power Sourcing Equipment) ^[4]

Power over HDBaseT: IEEE 802.3at Type 2 Class 4 (25.5 W) compliant HDBaseT PoE+ PD (Powered Device), capable of being powered by an HDBaseT PoE+ PSE (Power Sourcing Equipment) ^[5]

Power Consumption: 12.6 Watts typical using power pack;
13.4 Watts typical using PoDM+ or HDBaseT PoE+;
(without a USB powered device connected)

Environmental

Temperature: 32° to 104° F (0° to 40° C)

Humidity: 10% to 90% RH (non-condensing)

Heat Dissipation: 43 BTU/hr using power pack;
45.3 BTU/hr using PoDM+ or HDBaseT PoE+

Enclosure

Chassis: Metal, black finish, with (2) integral mounting flanges; vented top, front, and bottom

Mounting: Freestanding, surface mount, or attach to a single rack rail

Dimensions

Height: 11.02 in (280 mm)

Width: 5.34 in (136 mm)

Depth: 1.07 in (27 mm)

Weight

19.2 oz (545 g)

Compliance

UL Listed for US & Canada, CE, IC, FCC Part 15 Class B digital device

Maximum Cable Lengths

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

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MODELS & ACCESSORIES

Available Models

DM-TX-4KZ-302-C: DigitalMedia 8G+® 4K60 4:4:4 HDR Transmitter 302

Included Accessories

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

Available Accessories

DM-PSU-ULTRA-MIDSPAN: DigitalMedia™ Ultra Midspan PoDM++ Injector

DM-CBL-ULTRA-PC Series: DigitalMedia™ Ultra Patch Cables

DM-CONN-ULTRA-RECP Series: DigitalMedia™ Ultra Keystone RJ45 Jacks

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 (Available only in Europe)

DM-CONN-20: Connectors for DM-CBL-ULTRA DigitalMedia Ultra Cable

DM-CBL-8G-NP Series: DigitalMedia 8G™ Cable, Non-Plenum

DM-CBL-8G-P Series: DigitalMedia 8G™ Cable, Plenum, 1000 ft spool

DM-8G-CONN-WG-100: Connectors with Wire Guide for DM-CBL-8G DigitalMedia 8G™ Cable

DM-8G-CRIMP-WG: Crimping Tool for DM-8G-CONN-WG-100

CBL Series: Crestron® Certified Interface Cables

CNSP-XX: Custom Serial Interface Cable

IRP2: IR Emitter

TT-100 Series: Crestron Connect It™ Cable Caddy w/120V Outlet

TT-110 Series: Crestron Connect It™ Cable Caddy, No Outlet

TT2-100-US-B: Crestron Connect It™ Cable Caddy TT2 Series, US NEMA 5 (120V), Black

USB-EXT-DM-LOCAL: USB over Ethernet Extender with Routing, Host Module

USB-EXT-DM-REMOTE: USB over Ethernet Extender with Routing, 4-Port Device Module

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 and DisplayPort 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. The HDMI inputs can accommodate a DVI or Dual-Mode DisplayPort signal using an appropriate adapter or interface cable. [CBL-HD-DVI](#) interface cables are available separately.
4. To power the DM-TX-4KZ-302-C using PoDM+ (Power over DigitalMedia Plus) requires connection to a DM switcher or other equipment that has a PoDM+ PSE port. Any wiring that is connected to a PoDM+ 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.
5. To power the DM-TX-4KZ-302-C using HDBaseT PoE+ requires connection to a switcher or other equipment that has an HDBaseT PoE+ PSE port. Any wiring that is connected to an 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.
6. The HDMI output can accommodate a DVI signal using an appropriate adapter or interface cable. [CBL-HD-DVI](#) interface cables are available separately.
7. USB over Ethernet Extender Modules are sold separately. Refer to the [USB-EXT-DM-LOCAL](#) and [USB-EXT-DM-REMOTE](#) spec sheets for more information.
8. Crestron Connect It Cable Caddy ([TT-100](#) or [TT2-100](#) series) sold separately. Refer to each product's spec sheet for more information.

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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