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

Operations & Installation Guide

CRESTRON®

Regulatory Compliance

This product is Listed to applicable UL Standards and requirements by Underwriters Laboratories Inc.

As of the date of manufacture, the DM-RMC-150-S has been tested and found to comply with specifications for CE marking.

Federal Communications Commission (FCC) Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Industry Canada (IC) Compliance Statement

CAN ICES-3(B)/NMB-3(B)

The DM-RMC-150-S is a Class 1 laser product. It complies with safety regulations of IEC-60825-1, FDA 21 CFR 1040.11, and FDA 21 CFR 1040.10.

WARNING: Visible and invisible laser radiation when open. Avoid direct exposure to beam.

NOTE: Plug the included dust caps into the optical transceivers when the fiber optic cable is unplugged.

This document was written by the Technical Publications department at Crestron.

Contents

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

Introduction

The DM-RMC-150-S provides an enhanced 1-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 an HDMI® output, an analog audio output, 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.

Features and Functions

- DigitalMedia 8G™ Fiber receiver, audio extractor, and display controller
- DM 8G Fiber input supports up to 1,000 foot (300 meter) cable length[1]
- Connects to a DM® switcher or transmitter over one multimode fiber strand[1]
- Provides one HDMI or DVI display output[2]
- Handles video resolutions up to Full HD and 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
- Includes a USB HID keyboard or mouse port
- Compatible with Crestron USB Extenders to enable expanded USB device support[4]
- Allows quick, easy setup and diagnostics and low-profile surface mounting
- Universal power pack included

1. The maximum cable length for DigitalMedia 8G Fiber (DM 8G Fiber) is 1,000 feet (~300 meters) using Crestron CRESFIBER8G multimode fiber optic cable or 500 feet (~150 meters) using Crestron CRESFIBER, Crestron CRESFIBER-SINGLE-SC, or third-party OM3 simplex multimode fiber optic cable. Refer to the DigitalMedia Design Guide (Doc. 4546) at www.crestron.com/manuals for complete wiring 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. Analog stereo audio output is only active when the DM-RMC-150-S receives a 2-channel stereo signal.
4. Compatible with Crestron USB-EXT-DM-LOCAL and USB-EXT-DM-REMOTE USB extender modules (sold separately).

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 any other facility.

DigitalMedia 8G is the latest generation of DM, providing a true 1-wire transport for moving high-definition video, audio, and Ethernet over fiber optic cable without any compression or repeaters. Engineered for ultra-high bandwidth and ultimate scalability, DM 8G handles uncompressed video beyond high definition with support for HDCP, Deep Color, and 3D. Audio capabilities include support for high-bitrate 7.1 audio formats including 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 1,000 feet (~300 meters) using CresFiber® 8G 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.

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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.

USB Extender

Via its USB HID port, the DM-RMC-150-S functions as a keyboard and mouse extender, allowing a USB HID-compliant keyboard or mouse to be connected at the display location and used to control a computer or other component located at the central equipment rack or some other location. Expanded USB signal routing capability is available using Crestron USB Extenders.*

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. 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 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

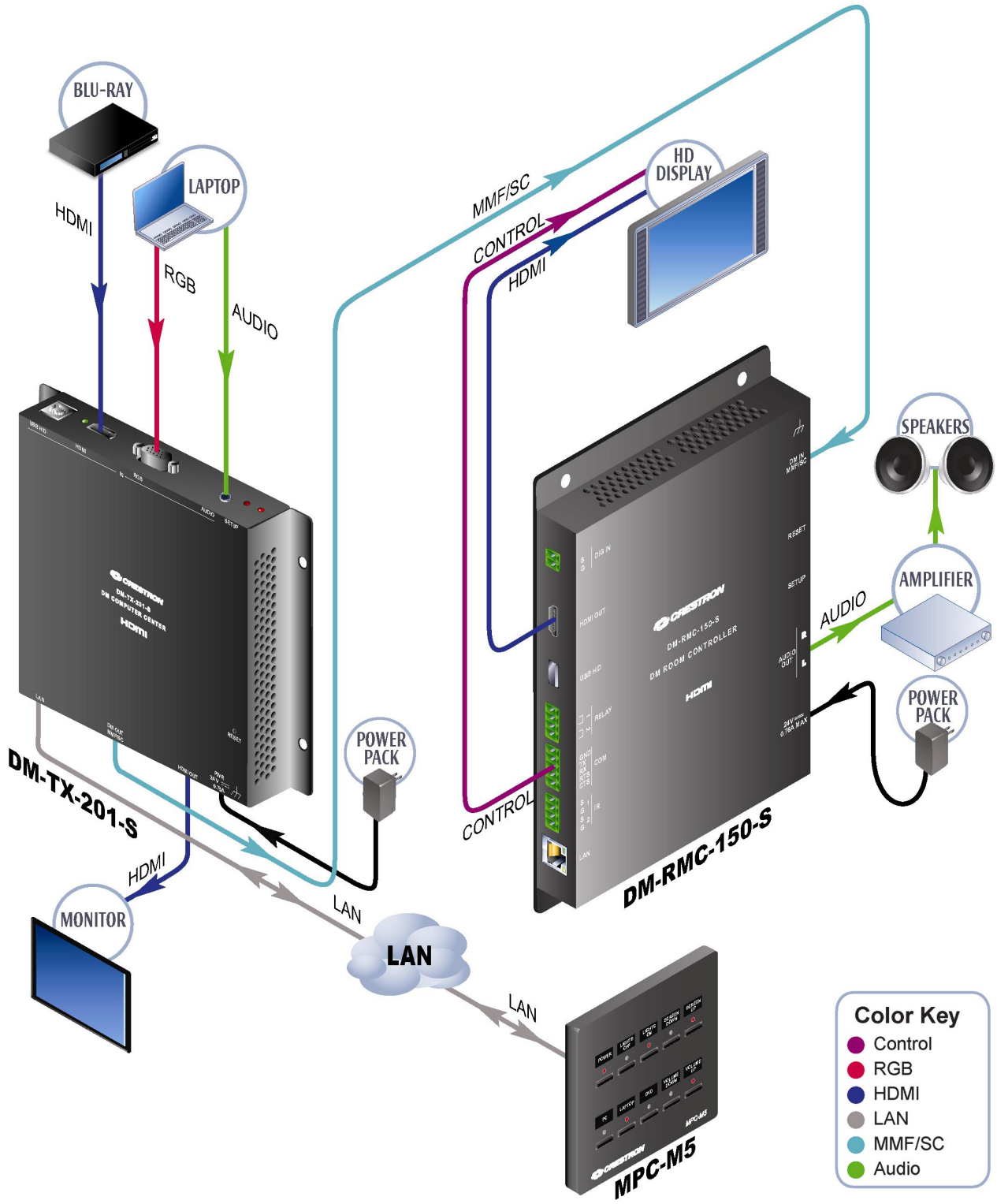
The DM-RMC-150-S mounts conveniently to a wall, ceiling, or other flat surface. At just one inch deep, it fits easily behind a flat panel display or above a ceiling-mounted projector. All connections and LED indicators are positioned on the sides, ensuring optimal access and visibility for a clean, serviceable installation. An array of indicators is provided for easy setup and troubleshooting.

