DM-TX-201-C

DigitalMedia 8G+™ Transmitter 201

The DM-TX-201-C is a DM 8G+™ transmitter and switcher that provides a simple interface for computers and high-definition AV sources as part of a complete Crestron® DigitalMedia™ system. In addition to DM 8G+, it is also compatible with HDBaseT™ specifications, allowing it to be connected directly to the input of an HDBaseT compliant display device. Thin and compact, the DM-TX-201-C is ideal for use at a lectern, conference table, or any remote location in a boardroom, classroom, auditorium, or residence. It connects to the head end or display location using a single CAT5e or Crestron DM 8G® cable, providing HDMI®, VGA, and analog audio inputs, plus an Ethernet port and USB HID device port for a total connectivity solution.

DigitalMedia 8G+™

As the leader in HDMI and control system technologies, Crestron developed DigitalMedia (DM®) to deliver the first complete HD AV distribution system to take HDMI to a higher level. DigitalMedia allows virtually any mix of HDMI and other AV sources to be distributed throughout a home, office, school, or virtually any other facility.

DigitalMedia 8G+ is the latest generation of DM, providing a true one-wire transport for moving high-definition video, audio, and Ethernet over low-cost twisted-pair cable without any compression or repeaters. Just one 8-conductor twisted-pair cable is required, supporting distances up to 330 feet (100 m) using Crestron DM 8G Cable or CAT5e.[1]

HDBaseT™

Crestron DigitalMedia 8G+ technology is designed using HDBaseT Alliance specifications, ensuring interoperability with third-party HDBaseT products. Via its DM 8G+ output, the DM-TX-201-C can be connected directly to any HDBaseT compliant device without requiring a DM receiver. HDBaseT connectivity through the DM-TX-201-C converges uncompressed full HD digital video, audio, Ethernet, power and control signals through a single CAT5e or CAT6 cable over distances up to 328 ft (100m).

Multimedia Computer/AV Interface

The DM-TX-201-C provides simple switching between two inputs. The inputs can be configured to switch automatically or be controlled through a Crestron control system. Inputs include:

• **HDMI** — Supports HD 1080p60 video and WUXGA computer signals with HDCP and multi-channel lossless audio. Also handles DVI and DisplayPort Multimode 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 1/8" (3.5mm) stereo audio input is included to accommodate analog audio signals from an unbalanced line-level source or headphone output.

Note: Audio breakaway capability enables either audio input to be used with either video input.

A single cable connects the DM-TX-201-C to a DM switcher or receiver, or to an HDBaseT device, transporting video, audio, control,

optional Crestron Control System, the DM-TX-201-C affords a simple solution for extending a multimedia computer or AV signal to a single display up to 330 feet (100 m) away[1]. As part of a larger system using a DM-MD series switcher, multiple DM-TX-201-Cs may be installed to enable the distribution of several sources at different locations to feed multiple displays throughout any room or larger facility.

In addition to its DM 8G+ output, there is also an HDMI output provided to feed a local HDMI or DVI monitor, eliminating the need for an extra outboard distribution amp or other hardware.

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, providing a convenient LAN connection for a local network device.

Keyboard/Mouse Extender

The DM-TX-201-C also functions as a keyboard/mouse extender, providing a USB port which connects to the source device (i.e. computer or other USB HID-compliant host), allowing it to be controlled by a mouse or keyboard located in another room, or at a presentation lectern, conference table, or some other remote location.

EDID Format Management

The DM-TX-201-C allows for management of the EDID (Extended Display Identification Data) information that passes between the display devices and input sources in the system. Using Crestron Toolbox™ software, the format and resolution capabilities of each device can be assessed and managed through the DM-TX-201-C, ensuring reliable operation by instructing sources to output only the resolutions and formats that can be handled by the displays and system wiring.

CEC Embedded Device Control

The primary objective of every Crestron system is to enable precisely the control desired for a seamless user experience. 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

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through the HDMI connection, potentially eliminating the need for any dedicated control wires or IR emitters. Through proper CEC signal management, DigitalMedia allows you to take control of each device in the system as you like.

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. An array of indicators on the DM-TX-201-C provides 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 Webpage at http://www. crestron.com/dmresources/ for additional design tools and reference documents.

