DM-RMC-150-S

DigitalMedia 8G™ Fiber Receiver & Room Controller 150

> DigitalMedia 8G™ Fiber receiver, audio extractor, and display controller

> Connects to a DM® switcher or transmitter over one multimode fiber strand [1]

> Supports cable lengths up to 1000 ft (300 m) using CresFiber® 8G, or 500 ft (150 m) using other multimode fiber [1]

> Provides one HDMI® or DVI display output [2]

> Handles video resolutions up to Full HD 1080p

> Handles computer resolutions up to WUXGA

> Handles 3D video and Deep Color

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

> Provides a stereo analog line-level audio output with volume control [3]

> Allows extraction of stereo 2-channel audio signals [3]

> HDCP compliant

> Provides a 10/100 Ethernet LAN connection

> Enables device control via CEC, IR, RS-232, and Ethernet

> Provides two relay control ports and one contact sensing input

> Enables USB HID signal extension for a local keyboard/mouse

> 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-RMC-150-S provides an enhanced one-box interface solution for a single display device as part of a complete Crestron® DigitalMedia™ system. It functions as a DM 8G® Fiber receiver and control interface, providing a single HDMI® output and an analog audio output, plus Ethernet, USB HID, and a variety of control ports. Its compact, low-profile design allows the DM-RMC-150-S to be installed discreetly behind a flat panel display or above a ceiling mounted projector. It connects to the head end or source location using a single multimode fiber strand.[1]

DigitalMedia 8G™ 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 Fiber uses multimode fiber to enable signal distribution between buildings and over lengthy wire runs. DM 8G Fiber handles uncompressed Full HD 1080p video signals with support for 3D, Deep Color, and HDCP, as well as computer signals up to WUXGA. Audio capabilities include support for high-bitrate 7.1 audio formats like Dolby® TrueHD and DTS-HD Master Audio™ as well as uncompressed linear PCM. All signals are transported

over one strand of multimode fiber, supporting distances up to 1000 feet (300 m) using CresFiber® 8G, or 500 feet (150 m) using other multimode fiber optic cable.[1]

Multimedia Display Interface

A single HDMI digital AV output port is provided on the DM-RMC-150-S for connection to a display or other device. The HDMI output can also handle DVI signals using an appropriate adapter or interface cable[2].

A single fiber strand connects the DM-RMC-150-S to a DM switcher or transmitter, transporting video, audio, control, and networking signals all through one simple SC type optical connection.[1] Multiple DM-RMC-150-Ss may be installed to handle each display in a multiroom distribution system, all fed from a central DM-MD series switcher. Or, a single DM-RMC-150-S can be fed straight from a DM 8G Fiber transmitter, affording a simple solution for extending a computer or AV signal to a single display.

Audio Extracting

The DM-RMC-150-S is equipped with an analog audio output, allowing stereo audio signals to be extracted from the digital stream and fed to a pair of speakers or a local sound system. The output volume is adjustable via a control system using a keypad, touch screen, handheld remote, or mobile device.[3]

LAN Connectivity

Along with high-definition AV and control, DigitalMedia also integrates high-speed Ethernet networking for a total signal distribution solution. The DM-RMC-150-S includes a 10/100 Ethernet port, providing a convenient LAN connection for a local network device.

USB Signal Extension

DigitalMedia allows for the routing of USB signals alongside video and audio. A USB HID compliant mouse or keyboard can be connected directly to the DM-RMC-150-S and used to control a computer or media server that's located at the central equipment cabinet or some other location. Crestron also offers USB over Ethernet Extender Modules (USB-EXT-DM)[4], which may be added to enable support for more USB devices of virtually any type.

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DM-RMC-150-S – Left, Front, and Right Views

Embedded Device Control

The primary objective of every Crestron system is to enable precisely the control desired for a seamless user experience. The DM-RMC-150-S includes built-in RS-232, IR, and Ethernet control ports to allow programmable control of the display device connected to it. But, it can also provide 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-RMC-150-S provides a gateway for controlling the display device right through the HDMI connection, potentially eliminating the need for any dedicated control wires or IR emitters.

Two low-voltage relay ports are also included on the DM-RMC-150-S for control of a projection screen or lift. In addition, there is a single digital input port to accommodate a room occupancy sensor, power sensor, or contact closure for enhanced automation and monitoring.

Low-Profile Installation

The DM-RMC-150-S mounts conveniently to a wall, ceiling, or other flat surface. At just one inch deep, it fits easily behind a flat panel display or above a ceiling-mounted projector. 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.