* Compatible with Crestron USB-EXT-DM-LOCAL and USB-EXT-DM-REMOTE USB extender modules, sold separately.

Applications

The diagram below shows a DM-RMC-150-S in a standalone application. In this application, the DM-RMC-150-S is used with a DM 8G Fiber transmitter such as the DM-TX-201-S and is not used with a DM switcher.

DM-RMC-150-S in a Standalone Application



Specifications

Specifications for the DM-RMC-150-S are listed in the following table.

DM-RMC-150-S Specifications

SPECIFICATION	DETAILS
Video	
Input Signal Type	DM 8G Fiber (DigitalMedia over one multimode fiber optic strand)[1]
Output Signal Types	HDMI, DVI[2]
Formats	HDMI with Deep Color and 3D, DVI, HDCP content protection support
Input Resolutions	
Progressive	640 x 480 @ 60 Hz 720 x 480 @ 60 Hz (480p) 720 x 576 @ 50 Hz (576p) 800 x 600 @ 60 Hz 848 x 480 @ 60 Hz 852 x 480 @ 60 Hz 854 x 480 @ 60 Hz 1024 x 768 @ 60 Hz 1024 x 852 @ 60 Hz 1024 x 1024 @ 60 Hz 1280 x 720 @ 50 Hz (720p50) 1280 x 720 @ 60Hz (720p60) 1280 x 768 @ 60 Hz 1280 x 800 @ 60 Hz 1280 x 960 @ 60 Hz 1280 x 1024 @ 60 Hz 1360 x 768 @ 60 Hz 1365 x 1024 @ 60 Hz 1366 x 768 @ 60 Hz 1400 x 1050 @ 60 Hz 1440 x 900 @ 60 Hz 1600 x 900 @ 60 Hz 1600 x 1200 @ 60 Hz 1680 x 1050 @ 60 Hz 1920 x 1080 @ 24 Hz (1080p24) 1920 x 1080 @ 25 Hz (1080p25) 1920 x 1080 @ 50 Hz (1080p50) 1920 x 1080 @ 60 Hz (1080p60) 1920 x 1200 @ 60 Hz 2048 x 1080 @ 24 Hz 2048 x 1152 @ 60 Hz plus any other resolution allowed by HDMI up to 165 MHz pixel clock

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DM-RMC-150-S Specifications (Continued)

SPECIFICATION	DETAILS
Video	
Input Resolutions (Continued)	
Interlaced	720 x 480 @ 30 Hz (480i) 720 x 576 @ 25 Hz (576i) 1920 x 1080 @ 25 Hz (1080i25) 1920 x 1080 @ 30 Hz (1080i30) plus any other resolution allowed by HDMI up to 165 MHz pixel clock
Output Resolutions	Matched to input
Audio	
Input Signal Type	DM 8G Fiber
Output Signal Type	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 8-channel PCM
Analog	Stereo 2-channel[3]
Digital-to-Analog Conversion	24-bit 48 kHz
Performance (Analog)	
Frequency Response	20 Hz to 20 kHz ±0.5 dB
S/N Ratio	>95 dB 20 Hz to 20 kHz A-weighted
THD+N	<0.005% @ 1 kHz
Stereo Separation	>90 dB
Volume Gain Range (Analog)	-80 dB to 0 dB
Communications	
DigitalMedia	DM 8G Fiber, HDCP management, EDID format management, CEC
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 Extenders[4]
Power Requirements	
Power Pack	0.75 A @ 24 Vdc; 100-240 Vac, 50/60 Hz power pack included

(Continued on following page)

DM-RMC-150-S Specifications (Continued)

