

Crestron **DM-RMC-100-F**  
DigitalMedia™ Fiber Receiver &  
Room Controller

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Operations & Installation Guide



This document was prepared and written by the Technical Documentation department at:



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## Regulatory Compliance

As of the date of manufacture, the DM-RMC-100-F has been tested and found to comply with specifications for CE marking and standards per EMC and Radiocommunications Compliance Labelling.



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### 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

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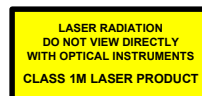
### Industry Canada (IC) Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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The DM-RMC-100-F is a class 1M laser product. It complies with safety regulations of IEC-60825-1, FDA 21 CFR 1040.11 and FDA 21 CFR 1040.10.



**WARNING:** Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments.

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



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# DigitalMedia™ Fiber Receiver and Room Controller: DM-RMC-100-F

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## Introduction

The DM-RMC-100-F provides a convenient one-box interface solution to support a single display device as part of a complete DigitalMedia™ system. It functions as a DM® Fiber receiver and control interface, providing a single HDMI® output along with a variety of control ports. Its compact, low profile design allows the DM-RMC-100-F to be installed discreetly behind a flat panel display or above a ceiling mounted projector.

## Features and Functions

- DigitalMedia receiver and display controller
- DM Fiber input supports up to 1000 foot (~300 meter) cable length\*
- Low profile surface mount design

*(Continued on following page)*

\* The maximum DigitalMedia Fiber cable length is 1000 ft (~300 m) using CRESFIBER, CRESFIBER8G, CRESFIBER-DUAL-SC, or generic OM2/OM3 duplex multimode fiber optic cable. Refer to the latest version of the Crestron DigitalMedia Design Guide (Doc. 4789) for complete wiring guidelines. It is available from the Crestron Web site ([www.crestron.com/dmresources](http://www.crestron.com/dmresources)).

## Features and Functions

*(Continued)*

- Provides one HDMI or DVI<sup>1</sup> display output
- Handles HD video with Deep Color, 3D and HDCP
- Handles multichannel PCM and high bitrate 7.1 surround sound formats
- Includes USB HID keyboard/mouse port
- Enables device control via CEC, RS-232, IR or Ethernet
- Provides relay screen/lift control
- Supports a power current sensor or contact closure
- Affords single wire connection from a DM switcher or transmitter
- Provides 10BASE-T/100BASE-TX Ethernet connection for display device or control system
- Easy setup and diagnostics

### **DigitalMedia**

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

DigitalMedia distributes uncompressed digital video and audio signals up to 1000 feet (~300 meters) using multimode fiber optic cable<sup>2</sup>.

DigitalMedia thoughtfully manages all of the different signals and devices, matching each source's output to the capabilities of the selected display(s) without using scaling or compression. Every signal is preserved in its native video resolution and audio format, ensuring a pure, lossless signal path throughout.

1. HDMI requires an appropriate adapter or interface cable to accommodate a DVI signal. CBL-HD-DVI interface cable sold separately.
2. The maximum DigitalMedia Fiber cable length is 1000 ft (~300 m) using CRESFIBER, CRESFIBER8G, CRESFIBER-DUAL-SC, or generic OM2/OM3 duplex multimode fiber optic cable. Refer to the latest version of the Crestron DigitalMedia Design Guide (Doc. 4789) for complete wiring guidelines.



### ***Multimedia Display Interface***

A single HDMI digital AV output port is provided on the DM-RMC-100-F, supporting 1080p60 HDTV and WUXGA computer signals with HDCP, Deep Color, 3D, and multi-channel HD lossless audio—all through a single connection. The HDMI output can also handle DVI signals using an appropriate adapter or interface cable<sup>1</sup>. In addition, there are RS-232, IR and Ethernet control ports provided for controlling the display device, plus two relays for screen and lift control, and a **SENS** input for connection of an optional current sensor or contact closure.

