DigitalMedia 8G™ Single-Mode Fiber Transmitter 201

> DigitalMedia 8G™ Single-Mode Fiber transmitter and multimedia interface

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

> QuickSwitch HD® technology achieves fast, reliable switching

> Connects to a DM® switcher or receiver over one single-mode fiber strand[1]

> Supports cable lengths up to 7.5 miles (12 km) using CresFiber® 8G SM or G.652.D single-mode fiber[1]

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

> Also supports DVI and DisplayPort Multimode sources[2]

> 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

> Includes a 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

> Provides a 10/100 Ethernet LAN connection

> Enables device control via CEC and Ethernet

> Enables USB HID signal extension for a local computer

> Compatible with Crestron® USB over Ethernet Extenders[4]

> Allows quick, easy setup and diagnostics

> Low-profile surface-mount design

> Universal power pack included

The DM-TX-201-S provides a simple interface for computers and high-definition AV sources as part of a complete Crestron® DigitalMedia™ system. Its low-profile, surface-mountable design makes it 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 functions as a DM 8G® SM Fiber transmitter and switcher, providing HDMI®, VGA, and analog audio inputs along with Ethernet and USB HID ports for a total connectivity solution. It connects to the head end or display location using one single-mode fiber strand.[1]

DigitalMedia 8G™ Single-Mode Fiber

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. The latest generation of DM is called DigitalMedia 8G (DM 8G). Engineered for ultra high-bandwidth and ultimate scalability, DM 8G provides a true one-wire lossless transport for moving high-definition video, audio, Ethernet, and control signals over a choice of twisted pair or fiber optic cable.

DM 8G SM Fiber uses single-mode fiber to enable long-distance signal distribution across a campus, complex, or municipality. DM 8G SM Fiber handles uncompressed Full HD 1080p video signals with support for HDCP, as well as computer signals up to WUXGA. All signals are transported over one strand of single-mode fiber, supporting distances up to 7.5 miles (12 km) using CresFiber® 8G SM or G.652.D single-mode fiber optic cable.[1]

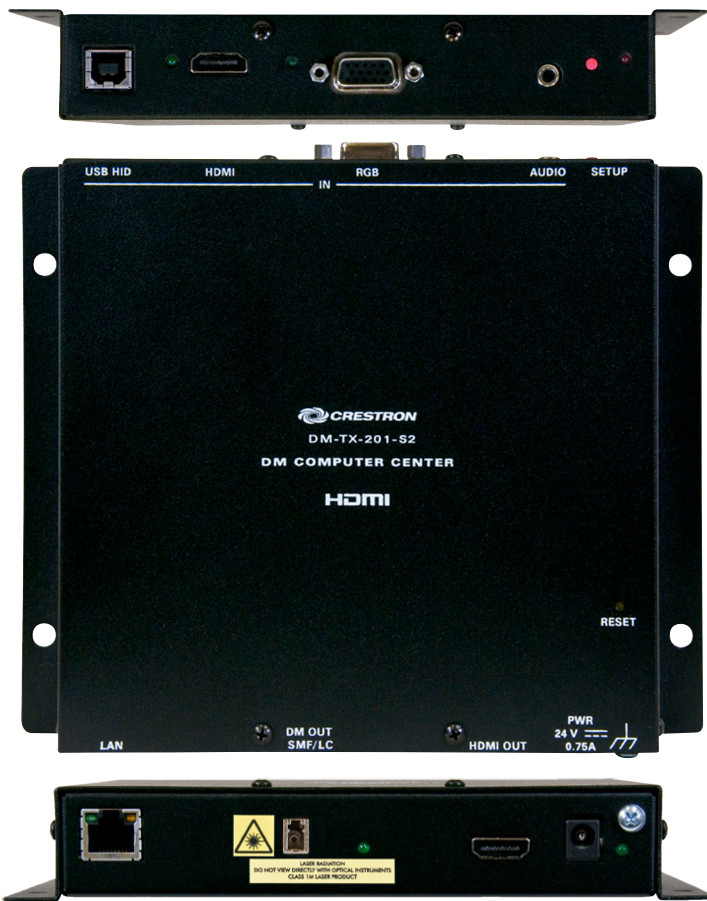### Multimedia Computer/AV Interface

The DM-TX-201-S2 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 —** Provides a digital multimedia input for mobile devices, computers, and AV sources with resolutions up to HD 1080p60 and WUXGA. 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 the analog audio signal from an unbalanced line-level source or headphone output.

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

A single fiber strand connects the DM-TX-201-S2 to a DM switcher or receiver, transporting video, audio, control, and networking signals all through one simple LC type optical connection.[1] Used with a single DM 8G SM Fiber Receiver/Room Controller and optional Crestron control system, the DM-TX-201-S2 affords a simple solution for extending a

DM-TX-201-S2 – Top, Front, & Bottom Views

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-S2 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.