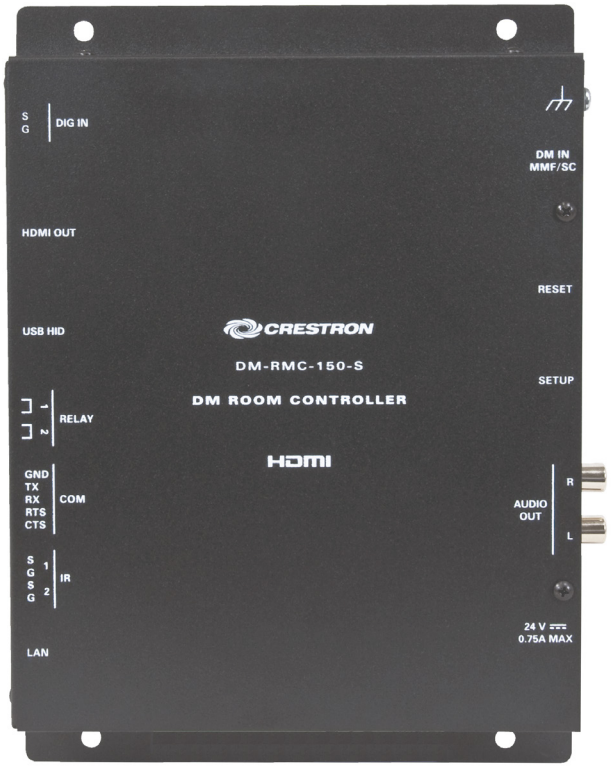
SPECIFICATION	DETAILS
Environmental	
Temperature	32º to 104ºF (0º to 40ºC)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	35 Btu/h
Enclosure	
Chassis	Metal, black finish, with two integral mounting flanges, vented top and bottom
Mounting	Freestanding, surface mount, or attach to a single rack rail
Dimensions	
Height	8.49 in (216 mm)
Width	6.61 in (168 mm)
Depth	1.07 in (28 mm)
Weight	24 oz (681 g)
Included Accessory	24 Vdc power pack
Available Accessories	
CBL Series	Crestron Certified Interface Cables
CNSP-XX	Custom Serial Interface Cable
CRESFIBER-CONN-SC50UM-12	CresFiber Fiber Optic Cable connector
CRESFIBER-SINGLE-SC	CresFiber Simplex Fiber Optic Cable Assembly, 50/125, SC
CRESFIBER-SINGLE-SC-ARMORED	CresFiber Armored Simplex Fiber Optic Cable Assembly, 50/125, SC
CRESFIBER-SINGLE-SC-CLEAR	CresFiber Clear Simplex Fiber Optic Cable Assembly, 50/125, SC
CRESFIBER-TK	CresFiber Termination Kit
CRESFIBER8G	CresFiber 8G Fiber Optic Cable
IRP2	IR Emitter Probe
MP-AMP30	Media Presentation Audio Amplifier
MP-AMP40	Media Presentation Audio Amplifier, 70 or 100 V
MP-WP Series	Media Presentation Wall Plates
MPI-WP Series	Media Presentation Wall Plates – International Version

1. The maximum cable length for DigitalMedia 8G Fiber (DM 8G Fiber) is 1,000 feet (~300 meters) using Crestron CRESFIBER8G multimode fiber optic cable or 500 feet (~150 meters) using Crestron CRESFIBER, Crestron CRESFIBER-SINGLE-SC, or third-party OM3 simplex multimode fiber optic cable. Refer to the DigitalMedia Design Guide (Doc. 4546) at www.crestron.com/manuals for complete wiring 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. Analog stereo audio output is only active when the DM-RMC-150-S receives a 2-channel stereo signal.
4. Compatible with Crestron USB-EXT-DM-LOCAL and USB-EXT-DM-REMOTE USB extender modules (sold separately).

Physical Description

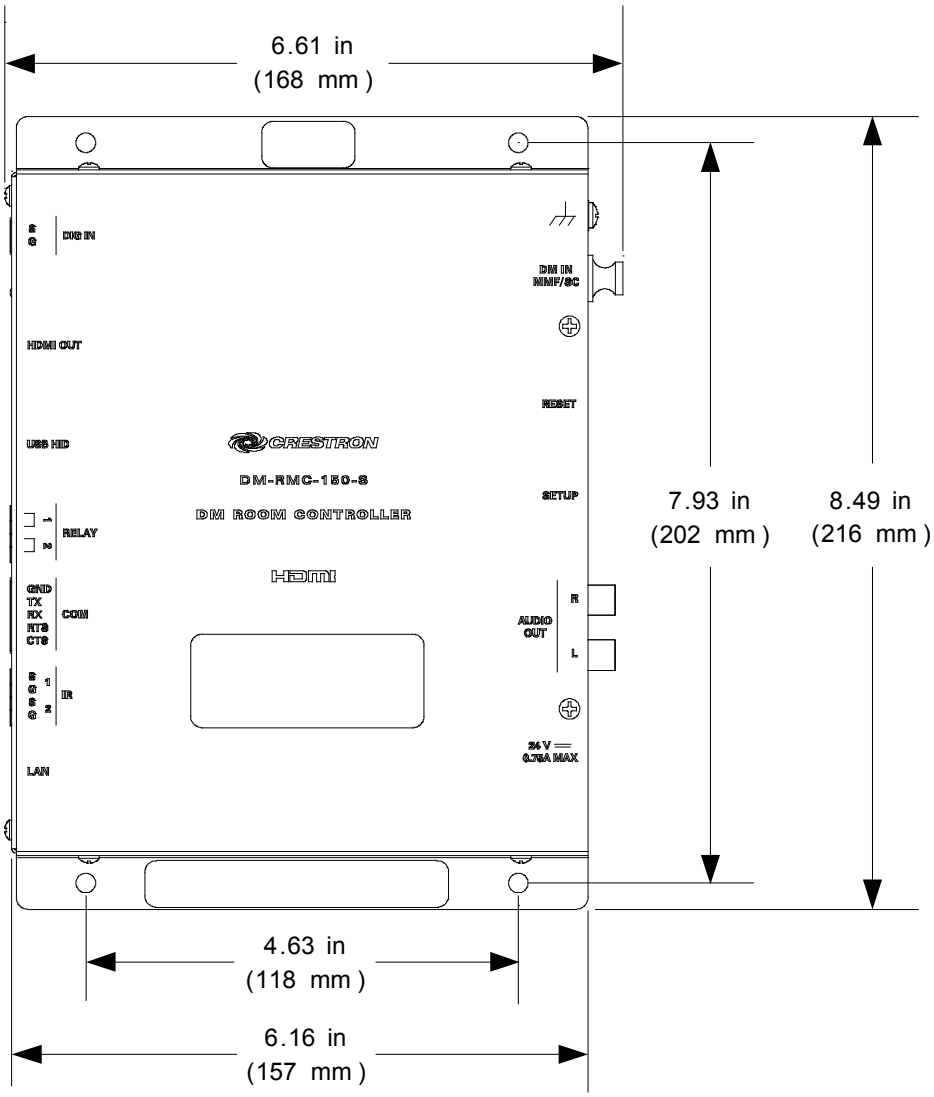
This section provides information on the connections, controls, and indicators available on the DM-RMC-150-S.