Multiple DM-RMC-100-Fs may be installed to handle each display in a multi-room distribution system, all fed from a central DM-MD series switcher (sold separately). Or, a single DM-RMC-100-F can be fed straight from a DM-TX-100-F or other DM Fiber transmitter (both sold separately) to provide a simple solution for extending a computer or AV signal to feed a single display. The connection to the switcher or transmitter requires just one CresFiber<sup>®</sup> fiber optic cable, affording a cable length of up to 1000 feet (~300 meters)<sup>2</sup>. In lieu of a central switcher, the DM-RMC-100-F's **LAN** port may be used to connect over Ethernet to a 2-Series control system if needed.

### ***Keyboard/Mouse Extender***

When connected to a DM-MD series switcher or DM-TX-100-F transmitter (both sold separately), the DM-RMC-100-F functions as a keyboard/mouse extender, allowing a USB HID (Human Interface Device) compliant keyboard and/or mouse to be connected at the display location, and used to control a computer or other host device located at the central equipment rack or some other remote location.

1. HDMI requires an appropriate adapter or interface cable to accommodate a DVI signal. CBL-HD-DVI interface cable sold separately.
2. The maximum DigitalMedia Fiber cable length is 1000 ft (~300 m) using CRESFIBER, CRESFIBER8G, CRESFIBER-DUAL-SC, or generic OM2/OM3 duplex multimode fiber optic cable. Refer to the latest version of the Crestron DigitalMedia Design Guide (Doc. 4789) for complete wiring guidelines.

### ***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-100-F 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 these conventional control methods by harnessing the CEC (Consumer Electronics Control) signal embedded in HDMI. Through its connection to the control system, the DM-RMC-100-F provides a gateway for controlling the display device right through the HDMI connection, potentially eliminating the need for any dedicated control wires or IR probes.

