DM-TX-201-C

DigitalMedia™

DigitalMedia 8G+® Transmitter 201

- *DigitalMedia 8G+® transmitter and multimedia interface*
- *Built-in 2x1 AV switcher with auto-switching and analog audio-breakaway*
- *QuickSwitch HD™ technology manages HDCP keys for fast, reliable switching*
- *Connects to a DM® switcher or receiver over a single CAT type twisted pair cable[1]*
- *Supports cable lengths up to 330 ft (100 m) using DM 8G® cable or CAT5e[1]*
- *HDBaseT® Certified standard — Enables direct connection to other HDBaseT certified equipment*
- *Handles video resolutions up to Full HD 1080p*
- *Handles computer resolutions up to WUXGA*
- *Handles Dolby Digital®, DTS®, and uncompressed 7.1 linear PCM audio*
- *HDCP compliant*
- *Performs automatic AV signal format management via EDID*
- *Enables device control via CEC and Ethernet*
- *Enables USB HID signal extension for a local computer*
- *Compatible with Crestron® USB over Ethernet Extenders[6]*
- *Compatible with Crestron Connect It™ Cable Caddies[7]*
- *Powered via the DM connection or optional power pack (sold separately)[4,5]*

The DM-TX-201-C provides an interface for computers and high-definition AV sources as part of a complete Crestron® DigitalMedia™ system. It functions as a DM 8G+® transmitter and switcher with HDMI®, VGA, and analog audio inputs along with Ethernet and USB HID ports for a total connectivity solution.

Its low-profile, surface-mountable design makes the DM-TX-201-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® standard, which allows it to be connected directly to the input of an HDBaseT certified display device.[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-201-C can be connected directly to an HDBaseT compliant device without requiring a DM receiver.

Multimedia Computer/AV Interface

The DM-TX-201-C provides simple switching among two inputs. The inputs can be configured to switch automatically or be controlled through a Crestron control system. Auto-detection on each input enables plug-and-play simplicity, supporting a wide range of input types without requiring any special configuration. Inputs include:

- **HDMI —** Provides a digital multimedia input for mobile devices, computers, and AV sources with resolutions up to HD 1080p60 and WUXGA. These inputs can also handle DVI and Dual-Mode DisplayPort™ signals using an appropriate adapter or interface cable.[2]
- **RGB —** This VGA type input handles analog RGB signals up to WUXGA 1920x1200 pixels, as well as analog video up to 1080p60.[3] A 1/8in. (3.5 mm) stereo audio input is included to accommodate the analog audio signal from an unbalanced line-level source or headphone output.

NOTE: Analog audio breakaway capability enables the analog audio input to be used with any video input.

A single CAT type cable connects the DM-TX-201-C to a DM switcher or receiver, or to an HDBaseT device, transporting video, audio, control, networking, and power signals all through one simple RJ-45 connection.[1, 4, 5] Used with a single DM 8G+ Receiver/Room Controller and optional Crestron control system, the DM-TX-201-C affords a simple solution for extending a computer or AV signal to a single display. As part of a larger system using a DM-MD series switcher, multiple DM-TX-201-Cs may be deployed to enable the distribution of several sources at different locations to feed multiple displays throughout any room or larger facility.

Local HDMI Output

An HDMI output is included to enable pass-through of the selected video and audio signals to feed a local display, monitor, or sound system.

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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-201-C includes a 10/100 Ethernet port, which can be used to provide a convenient LAN connection for a local network device.

USB Signal Extension

The DM-TX-201-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-201-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 (USB-EXT-DM-LOCAL and USB-EXT-DM-REMOTE) and Crestron USB over Ethernet Network Wall Plate Endpoints (USB-NX2-LOCAL-1G and USB-NX2-REMOTE-1G).[6]

CEC Embedded Device Control

DigitalMedia provides 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 the control system, the DM-TX-201-C 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

Crestron Connect It™

A Crestron Connect It Cable Caddy (TT-100 series) offers a convenient tabletop connectivity solution that works seamlessly with the DM-TX-201-C. The cable caddy gets its control from the DM-TX-201-C through a simple USB connection.[7]

Compact and Versatile

The DM-TX-201-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 optional power pack, PW-2407WU (sold separately), or PoDM (Power over DigitalMedia) for a true one-wire solution.[4, 5] An array of indicators is provided for easy setup and troubleshooting.

A Digital Upgrade for Legacy Systems

The DM-TX-201-C also affords a perfect signal converter for integrating DigitalMedia with analog-based systems like Crestron MPS, QuickMedia®, and the CEN-RGBHV Series. A simple HD15 VGA cable connected between the output of an MPS system and the input of the DM-TX-201-C allows every RGB, component, S-Video, and composite video input on the MPS to be converted to DigitalMedia.[3] Analog audio is converted similarly through an unbalanced stereo audio cable. The DM-TX-201-C's HDMI input may also be used to expand the input capabilities of the MPS system to handle digital AV sources.