DM-RMC-150-S Physical View (Front View)

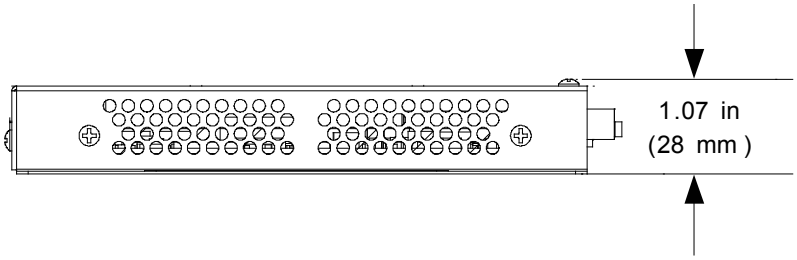


DM-RMC-150-S Physical Views (Left and Right Side Views)

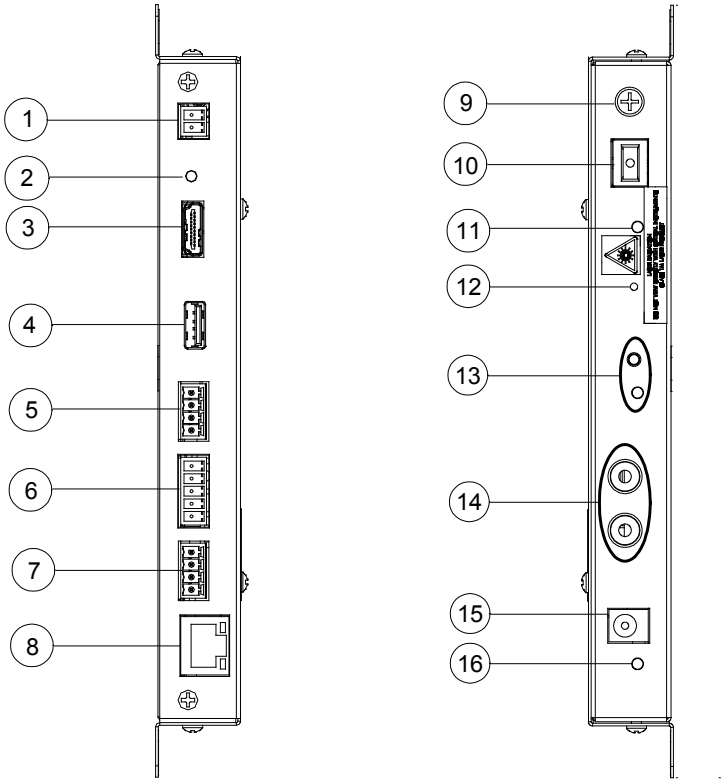
DM-RMC-150-S Overall Dimensions (Front View)



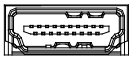
DM-RMC-150-S Overall Dimensions (Bottom View)



DM-RMC-150-S Connectors (Left and Right Side Views)

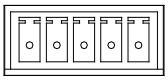
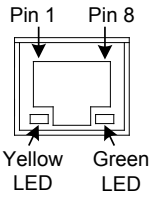
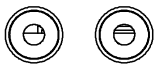


Connectors, Controls, and Indicators

#	CONNECTORS,[1] CONTROLS, AND INDICATORS	DESCRIPTION
1	DIG IN 	(1) 2-pin 3.5 mm detachable terminal block; Digital/contact closure sensing input; Rated for 0-24 Vdc, referenced to GND; Input Impedance: 2.2 kilohms pulled up to 5 Vdc; Logic Threshold: 2.5 Vdc nominal with 1 volt hysteresis band
2	HDMI OUT LED	(1) Green LED, indicates video signal presence at the HDMI output
3	HDMI OUT 	(1) 19-pin Type A HDMI female; HDMI digital video and audio output; Supports DVI[2]

(Continued on following page)

Connectors, Controls, and Indicators (Continued)