> *DigitalMedia 8G+™ transmitter and multimedia interface*

> *Built-in 2x1 AV switcher with auto-switching and audio -breakaway*

> *QuickSwitch HD® technology achieves fast, reliable switching*

> *DM 8G+™ output supports up to 330 ft (100 m) cable length[1]*

> *Connects to a DM® switcher or receiver over one CAT5e or Crestron® DM 8G® cable[1]*

> *Supports HDBaseT™ Alliance specifications*

> *Provides HDMI® and RGB/component video inputs[3]*

> *Also supports DVI and DisplayPort Multimode sources[2]*

> *Handles HD video with HDCP*

> *Handles Dolby Digital®, DTS®, and uncompressed 7.1 linear PCM audio*

> *Includes mini-TRS stereo analog audio input*

> *Includes a local HDMI monitor output*

> *Detects and reports detailed video and audio input information*

> *Performs automatic AV signal format management via EDID*

> *Includes USB HID device port for connection to a computer*

> *Provides a 10/100 Ethernet connection*

> *Enables device control via CEC and Ethernet*

> *Allows quick, easy setup and diagnostics*
> *Low-profile surface-mount design   > Powered over the*

SPECIFICATIONS
Video

Switcher: 2x1 combination digital/analog switch, Crestron QuickSwitch HD®
Input Signal Types: HDMI®, DVI[2], DisplayPort Multimode[2], RGB, component (YPbPr)[3], S-Video (Y/C)[3], composite[3]
Output Signal Types: DM 8G+™ (DigitalMedia™ over one CAT5e twisted-pair copper wire)[1], HDBaseT™, HDMI, DVI[2]
Formats: HDMI, DVI, HDCP content protection support, computer up to UXGA/WUXGA, HD up to 1080p60, NTSC or PAL
Input Resolutions, HDMI & DVI, 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 165MHz pixel clock
Input Resolutions, HDMI & DVI, Interlaced: 720x480@30Hz (480i), 720x576@25Hz (576i), 1920x1080@25Hz (1080i25), 1920x1080@30Hz (1080i30), plus any other resolution allowed by HDMI up to 165MHz pixel clock
Input 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
Input Resolutions, Component[3]: 480i, 576i, 480p, 576p, 720p50, 720p60, 1080p24, 1080i25 (1125 lines), 1080i30, 1080p30, 1080p50 (1125 lines), 1080p60
Input Resolutions, Composite and S-Video[3]: 480i, 576i
Output Resolutions: Matched to inputs
Analog-To-Digital Conversion: 10-bit 165 MHz per each of 3 channels

Audio

Switcher: 2x1 combination digital/analog switch
Input Signal Types: HDMI, DisplayPort Multimode[2], analog stereo
Output Signal Types: DM 8G+, HDBaseT, HDMI
Formats, HDMI: Dolby Digital®, Dolby Digital EX, DTS®, DTS-ES, DTS 96/24, Up to 8ch PCM
Formats, Analog: Stereo 2-channel
Analog-To-Digital Conversion: 24-bit 48 kHz
Input Level Compensation (analog): ±10 dB
Performance (analog): Frequency Response: 20Hz to 20kHz ±0.75dB; S/N Ratio: >90dB, 20Hz to 20kHz A-weighted; THD+N: <0.05% @ 1kHz; Stereo Separation: >90dB

Communications

DigitalMedia: DM 8G+, HDCP management, EDID format management, CEC, PoDM, HDBaseT compliant
Ethernet: 10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
USB: Supports USB HID class devices

Connectors

LAN: (1) 8-wire RJ45 female, shielded; 10Base-T/100Base-TX Ethernet port
DM OUT: (1) 8-pin RJ45 female, shielded; DM 8G+ output, HDBaseT compliant;

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HDMI IN: (1) 19-pin Type A HDMI female;
HDMI digital video/audio input;
Also supports DVI and DisplayPort Multimode[2]
RGB IN: (1) DB15HD female;
RGB (VGA), component, S-Video, or composite video input[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) 3.5mm 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 local power supply, PoDM, or PoH
HDMI IN: (1) green LED, indicates HDMI input is selected
RGB IN: (1) green LED, indicates RGB input is selected
SETUP: (1) red LED and (1) miniature recessed pushbutton for Ethernet setup
RESET: (1) miniature recessed pushbutton for hardware reset

Power Requirements

Power Pack: 0.75 Amps @ 24 Volts DC;
100-240 Volts AC, 50/60 Hz power pack, model PW-2407WU included
Power over DM (PoDM): PoDM PD (Powered Device), capable of being powered by a PoDM PSE (Power Sourcing Equipment)
Power over HDBaseT (PoH): PoH PD (Powered Device), capable of being powered by a PoH PSE (Power Sourcing Equipment)
Note: May be powered via power pack or PoDM/PoH, not both.