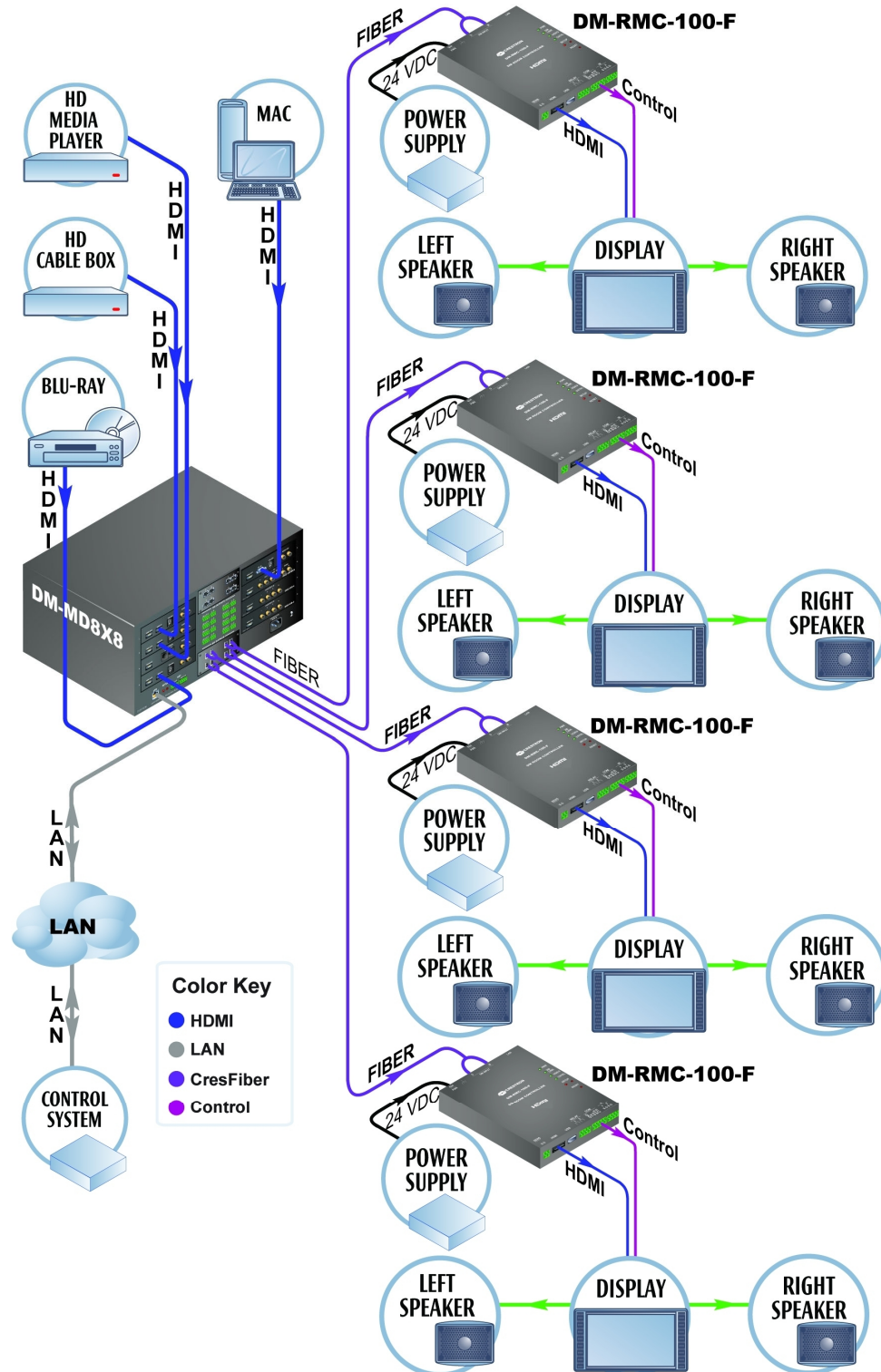
### ***Low-Profile Installation***

The DM-RMC-100-F measures less than 1.3 in (33 mm) deep and mounts to a wall, ceiling, or other flat surface. All connections are positioned along the bottom and top edges of the receiver, allowing cables to be dressed neatly without obstruction. An array of indicators provides for easy setup and troubleshooting, affording clear verification of the status of connections and signal activity at a glance.

## Applications

The following diagram shows a DM-RMC-100-F in a classroom application.

### *DM-RMC-100-F in a Classroom Application*



## Specifications

Specifications for the DM-RMC-100-F are listed in the following table.

### *DM-RMC-100-F Specifications*

SPECIFICATION	DETAILS
Video	
Input Signal Type	DM Fiber (DigitalMedia over multimode fiber optic cable)
Output Signal Type	HDMI, DVI <sup>1</sup>
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 @ 60 Hz (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

*(Continued on following page)*

*DM-RMC-100-F Specifications (Continued)*

<b>SPECIFICATION</b>	<b>DETAILS</b>
Input Resolutions Progressive (Continued)          Interlaced          Output Resolutions	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  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  Matched to input
Audio Input Signal Type Output Signal Type Formats	DM Fiber 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 ch PCM

*(Continued on following page)*

*DM-RMC-100-F Specifications (Continued)*

<b>SPECIFICATION</b>	<b>DETAILS</b>
Communications DigitalMedia  Ethernet  USB	DM Fiber, HDCP management, EDID format management, CEC 10BASE-T/100BASE-TX, auto-switching, auto-negotiating, auto-discovery, full/half duplex, TCP/IP, UDP/IP, CIP, DHCP, RSTP  Supports USB HID class devices
Power Requirements Power Pack	0.75 Amps @ 24 Volts DC 100-240 Volts AC, 50/60 Hz power pack included
Minimum 2-Series Control System Update File <sup>2, 3</sup>	Version 4.003.0015 or later
Environmental Temperature Humidity  Heat Dissipation	41° to 104° F (5° to 40° C) 10% to 90% RH (non-condensing)  21 BTU/Hr
Enclosure Chassis Mounting	Metal, matte black finish Surface mount (mounting bracket included)
Dimensions Height Width Depth	5.66 in (144 mm) 5.15 in (131 mm) 1.14 in (29 mm) 1.29 in (33 mm) with mounting bracket
Weight	18 oz (499 g)