#	CONNECTORS,[1] CONTROLS, AND INDICATORS	DESCRIPTION
4	USB HID 	(1) USB Type A female; USB 2.0 host port for connection of a mouse, keyboard, or other USB HID-compliant device
5	RELAY (1-2) 	(1) 4-pin 3.5 mm detachable terminal block comprising two normally open, isolated relays; Rated 1 A, 30 Vac/Vdc; MOV arc suppression across contacts
6	COM 	(1) 5-pin 3.5 mm detachable terminal block, bidirectional RS-232 port; Up to 115.2 kBd, hardware and software handshaking support
7	IR (1-2) 	(1) 4-pin 3.5 mm detachable terminal block comprising two IR/serial ports; IR output up to 1.1 MHz; 1-way serial TTL/RS-232 (0-5 volts) up to 19,200 Bd[3]
8	LAN 	(1) 8-pin RJ-45 female, shielded, with two LED indicators; 10BASE-T/100BASE-TX Ethernet port; Green LED indicates Ethernet link status; Amber LED indicates Ethernet activity
9		(1) 6-32 screw, chassis ground lug
10	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[4]
11	DM IN LED	(1) Green LED, indicates DM link status
12	RESET	(1) Miniature recessed push button for hardware reset
13	SETUP (Button and LED)	(1) Miniature recessed push button for Ethernet setup and (1) red LED
14	AUDIO OUT (L, R) 	(2) RCA female; Stereo unbalanced line-level audio output;[5] Output Impedance: 100 ohms nominal; Maximum Output Level: 2 Vrms

PIN	SIGNAL	PIN	SIGNAL
1	TX +	5	N/C
2	TX -	6	RX -
3	RX +	7	N/C
4	N/C	8	N/C

(Continued on following page)

Connectors, Controls, and Indicators (Continued)

#	CONNECTORS,[1] CONTROLS, AND INDICATORS	DESCRIPTION
15	24 VDC 0.75A MAX 	(1) 2.1 mm x 5.5 mm dc power jack; 24 Vdc power input; Power pack included
16	Power LED	(1) Green LED, indicates operating power supplied from local power pack

1. Interface connectors for the DIG IN, RELAY, COM, and IR ports are provided with the unit.
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. Maximum string length for serial commands sent via the IR port should be no greater than 40 characters.
4. The maximum cable length for DigitalMedia 8G Fiber (DM 8G Fiber) is 1,000 feet (~300 meters) using Crestron CRESFIBER8G multimode fiber optic cable or 500 feet (~150 meters) using Crestron CRESFIBER, Crestron CRESFIBER-SINGLE-SC, or third-party OM3 simplex multimode fiber optic cable. Refer to the DigitalMedia Design Guide (Doc. 4546) at www.crestron.com/manuals for complete wiring guidelines. All wire and cables are sold separately.
5. Analog stereo audio output is only active when the DM-RMC-150-S receives a 2-channel stereo signal.

Setup

Network Wiring

When wiring the DM network, consider the following:

- Use Crestron Certified Wire.
- Use Crestron power supplies for Crestron equipment.

CAUTION: Failure to use Crestron power supplies could cause equipment damage or void the Crestron warranty.

- Provide sufficient power to the system.
- For DigitalMedia 8G Fiber wiring, CresFiber 8G is recommended. Refer to the following table for the maximum transmission distance of CresFiber 8G and other fiber optic cable.

DigitalMedia 8G Fiber Wiring and Maximum Transmission Distance

CABLE TYPE	MAXIMUM TRANSMISSION DISTANCE
CresFiber 8G	1,000 feet (~300 meters)
CresFiber	500 feet (~150 meters)
Third-Pary OM3	500 feet (~150 meters)

For complete wiring guidelines, refer to the DigitalMedia Design Guide (Doc. 4546).

The DM-RMC-150-S also uses high-speed Ethernet for communications between the device and a control system, computer, media server, and other IP-based devices. For general information on connecting Ethernet devices in a Crestron system, refer to the Crestron e-Control® Reference Guide (Doc. 6052) at www.crestron.com/manuals. For information specifically related to Ethernet connectivity using DigitalMedia devices, refer to the Crestron IP Considerations Guide for the IT Professional (Doc. 4579) at www.crestron.com/manuals.

Identity Code

NOTE: In the SIMPL Windows program, the IP ID of the DM-RMC-150-S is assigned automatically and does not require additional programming when the DM-RMC-150-S is dropped onto an output card of a DM switcher. Use the information below when the DM-RMC-150-S is dropped directly into an Ethernet slot on the control system in SIMPL Windows without a DM switcher.

NOTE: The latest software can be downloaded at www.crestron.com/software.

The IP ID is set within the DM-RMC-150-S IP table using Crestron Toolbox™. For information on setting an IP table, refer to the Crestron Toolbox help file. The IP IDs of multiple DM-RMC-150-S devices in the same system must be unique.

When setting the IP ID, consider the following:

- The IP ID of each unit must match an IP ID specified in the SIMPL Windows program.
- Each device using IP to communicate with a control system must have a unique IP ID.

Installation

To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range listed in the table of specifications.