Please refer to the DigitalMedia Resources at www.crestron.com/dmresources for additional design tools and reference documents.

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Specifications

Video

Switcher	2x1 manual or auto-switching, Crestron QuickSwitch HD technology
Input Signal Types	HDMI (DVI & Dual-Mode DisplayPort™ compatible[2]); VGA/RGB (RGBHV, RGBS, RGsB); component (YPbPr); S-Video (Y/C); composite (NTSC, PAL)[3]
Output Signal Types	DM 8G+ & HDBaseT, HDMI (DVI compatible[2])
Resolutions, HDMI, Progressive	640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 848x480@60Hz, 852x480@60Hz, 854x480@60Hz, 1024x768@60Hz, 1024x852@60Hz, 1024x1024@60Hz, 1280x720@50Hz (720p50), 1280x720@60Hz (720p60), 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1365x1024@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@24Hz (1080p24), 1920x1080@25Hz (1080p25), 1920x1080@50Hz (1080p50), 1920x1080@60Hz (1080p60), 1920x1200@60Hz, 2048x1080@24Hz, 2048x1152@60Hz, plus any other resolution allowed by HDMI up to 165 MHz pixel clock
Resolutions, HDMI, Interlaced	720x480@30Hz (480i), 720x576@25Hz (576i), 1920x1080@25Hz (1080i25), 1920x1080@30Hz (1080i30), plus any other resolution allowed by HDMI up to 165 MHz pixel clock
Resolutions, RGB	640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 848x480@60Hz, 1024x768@60Hz, 1280x720@50Hz (720p50), 1280x720@60Hz (720p60), 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@50Hz (1080p50), 1920x1080@60Hz (1080p60), 1920x1200@60Hz, 2048x1152@60Hz
Resolutions, Component[3]	480i, 576i, 480p, 576p, 720p50, 720p60, 1080p24, 1080i25 (1125 lines), 1080i30, 1080p30, 1080p50 (1125 lines), 1080p60
Resolutions, Composite & S-Video[3]	480i, 576i
Analog-To-Digital Conversion	10-bit 165 MHz per each of 3 channels

Audio

Switcher	2x1 with auto-detecting digital/analog inputs and analog audio breakaway
Input Signal Types	HDMI (Dual-Mode DisplayPort compatible[2]), analog stereo
Output Signal Types	DM 8G+ & HDBaseT, HDMI
Digital Formats	Dolby Digital®, Dolby Digital EX, DTS®, DTS-ES, DTS 96/24,LPCM up to 8 channels
Analog Formats	Stereo 2-channel
Analog-To-Digital Conversion	24-bit 48 kHz
Analog Performance	Frequency Response: 20 Hz to 20 kHz ±0.75 dB S/N Ratio: >90 dB, 20 Hz to 20 kHz A-weighted THD+N: <0.05% @ 1 kHz Stereo Separation: >90 dB

Communications

Ethernet	10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
USB	Supports signal extension of USB HID class devices, expandable to support virtually many USB 1.1 or 2.0 device using Crestron USB over Ethernet Extenders (USB-EXT-DM-LOCAL and USB-EXT-DM-REMOTE) and Crestron USB over Ethernet Network Wall Plate Endpoints (USB-NX2-LOCAL-1G and USB-NX2-REMOTE-1G)[6]; supports a TT-100 series cable caddy.[7]
DigitalMedia	DM 8G+, HDCP, EDID, CEC, PoDM Ethernet
HDBaseT	HDCP, EDID, PoE, Ethernet
HDMI	HDCP, EDID, CEC