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

SPECIFICATIONS

Video

Input Signal Type: DM 8G® Fiber (DigitalMedia™ over one multimode fiber optic strand)[1]

Output Signal Types: HDMI®, DVI[2]

Formats: DM 8G Fiber & HDMI w/Deep Color & 3D, DVI, HDCP content protection support

Input Resolutions, 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, 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

Output Resolutions: Matched to input

Audio

Input Signal Type: DM 8G Fiber

Output Signal Types: HDMI, analog stereo[3]

Formats, HDMI: Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby® TrueHD, DTS®, DTS-ES, DTS 96/24, DTS-HD High Res, DTS-HD Master Audio™, up to 8ch PCM

Formats, Analog: Stereo 2-Channel[3]
Digital-To-Analog Conversion: 24-bit 48 kHz
Performance (analog): Frequency Response: 20Hz to 20kHz ±0.5dB;
S/N Ratio: >95dB 20Hz to 20kHz A-weighted;
THD+N: <0.005% @ 1kHz;
Stereo Separation: >90dB
Volume Gain Range (analog): -80dB to 0dB

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]
RS-232: 2-way device control and monitoring up to 115.2k baud with hardware and software handshaking
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
DigitalMedia: DM 8G 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

DIG IN: (1) 2-pin 3.5mm detachable terminal block;
Digital/contact closure sensing input;
Rated for 0-24 Volts DC, referenced to GND;
Input Impedance: 2.2k Ohms pulled up to 5 Volts DC;
Logic Threshold: 2.5 Volts DC nominal with 1 Volt hysteresis band

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

USB HID: (1) USB Type A female;
USB 2.0 host port for connection of a mouse/keyboard or other USB HID-compliant device

RELAY 1 – 2: (1) 4-pin 3.5mm detachable terminal block comprising (2) normally open, isolated relays;
Rated 1 Amp, 30 Volts AC/DC;
MOV arc suppression across contacts

COM: (1) 5-pin 3.5mm detachable terminal block, bidirectional RS-232 port;
Up to 115.2k baud, hardware and software handshaking support

IR 1 – 2: (1) 4-pin 3.5mm detachable terminal block comprising (2) IR/Serial ports;
IR output up to 1.1 MHz;
1-way serial TTL/RS-232 (0-5 Volts) up to 19200 baud

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

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

DM IN MMF/SC: (1) SC female optical fiber connector;
DM 8G Fiber input;
Connects to DM 8G Fiber output of a DM switcher, transmitter, or other DM device via CresFiber® 8G fiber optic cable[1]

AUDIO OUT R, L: (2) RCA female;
Stereo unbalanced line-level audio output[3];
Output Level: 2 Vrms maximum;
Output Impedance: 100 Ohms nominal

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

Controls & Indicators

HDMI OUT: (1) green LED, indicates video signal presence at the HDMI output
LAN: (2) LEDs, green LED indicates Ethernet link status, amber LED indicates Ethernet activity
DM IN: (1) green LED, indicates DM link status
RESET: (1) miniature recessed pushbutton, for hardware reset
SETUP: (1) red LED and (1) miniature recessed pushbutton, for Ethernet setup
24VDC: (1) green LED, indicates operating power supplied via local power pack

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: 35 BTU/Hr

Enclosure

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

Dimensions

Height: 8.49 in (216 mm)
Width: 6.53 in (166 mm)
Depth: 1.07 in (28 mm)

Weight

24 oz (681 g)

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MODELS & ACCESSORIES

Available Models

DM-RMC-150-S: DigitalMedia 8G™ Fiber Receiver & Room Controller 150

Included Accessories

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

Available Accessories

CRESFIBER8G-NP: CresFiber® 8G Multimode Fiber Optic Cable, 50/125 x4 breakout, non-plenum

CRESFIBER8G-P: CresFiber® 8G Multimode Fiber Optic Cable, 50/125 x4 breakout, plenum

CRESFIBER-CONN-SC50UM-12: Connectors for CresFiber® Multimode Fiber Optic Cable, SC 50μm, 12-Pack

CRESFIBER-TK: CresFiber® Termination Kit (AFL Telecommunications™)

CRESFIBER-SINGLE-SC-P: CresFiber® Simplex Fiber Optic Cable Assembly, 50/125, SC, Plenum

CBL Series: Crestron® Certified Interface Cables

MP-WP Series: Media Presentation Wall Plates

MPI-WP Series: Media Presentation Wall Plates - International Version

CNSP-XX: Custom Serial Interface Cable

IRP2: IR Emitter Probe w/Terminal Block Connector

USB-EXT-DM: USB over Ethernet Extender with Routing

MP-AMP30: Media Presentation Audio Amplifier

MP-AMP40: Media Presentation Audio Amplifier, 70 or 100 Volt

Notes:

1. The maximum cable length for DigitalMedia 8G Fiber (DM 8G Fiber) is 1000 ft (300 m) using Crestron CRESFIBER8G multimode fiber optic cable, or 500 ft (150 m) using Crestron legacy CRESFIBER, Crestron CRESFIBER-SINGLE-SC, or third-party OM3 simplex multimode 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. The HDMI output requires an appropriate adapter or interface cable to accommodate a DVI signal. CBL-HD-DVI interface cables are available separately.
3. The analog stereo audio output is only active when the DM-RMC-150-S is receiving a 2-channel stereo signal.
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.

6.61 in
(16.78 cm)

6.16 in
(15.65 cm)

8.49 in
(21.57 cm)

S G   DIG IN

HDMI OUT

USB HID

RELAY

GND
TX
RX   COM
RTS
CTS

S G 1
S G 2   IR

LAN

DM IN
MMF/SC

RESET

SETUP

R

AUDIO
OUT

L

24 V
0.75A MAX

DM-RMC-150-S

DM ROOM CONTROLLER

HDMI

1 in
(2.54 cm)

1.07 in
(2.72 cm)