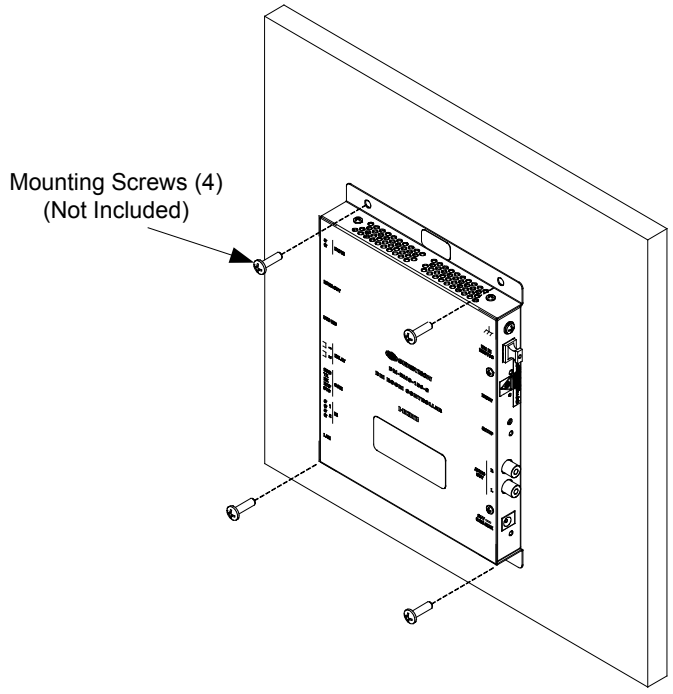
The DM-RMC-150-S mounts on a flat surface such as a wall or ceiling. The DM-RMC-150-S can also be mounted on a rack rail.

Mounting on a Flat Surface

To mount the DM-RMC-150-S on a flat surface such as a wall or ceiling, use four mounting screws (not included). The following illustration shows mounting of the DM-RMC-150-S on a wall.

NOTE: To ensure optimum ventilation when mounted on a wall, position the DM-RMC-150-S vertically so that the venting holes are positioned at the top and bottom of the unit.

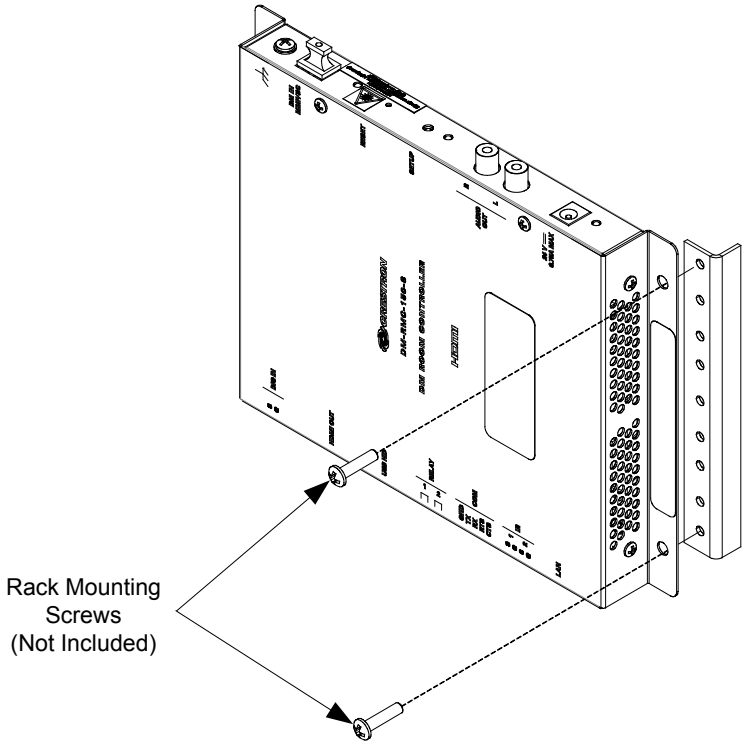
Mounting the DM-RMC-150-S on a Wall



Rack Mounting

To mount the DM-RMC-150-S on the left or right rail of a rack, use two rack mounting screws (not included). The following illustration shows mounting of the DM-RMC-150-S on the right rail of a rack.

Mounting the DM-RMC-150-S on a Rack Rail (Right Rack Rail Shown)



Hardware Hookup

Make the necessary connections as called out in the illustrations on the following pages. Refer to "Network Wiring" on page 13. Apply power after all connections have been made.

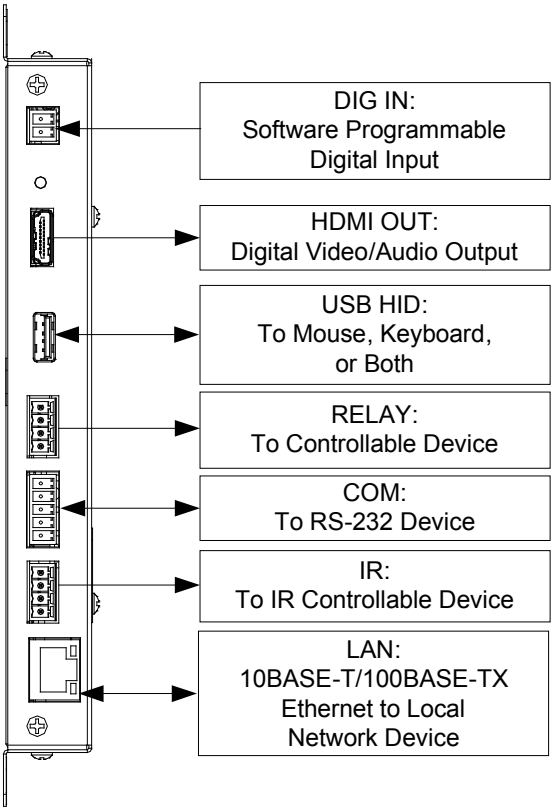
When making connections to the DM-RMC-150-S, use Crestron power supplies for Crestron equipment.