*(Continued on following page)*

*DM-RMC-100-F Specifications (Continued)*

<b>SPECIFICATION</b>	<b>DETAILS</b>
Included Accessory	24 Volt DC Power Pack
Available Accessories	
CBL-HD	Crestron Certified HDMI Interface Cable
CBL-HD-DVI	Crestron Certified HDMI to DVI Interface Cable
CNSP-XX	Custom Serial Interface Cable
CNXRMCS	TV Current Sensor
CRESFIBER8G	CresFiber 8G Fiber Optic Cable
CRESFIBER-CONN-SC50UM-12	CresFiber Fiber Optic Cable Connector
CRESFIBER-DUAL-SC	CresFiber Duplex Fiber Optic Cable Assembly, 50/125, SC
CRESFIBER-DUAL-SC-ARMORED	CresFiber ARMORED Duplex Fiber Optic Cable Assembly, 50/125, SC
CRESFIBER-SINGLE-SC-CLEAR	CresFiber CLEAR Simplex Fiber Optic Cable Assembly, 50/125, SC
IRP2	IR Emitter Probe
MP-WP140	Media Presentation Wall Plate - DVI with Mini-TRS Stereo Audio
MP-WP152	Media Presentation Wall Plate - HDMI
MP-WP186	Media Presentation Wall Plate - DigitalMedia™ Fiber

1. HDMI requires an appropriate adapter or interface cable to accommodate a DVI signal. CBL-HD-DVI interface cable sold separately.
2. The latest software versions can be obtained from the Crestron Web site. Refer to the NOTE following these footnotes.
3. Crestron 2-Series control systems include the AV2 and PRO2. Consult the latest Crestron Product Catalog for a complete list of 2-Series control systems.

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**NOTE:** Crestron software and any files on the Web site are for authorized Crestron dealers and Crestron Authorized Independent Programmers (CAIP) only. New users may be required to register to obtain access to certain areas of the site (including the FTP site).

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## Physical Description

This section provides information on the connections, controls and indicators available on your DM-RMC-100-F.