Compact and Versatile

The DM-TX-201-S2 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 is provided for easy setup and troubleshooting.

A Digital Upgrade for Legacy Systems

The DM-TX-201-S2 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-S2 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 a simple unbalanced stereo audio cable. The DM-TX-201-S2'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.*

computer or AV signal to a single display. As part of a larger system using a DM-MD series switcher, multiple DM-TX-201-S2s 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 SM Fiber 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-S2 includes a 10/100 Ethernet port, providing a convenient LAN connection for a local network device.

USB Signal Extension

The DM-TX-201-S2 also functions as a keyboard/mouse extender, allowing the connected computer (or other USB HID-compliant host) to be controlled by a mouse and/or keyboard located at a presentation lectern, conference table, or some other remote location. Additional USB devices of virtually any type can be supported using Crestron USB over Ethernet Extenders (USB-EXT-DM) [4].

SPECIFICATIONS

Video

Switcher: 2x1 combination digital/analog switch, Crestron QuickSwitch HD®

Input Signal Types: HDMI®, DVI[2], DisplayPort Multimode[2], RGB/VGA, component[3], S-Video[3], composite[3]

Output Signal Types: DM 8G® SM Fiber (DigitalMedia™ over one single-mode fiber optic strand), HDMI, DVI[2]

Formats: DM 8G SM Fiber, HDMI, DVI, HDCP content protection support, RGBHV, RGBS, RGsB, YPbPr, Y/C, NTSC, 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

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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 SM Fiber, 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
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

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 any USB 1.1 or 2.0 device using Crestron USB-EXT-DM USB over Ethernet Extenders[4]
DigitalMedia: DM 8G SM Fiber, HDCP, EDID, CEC, Ethernet
HDMI: HDCP, EDID, CEC

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

Connectors

LAN: (1) 8-wire RJ45 female, shielded; 10Base-T/100Base-TX Ethernet port

DM OUT SMF/LC: (1) LC female optical fiber connector; DM 8G Single-Mode Fiber output ; Connects to DM 8G SM Fiber input of a DM switcher, receiver/room controller, or other DM device via CRESFIBER8G-SM single-mode fiber optic cable[1]

HDMI OUT: (1) 19-pin Type A HDMI female; HDMI digital video/audio output; Also supports DVI[2]

PWR 24VDC 0.75A: (1) 2.1 x 5.5 mm DC power connector; 24 Volt DC power input; PW-2407WU power pack included

Ground: (1) 6-32 screw, chassis ground lug

USB HID: (1) USB Type B female; USB 2.0 device port for connection to the USB host interface of a computer or other USB HID-compliant host

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: (1) green LED, indicates DM link status
PWR: (1) green LED, indicates operating power supplied via local power pack
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

Environmental

Temperature: 32° to 104°F (0° to 40°C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 61 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: 6.48 in (165 mm)
Width: 7.36 in (187 mm)
Depth: 1.24 in (32 mm)

Weight

24.3 oz (689 g)

MODELS & ACCESSORIES

Available Models

DM-TX-201-S2: DigitalMedia 8G™ Single-Mode Fiber Transmitter 201

Included Accessories

PW-2407WU: Wall Mount Power Pack 24VDC, 0.75A, Universal
(Qty. 1 included)

Available Accessories

CRESFIBER8G-SM-P: CresFiber® 8G Single-Mode Fiber Optic Cable, plenum
CRESFIBER8G-SM-CONN-LC-12: Connectors for CresFiber® 8G Single-Mode Fiber Optic Cable, LC, 12-Pack
CRESFIBER-TK: CresFiber® Termination Kit
CBL Series: Crestron® Certified Interface Cables
MP-WP Series: Media Presentation Wall Plates
MPI-WP Series: Media Presentation Wall Plates - International Version
USB-EXT-DM: USB over Ethernet Extender with Routing

Notes:

1. The maximum cable length for DigitalMedia 8G Single-Mode Fiber (DM 8G SM Fiber) is 7.5 miles (12 km) using Crestron CRESFIBER8G-SM or third-party G.652.D (or better) single-mode fiber optic cable. Refer to the Crestron DigitalMedia Design Guide, Doc. #4546 for complete system design guidelines. All wire and cables are sold separately.
2. HDMI requires an appropriate adapter or interface cable to accommodate a DVI or DisplayPort Multimode signal. CBL-HD-DVI interface cables are available separately.
3. The RGB/VGA 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. USB-EXT-DM USB over Ethernet Extender Modules are sold separately. Refer to the USB-EXT-DM 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 www.crestron.com/salesreps or by calling 800-237-2041.

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

4.000 in
[101.60 mm]

6.475 in
[164.47 mm]

1.233 in
[31.33 mm]

6.881 in
[174.78 mm]

7.351 in
[186.72 mm]