Environmental

Temperature: 32° to 104°F (0° to 40°C)
Humidity: 10% to 90% 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)

Available Models

DM-TX-201-C: DigitalMedia 8G+™ Transmitter 201

Included Accessories

PW-2407WU Wall Mount Power Pack 24VDC, 0.75A, Universal [Included Quantity: 1]

Available Accessories
DM-CBL-8G-NP-SP500: DigitalMedia 8G™ Cable,

DM-8G-CRIMP: Crimping Tool for DM-8G-CONN
CBL-HD-LOCK-2: Locking High-Speed HDMI® Cable, 2 ft
CBL-HD-LOCK-4: Locking High-Speed HDMI® Cable, 4 ft
CBL-HD-LOCK-8: Locking High-Speed HDMI® Cable, 8 ft
CBL-HD-LOCK-16: Locking High-Speed HDMI® Cable, 16 ft
CBL-HD-1.5: Crestron® Certified HDMI® Interface Cable, 1.5 ft
CBL-HD-3: Crestron® Certified HDMI® Interface Cable, 3 ft
CBL-HD-6: Crestron® Certified HDMI® Interface Cable, 6 ft
CBL-HD-12: Crestron® Certified HDMI® Interface Cable, 12 ft
CBL-HD-20: Crestron® Certified HDMI® Interface Cable, 20 ft
CBL-HD-30: Crestron® Certified HDMI® Interface Cable, 30 ft
CBL-HD-DVI-1.5: Crestron® Certified HDMI® to DVI Interface Cable, 1.5 ft
CBL-HD-DVI-3: Crestron® Certified HDMI® to DVI Interface Cable, 3 ft
CBL-HD-DVI-6: Crestron® Certified HDMI® to DVI Interface Cable, 6 ft
CBL-HD-DVI-12: Crestron® Certified HDMI® to DVI Interface Cable, 12 ft
CBL-HD-DVI-20: Crestron® Certified HDMI® to DVI Interface Cable, 20 ft
CBL-HD-DVI-30: Crestron® Certified HDMI® to DVI Interface Cable, 30 ft
CBL-VGA-1.5: Crestron® Certified Computer VGA Interface Cable, 1.5 ft
CBL-VGA-3: Crestron® Certified Computer VGA Interface Cable, 3 ft
CBL-VGA-6: Crestron® Certified Computer VGA Interface Cable, 6 ft
CBL-VGA-12: Crestron® Certified Computer VGA Interface Cable, 12 ft
CBL-VGA-25: Crestron® Certified Computer VGA Interface Cable, 25 ft
CBL-VGA-AUD-3: Crestron® Certified Computer VGA Interface Cable w/ Audio, 3 ft
CBL-VGA-AUD-6: Crestron® Certified Computer VGA Interface Cable w/ Audio, 6 ft
CBL-VGA-AUD-12: Crestron® Certified Computer VGA Interface Cable w/ Audio, 12 ft
CBL-VGA-AUD-25: Crestron® Certified Computer VGA Interface Cable w/ Audio, 25 ft
CBL-AUDIO-1.5: Crestron® Certified Mini-TRS Stereo Audio Interface Cable, 1.5 ft
CBL-AUDIO-3: Crestron® Certified Mini-TRS Stereo Audio Interface Cable, 3 ft
CBL-AUDIO-6: Crestron® Certified Mini-TRS Stereo Audio Interface Cable, 6 ft
CBL-AUDIO-12: Crestron® Certified Mini-TRS Stereo Audio Interface Cable, 12 ft
MP-WP150-A: Media Presentation Wall Plate - HDMI® w/Mini-TRS Stereo Audio, Almond
MP-WP150-B: Media Presentation Wall Plate - HDMI® w/Mini-TRS Stereo Audio, Black
MP-WP150-W: Media Presentation Wall Plate - HDMI® w/Mini-TRS Stereo Audio, White
MP-WP152-A: Media Presentation Wall Plate - HDMI®, Almond
MP-WP152-B: Media Presentation Wall Plate - HDMI®, Black
MP-WP152-W: Media Presentation Wall Plate - HDMI®, White
MP-WP140-A: Media Presentation Wall Plate - DVI-I w/Mini-TRS Stereo Audio, Almond
MP-WP140-B: Media Presentation Wall Plate - DVI-I w/Mini-TRS Stereo Audio, Black
MP-WP140-W: Media Presentation Wall Plate - DVI-I w/Mini-TRS Stereo Audio, White
MP-WP160-A: Media Presentation Wall Plate - DisplayPort w/Mini-TRS Stereo Audio, Almond
MP-WP160-B: Media Presentation Wall Plate - DisplayPort w/Mini-TRS Stereo Audio, Black
MP-WP160-W: Media Presentation Wall Plate - DisplayPort w/Mini-TRS Stereo Audio, White
MP-WP162-A: Media Presentation Wall Plate - DisplayPort, Almond
MP-WP162-B: Media Presentation Wall Plate - DisplayPort, Black
MP-WP162-W: Media Presentation Wall Plate - DisplayPort, White
MP-WP130-A: Media Presentation Wall Plate - DB15HD Computer VGA w/ Mini-TRS Stereo Audio, Bulkhead, Almond
MP-WP130-B: Media Presentation Wall Plate - DB15HD Computer VGA w/ Mini-TRS Stereo Audio, Bulkhead, Black