### *DM-RMC-100-F Physical View (Bottom Ports Shown)*

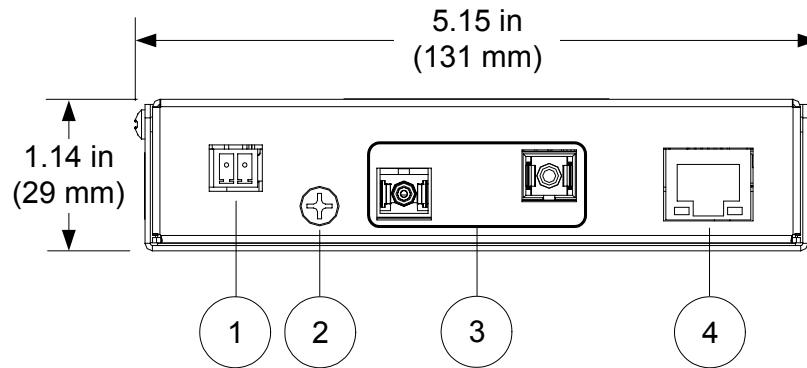




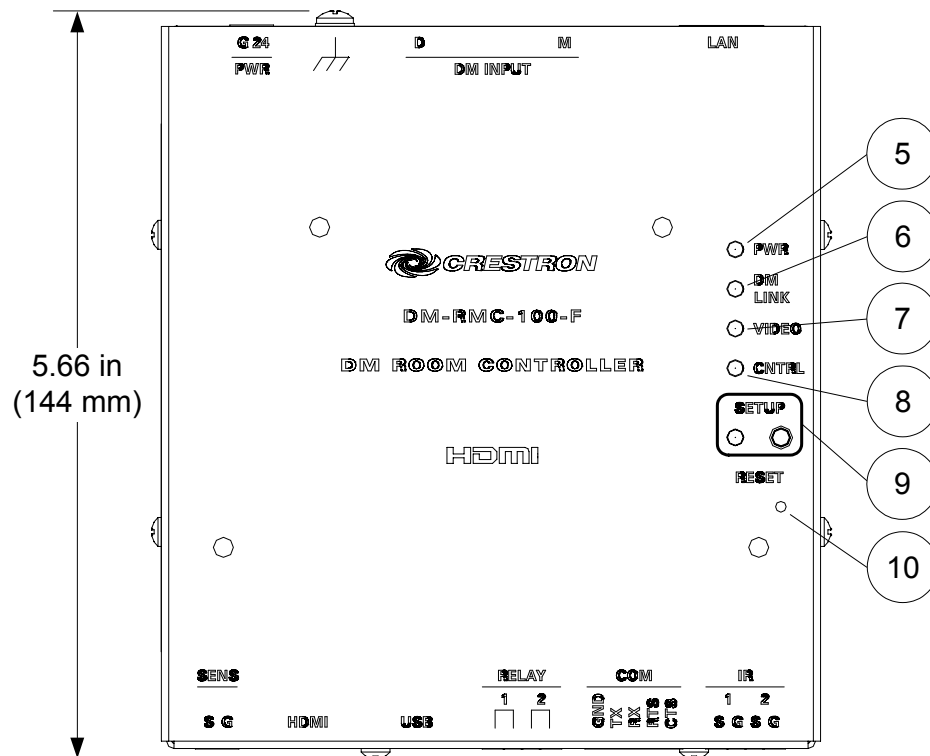
*DM-RMC-100-F Physical View (Top Ports Shown)*



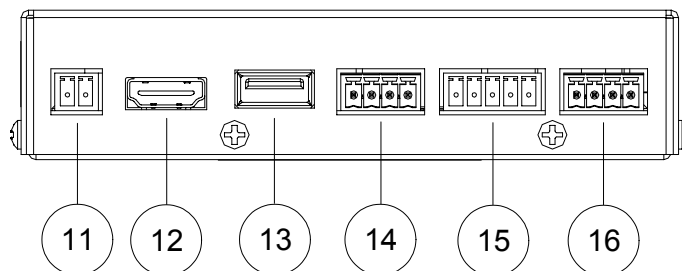
**DM-RMC-100-F Overall Dimensions (Top View)**






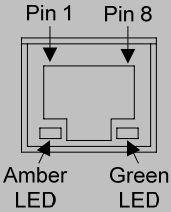
**DM-RMC-100-F Overall Dimensions (Front View)**



**DM-RMC-100-F Overall Dimensions (Bottom View)**



*Connectors, Controls & Indicators*

#	CONNECTORS <sup>1</sup> , CONTROLS & INDICATORS	DESCRIPTION																				
1	<p>PWR</p> 	(1) 2-pin 3.5 mm detachable terminal block, 24 Volt DC power input; power pack included																				
2	<p>GROUND</p> 	(1) 6-32 screw, chassis ground lug																				
3	<p>DM INPUT<sup>2</sup></p> 	(1) DM Fiber input comprised of two SC female fiber optic connectors; Connects to DM Fiber output of a DM switcher, transmitter, or other DM device via CresFiber 8G fiber optic cable <sup>3</sup>																				
4	<p>LAN<sup>4</sup></p> 	<p>(1) 8-wire RJ-45 with two LED indicators; 10BASE-T/100BASE-TX Ethernet port; Green LED indicates link status; Amber LED indicates Ethernet activity</p> <table border="1"> <thead> <tr> <th>PIN</th> <th>SIGNAL</th> <th>PIN</th> <th>SIGNAL</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>TX +</td> <td>5</td> <td>N/C</td> </tr> <tr> <td>2</td> <td>TX -</td> <td>6</td> <td>RX -</td> </tr> <tr> <td>3</td> <td>RX +</td> <td>7</td> <td>N/C</td> </tr> <tr> <td>4</td> <td>N/C</td> <td>8</td> <td>N/C</td> </tr> </tbody> </table>	PIN	SIGNAL	PIN	SIGNAL	1	TX +	5	N/C	2	TX -	6	RX -	3	RX +	7	N/C	4	N/C	8	N/C
PIN	SIGNAL	PIN	SIGNAL																			
1	TX +	5	N/C																			
2	TX -	6	RX -																			
3	RX +	7	N/C																			
4	N/C	8	N/C																			
5	<p>PWR LED</p>	(1) Green LED, indicates operating power supplied via local power pack																				