NOTE: Ensure that the unit is properly grounded by connecting the chassis ground lug to an earth ground (building steel).

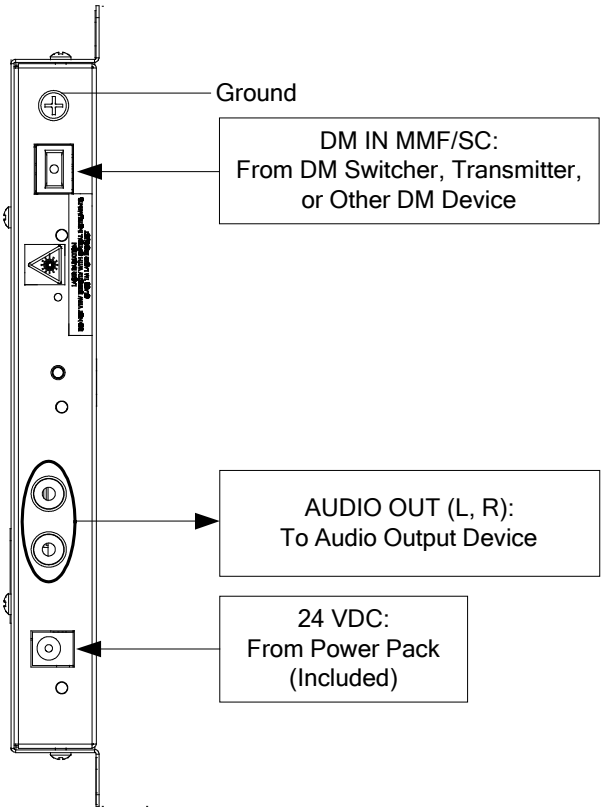
NOTE: For optimum performance, Crestron recommends using CresFiber 8G fiber optic cable.

NOTE: Fiber optic cable connectors and cable ends should be protected from contamination and scratching at all times. When cable is not connected, protect the optical receiver on the DM-RMC-150-S by using the included cap. Fiber ends should be handled carefully and the cable should not be bent or coiled tightly.

Hardware Connections for the DM-RMC-150-S (Left Side)



Hardware Connections for the DM-RMC-150-S (Right Side)



Uploading and Upgrading

Crestron recommends using the latest programming software and that each device contains the latest firmware to take advantage of the most recently released features. However, before attempting to upload or upgrade it is necessary to establish communication. Once communication has been established, files can be transferred to the device. Finally, the IP table of the device can be configured.

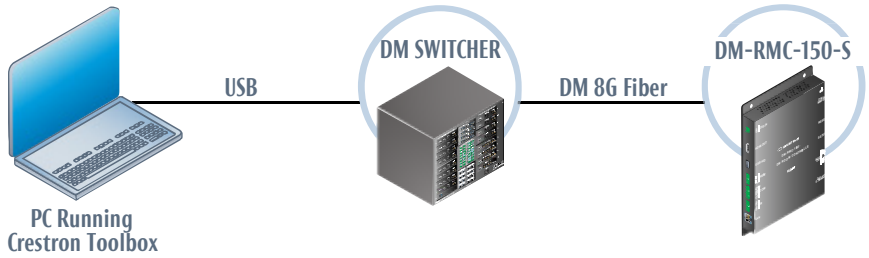
Establishing Communication

Use Crestron Toolbox for communicating with the DM-RMC-150-S. Refer to the Crestron Toolbox help file for details. A PC running Crestron Toolbox communicates with the DM-RMC-150-S in the following ways:

- Via a DM switcher using TCP/IP communication.
- Via the LAN port of the DM-RMC-150-S using TCP/IP communication. This scenario is applicable only to a standalone configuration (a DM switcher is not used).

Via DM Switcher

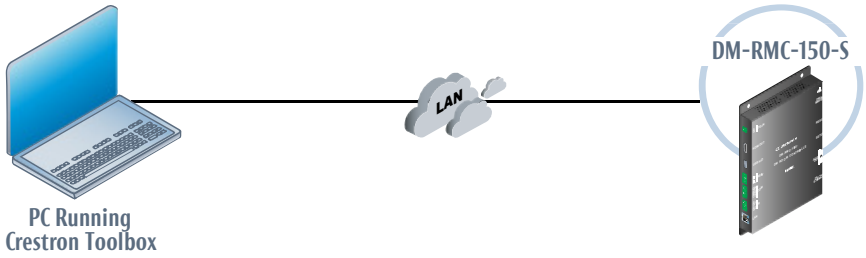
TCP/IP Communication via a DM Switcher



To establish TCP/IP communication between the PC and the DM-RMC-150-S via a DM switcher, communication between the PC and the DM switcher must be established as described in the DigitalMedia Switchers Operations Guide (Doc. 6755). The DM switcher then manages IP setup and firmware updates.

Via LAN Port

TCP/IP Communication via the LAN Port of the DM-RMC-150-S



Establish TCP/IP communication between the PC and the DM-RMC-150-S via the LAN port of the DM-RMC-150-S:

1. Use the Device Discovery Tool in Crestron Toolbox to find the IP address of the DM-RMC-150-S. The tool is available in Toolbox v.1.15.143 or later.

NOTE: When the DM-RMC-150-S is used in a standalone configuration (without a DM switcher), DHCP is enabled by default. If desired, a default IP address (192.168.1.247) can be assigned by holding down its **SETUP** button while applying power. This IP address overwrites any previous settings and remains until it is changed manually.