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Tel: 800.237.2041 / 201.767.3400 | Fax: 201.767.1905
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MP-WP183-B: Media Presentation Wall Plate - Ethernet, Black
MP-WP183-W: Media Presentation Wall Plate - Ethernet, White
MPI-WP150-120: Media Presentation Wall Plate - International Version - HDMI® w/Mini-TRS Stereo Audio, White
MPI-WP150-122: Media Presentation Wall Plate - International Version - HDMI® w/Mini-TRS Stereo Audio, Anthracite
MPI-WP160-120: Media Presentation Wall Plate - International Version - DisplayPort w/Mini-TRS Stereo Audio, White
MPI-WP160-122: Media Presentation Wall Plate - International Version - DisplayPort w/Mini-TRS Stereo Audio, Anthracite
MPI-WP100-120: Media Presentation Wall Plate - International Version - RCA Composite Video w/RCA Stereo Audio, White
MPI-WP100-122: Media Presentation Wall Plate - International Version - RCA Composite Video w/RCA Stereo Audio, Anthracite
MPI-WP130-120: Media Presentation Wall Plate - International Version - DB15HD Computer VGA w/Mini-TRS Stereo Audio, Bulkhead, White
MPI-WP130-122: Media Presentation Wall Plate - International Version - DB15HD Computer VGA w/Mini-TRS Stereo Audio, Bulkhead, Anthracite
MPI-WP131-120: Media Presentation Wall Plate - International Version - DB15HD Computer VGA w/Mini-TRS Stereo Audio, Breakout, White
MPI-WP131-122: Media Presentation Wall Plate - International Version - DB15HD Computer VGA w/Mini-TRS Stereo Audio, Breakout, Anthracite
MPI-WP181-C-120: Media Presentation Wall Plate - International Version - Crestron DigitalMedia 8G+™, White
MPI-WP181-C-122: Media Presentation Wall Plate - International Version - Crestron DigitalMedia 8G+™, Anthracite
MPI-WP183-120: Media Presentation Wall Plate - International Version - Ethernet, White
MPI-WP183-122: Media Presentation Wall Plate - International Version - Ethernet, Anthracite

Notes:
1. For DM 8G+ wiring, use Crestron DM-CBL-8G DigitalMedia 8G Cable, Crestron DM-CBL DigitalMedia Cable, Crestron DM-CBL-D DigitalMedia D Cable, or generic CAT5e (or better) UTP or STP. 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 also compatible with HDBaseT Alliance specifications for connecting to HDBaseT compliant equipment. All wire and cables sold separately.

2. HDMI requires an appropriate adapter or interface cable to accommodate a DVI or DisplayPort Multimode signal. CBL-HD-DVI interface cables available separately.

3. The RGB input can actually accept component, composite, and S-Video signals via direct interface to Crestron MPS Series products, or through an appropriate adapter (not included). However, input sync detection is not provided for composite or S-Video signal types through the RGB connection.

4. Receiving Power over DM (PoDM) or Power over HDBaseT (PoH) requires connection to a switcher or other equipment that has a PoDM or PoH PSE (Power Sourcing Equipment) port.

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6.47 in
(16.42 cm)

4 in
(10.16 cm)

6.89 in
(17.48 cm)

1.24 in
(3.14 cm)

7.36 in
(18.68 cm)