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

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Connectors

LAN	(1) 8-pin shielded RJ-45, female; 10Base-T/100Base-TX Ethernet port
DM OUT	(1) 8-pin shielded RJ-45, female; DM 8G+ output, HDBaseT compliant; PoDM PD port (HDBaseT PoE compatible)[4,5] ; Connects to the DM 8G+ input of a DM switcher, receiver/room controller, or other DM device, or to a HDBaseT device, via CAT5e or Crestron DM-CBL-8G cable[1]
HDMI OUT	(1) 19-pin HDMI Type A, female; HDMI digital video/audio output (DVI compatible[2])
PWR 24VDC 0.75A	(1) 2.1 x 5.5 mm DC power connector; 24 VDC power input; PW-2407WU, optional power pack (sold separately)
Ground	(1) 6-32 screw; Chassis ground lug
USB HID	(1) USB Type B, female; USB 2.0 device host port for connection to the USB host interface of a computer or other USB HID-compliant host, or for connection of a Crestron TT-100 series device (Crestron Connect It)[7]
HDMI IN	(1) 19-pin HDMI Type A, female; HDMI digital video/audio input; (DVI & Dual-Mode DisplayPort compatible [2])
RGB IN	(1) HD15, female; Analog VGA/RGB/video input; Signal Types: VGA, RGB, component, S-Video, or composite[3]; Formats: RGBHV, RGBS, RGsB, YPbPr, Y/C, NTSC, PAL; Input Levels: 0.5 to 1.5 Vp-p with built-in DC restoration; Input Impedance: 75 Ohms; Sync Input Type: Autodetect RGBHV, RGBS, RGsB, YPbPr; Sync Input Level: 3 to 5 Vp-p; Sync Input Impedance: 1k Ohms
AUDIO IN	(1) 3.5 mm TRS mini phone jack; Unbalanced stereo line-level audio input; Input Level: 2 Vrms maximum; Input Impedance: 10k Ohms

Controls & Indicators

LAN	(2) LEDs, green LED indicates Ethernet link status, amber LED indicates Ethernet activity
DM OUT	(2) LEDs, green LED indicates DM link status, amber LED indicates video and HDCP signal presence
PWR	(1) Green LED, indicates operating power supplied via PoDM, HDBaseT PoE, or the optional PW-2407WU power pack (sold separately)
HDMI IN	(1) Green LED, indicates HDMI input is selected indicates
RGB IN	(1) Green LED, indicates RGB input is selected
SETUP	(1) Red LED and (1) recessed pushbutton for Ethernet setup
RESET	(1) Recessed pushbutton for hardware reset

Power

Power over DM (PoDM)	IEEE 802.3at Type 1 Class 3 (12.95 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 1 Class 3 (12.95 W) compliant HDBaseT PoE PD (Powered Device), capable of being powered by an HDBaseT PoE PSE (Power Sourcing Equipment)[5]
Power pack (optional)	Input: 100-240 VAC, 50/60 Hz Output: 0.75 A @ 24 VDC Model: PW-2407WU (sold separately)

Environmental

Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 95% RH (non-condensing)
Heat Dissipation	30 BTU/hr

Enclosure

Chassis	Metal, black finish, with (2) integral mounting flanges, vented sides
Mounting	Freestanding, surface mount, or attach to a single rack rail

Dimensions

Height	6.47 in. (165 mm)
Width	7.36 in. (187 mm)
Depth	1.24 in. (32 mm)

Weight

25.4 oz (721 g)

Compliance

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

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Models

DM-TX-201-C
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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 RJ-45 Jack

DM-CBL-8G-NP Series
DigitalMedia 8G™ Cable, non-plenum

DM-CBL-8G-P Series
DigitalMedia 8G™ Cable, plenum

DM-8G-CONN
Connector for DM-CBL-8G

DM-8G-CRIMP
Crimping Tool for DM-8G-CONN

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

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

CBL Series:
Crestron® Certified Interface Cables

MP-WP Series
Media Presentation Wall Plates

MPI-WP Series
Media Presentation Wall Plates - International Version

PW-2407WU
Wall Mount Power Pack 24VDC, 0.75A, Universal

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

USB-NX2-LOCAL-1G
USB over Ethernet Network Endpoint Wall Plate with Routing, Local

USB-NX2-REMOTE-1G
USB over Ethernet Network Endpoint Wall, Plate with Routing, Remote

Notes:

1. For DM 8G+ or HDBaseT wiring, use Crestron DM-CBL-8G DigitalMedia 8G Cable or third-party CAT5e (or better) UTP or STP. (Crestron legacy DM-CBL DigitalMedia Cable or DM-CBL-D DigitalMedia D Cable may also be used.) The maximum wire length for DM 8G+ is 330 ft (100 m) between devices. 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.
2. The HDMI connections can accommodate a DVI or Dual-Mode DisplayPort signal using an appropriate adapter or interface cable. CBL-HD-DVI interface cables are available separately.
3. The RGB input can actually accept component, composite, and S-Video signals through an appropriate adapter (not included), or via direct interface to Crestron MPS Series products. However, input sync detection is not provided for composite or S-Video signal types through this connection.
4. To power the DM-TX-201-C using PoDM (Power over DigitalMedia) requires connection to a DM switcher or other DigitalMedia equipment that has a PoDM PSE port. Wiring that connects to a PoDM PSE port is for intrabuilding use only.
5. To power the DM-TX-201-C using HDBaseT PoE requires connection to a switcher or other equipment that has an HDBaseT PoE PSE port. Wiring that connects to a HDBaseT PoE PSE port is for intrabuilding use only
6. USB over Ethernet Extender Modules are sold separately. Refer to the Crestron USB over Ethernet Extenders (USB-EXT-DM-LOCAL and USB-EXT-DM-REMOTE) and Crestron USB over Ethernet Network Wall Plate Endpoints (USB-NX2-LOCAL-1G and USB-NX2-REMOTE-1G) spec sheets for more information.
7. The DM-TX-201-C has a USB device port, which does not supply USB power. When connected to a TT-100 series cable caddy (sold separately), the cable caddy must be powered separately through a connection to a Cresnet® network or power supply. Refer to the TT-100 spec sheet for more information.