2. Use the Address Book in Crestron Toolbox to create an entry for the DM-RMC-150-S using the TCP connection type, and enter the IP address of the DM-RMC-150-S.
3. Display the **System Info** window of the DM-RMC-150-S (**Tools** | **System Info**). Communications are confirmed when the device information is displayed.
4. (Optional) If additional changes to TCP/IP settings are desired, do the following:
    a. Assign an IP address, IP mask, and default router for the DM-RMC-150-S via Crestron Toolbox (**Functions** | **Ethernet Addressing**).
    b. Close the **System Info** window.
    c. In Crestron Toolbox, change the Address Book entry for the DM-RMC-150-S so that it uses the IP address assigned in step 4a.
    d. Display the DM-RMC-150-S's **System Info** window (**Tools** | **System Info**). Communications are confirmed when the device information is displayed.

Firmware

Check the Crestron website to find the latest firmware. (New users must register to obtain access to certain areas of the site, including the FTP site.)

To upgrade DM-RMC-150-S firmware, do the following:

1. Using the Device Discovery Tool in Crestron Toolbox, find the IP address of the DM switcher (if the DM-RMC-150-S is connected to a DM switcher) or the IP address of the DM-RMC-150-S (if the DM-RMC-150-S is used in a standalone configuration).
2. Add the IP address found in step 1 to the Address Book in Toolbox.
3. Download the appropriate .puf file from the Crestron website to the PC.
4. Double-click the .puf file. The Package Update Tool opens and displays the Address Book.
5. From the list in the Address Book, select the DM switcher (if the DM-RMC-150-S is connected to a switcher) or the DM-RMC-150-S (if the DM-RMC-150-S is used in a standalone configuration), and then click **OK.**

    Either of the following occurs:

    - If the DM switcher was selected, a DM device list is displayed that allows upgrading of all DM devices connected to the switcher.
    - If the DM-RMC-150-S was selected, a DM device list is displayed that allows upgrading of the DM-RMC-150-S only.

    In the DM device lists that are displayed, the checkbox of any item that needs to be upgraded is automatically selected.
6. Click **Update.**
7. After the process is complete, click **Recheck** to verify the upgrade.

IP Table Configuration

If the DM-RMC-150-S is used in a standalone configuration (without a DM switcher), use Crestron Toolbox to create the IP table entry of the DM-RMC-150-S.

NOTE: If the DM-RMC-150-S is connected to a DM switcher, the IP table entry of the DM-RMC-150-S is created automatically.

1. Use the Device Discovery Tool in Crestron Toolbox to find the IP address of the DM-RMC-150-S. Then, display the **System Info** window (**Tools** | **System Info**) and select the DM-RMC-150-S entry from the Address Book.
2. Select **Functions** | **IP Table Setup**.
3. Add, modify, or delete entries in the IP table. The DM-RMC-150-S can have only one IP table entry.
4. A defined IP table can be saved to a file or sent to the device.

Problem Solving

Troubleshooting

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

DM-RMC-150-S Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
The device does not function.	The device is not communicating with the network.	Use Crestron Toolbox to poll the network. Verify network connection to the device.
	The device is not receiving power from a Crestron power source.	Use the provided Crestron power source. Verify connections.
The Power LED does not illuminate.	The device is not receiving power.	Verify power pack connections to the device and to the power outlet.
The DM IN LED blinks once a second.	The device cannot establish a link to the device connected to the DM IN port.	Verify cable connection to the DM IN port.
The HDMI OUT LED does not illuminate.	The device is not receiving video signal.	Ensure proper video signal is routed to device.
	The device that is connected to the HDMI OUT port has not sent the hotplug signal.	Power on the device connected to the HDMI OUT port and ensure that it is switched to the correct input.
The HDMI OUT LED is green but the video on the connected display is black.	HDCP is blanking the video output.	Verify that device connected to HDMI output supports HDCP.
The LAN LED does not illuminate green.	The LAN network cable is not connected to the LAN port or 10BASE-T/ 100BASE-TX compatible device.	Verify LAN network cable connection to the LAN port and to the compatible network device.
	The LAN network cable is not the proper type.	Verify that network cable complies with EIA/TIA 568 and the CAT5 specification.
	The LAN network cable is not the proper length.	Verify that network cable is the proper length. Cable length must not exceed 328 feet (100 meters).
	The 10BASE-T/ 100BASE-TX compatible device is not powered on.	Power on the network device.

(Continued on following page)

DM-RMC-150-S Troubleshooting (Continued)

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
There is a loss of functionality due to electrostatic discharge.	The device is improperly grounded.	Check that all ground connections have been made properly.

NOTE: For more advanced diagnostics, use the DMTool in Crestron Toolbox.

Reference Documents

All documents mentioned in this guide are available at www.crestron.com/manuals.

List of Related Reference Documents

DOCUMENT TITLE
Crestron e-Control Reference Guide
Crestron IP Considerations Guide
DigitalMedia Design Guide
DigitalMedia Switchers Operations Guide

Further Inquiries

To locate specific information or resolve questions after reviewing this guide, contact Crestron's True Blue Support at 1-888-CRESTRON [1-888-273-7876] or, for assistance within a particular geographic region, refer to the listing of Crestron worldwide offices at www.crestron.com/offices.

To post a question about Crestron products, log onto Crestron's Online Help at www.crestron.com/onlinehelp. First-time users must establish a user account to fully benefit from all available features.

Future Updates

As Crestron improves functions, adds new features, and extends the capabilities of the DM-RMC-150-S, additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron website periodically for manual update availability and its relevance. Updates are identified as an "Addendum" in the Download column.

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Version 2, June 1991

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