This product may be purchased from select authorized Crestron dealers and distributors. To find a dealer or distributor, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/How-To-Buy/Find-a-Representative or by calling 855-263-8754.

This product is covered under the Crestron standard limited warranty. Refer to www.crestron.com/warranty for full details.

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

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

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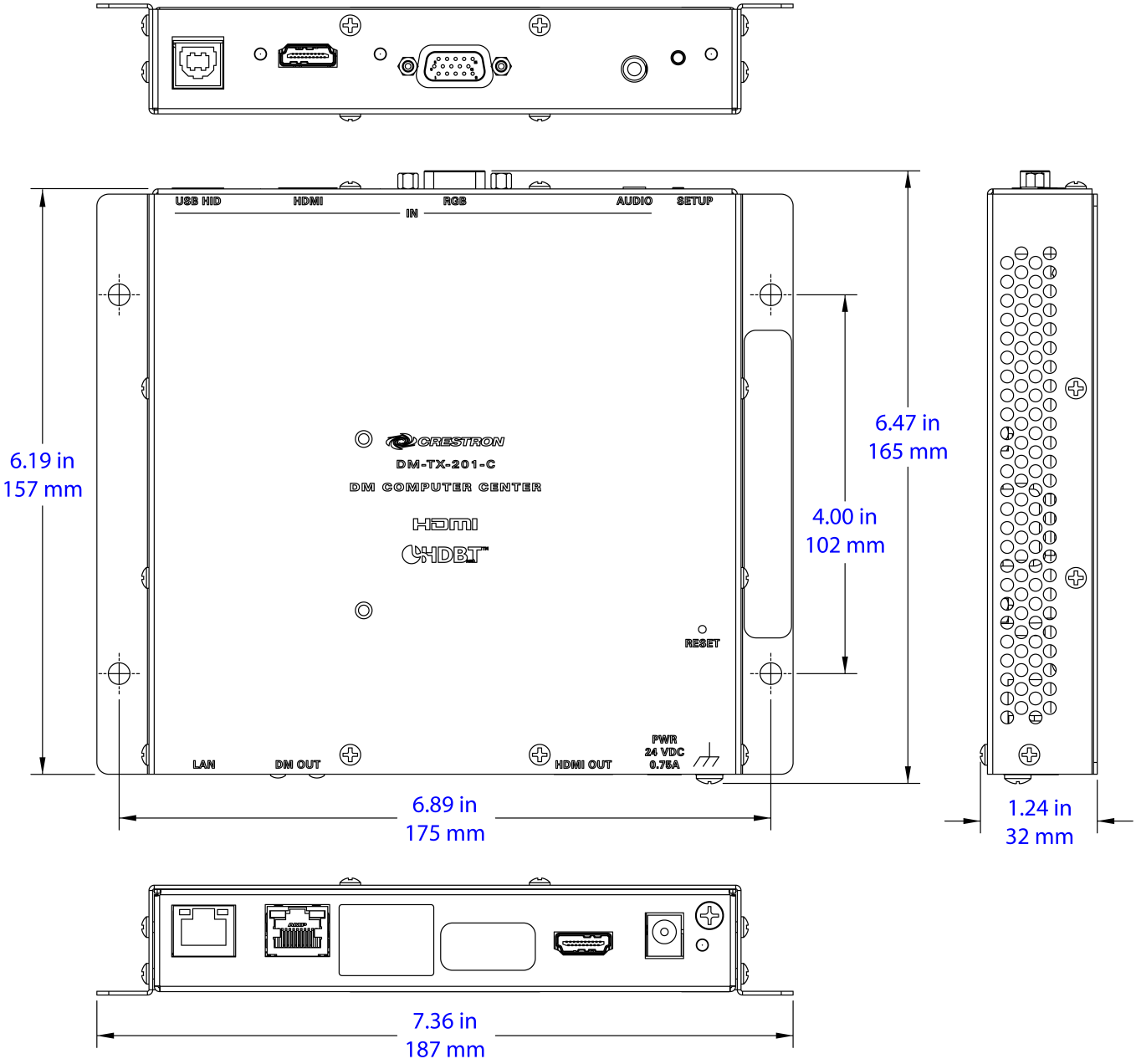

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