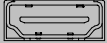
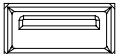
*(Continued on following page)*

*Connectors, Controls & Indicators (Continued)*

#	CONNECTORS <sup>1</sup> , CONTROLS & INDICATORS	
6	DM LINK LED	(1) Green LED, indicates connection to an upstream DM device
7	VIDEO LED	(1) Red/green dual color LED, indicates video signal presence and lock status: <b>Red</b> – indicates no video <b>Green</b> – indicates the device is receiving video <b>Blinking Red/Green</b> – indicates errors in the video stream
8	CNTRL LED	(1) Red/green dual color LED, indicates Ethernet connection and control system communication status: <b>Red</b> – indicates no Ethernet link <b>Green</b> – indicates Ethernet link and connection to control system <b>Blinking Red/Green</b> – indicates Ethernet link but no connection to control system <b>Blinking Green</b> – The LED goes out momentarily every time a control command is sent or received (i.e., IR, RS-232, Relay, Sens)


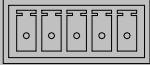
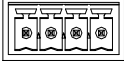
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*Connectors, Controls & Indicators (Continued)*

#	<b>CONNECTORS<sup>1</sup>, CONTROLS &amp; INDICATORS</b>	<b>DESCRIPTION</b>
9	SETUP (LED and Button)	(1) Red LED and (1) miniature recessed push button, for Ethernet auto-discovery; Enables default IP address, refer to “Establishing Communication” which starts on page 26 for details.
10	RESET	(1) miniature recessed push button, for hardware reset
11	SENS 	(1) 2-pin 3.5 mm detachable terminal block; Digital/contact closure sensing input; Rated for 0 - 24 Volts DC, referenced to ground; Input impedance: 2.2 kΩ pulled up to 5 Volts DC; Logic threshold: 2.5 Volts DC nominal with 1 Volt hysteresis band
12	HDMI 	(1) 19-pin Type A HDMI female; HDMI digital video/audio output; Also supports DVI <sup>5</sup>
13	USB 	(1) USB Type A female; USB 1.1 host port for connection of a mouse, keyboard, or other USB HID-compliant device

*(Continued on following page)*

*Connectors, Controls & Indicators (Continued)*

#	<b>CONNECTORS<sup>1</sup>, CONTROLS &amp; INDICATORS</b>	
14	RELAY (1 – 2) 	(1) 4-pin 3.5 mm detachable terminal block comprising two normally open, isolated relays; Rated 1 Amp, 30 Volts AC/DC; MOV arc suppression across contacts
15	COM 	(1) 5-pin 3.5 mm detachable terminal block, bidirectional RS-232 port; Up to 115.2k baud, hardware and software handshaking support
16	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 19200 baud <sup>6</sup>

1. Interface connectors for **PWR**, **SENS**, **RELAY**, **COM** and **IR** ports are provided with the unit.
2. The **DM INPUT** port consists of two separate fiber optic SC type connectors, labeled **D** and **M**. The **D** port carries HDMI signal. The **M** port carries data.
3. The maximum DigitalMedia Fiber cable length is 1000 ft (~300 m) using CRESFIBER, CRESFIBER8G, CRESFIBER-DUAL-SC, or generic OM2/OM3 duplex multimode fiber optic cable. Refer to the latest version of the Crestron DigitalMedia Design Guide (Doc. 4789) for complete wiring guidelines.
4. To determine which is pin 1 on the cable, hold the cable so the end of the eight pin modular plug is facing away from you, with the clip down and copper side up. Pin 1 is on the far left.
5. HDMI requires an appropriate adapter or interface cable to accommodate a DVI signal. CBL-HD-DVI interface cable sold separately.
6. Maximum string length for IR commands should be no greater than 40 characters.

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## Setup

### Network Wiring

When wiring the DM network, consider the following:

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

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

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- Provide sufficient power to the system.
- For DigitalMedia Fiber wiring, use CresFiber 8G (recommended), CresFiber, or generic OM2/OM3 duplex multimode fiber optic cable. The maximum transmission distance is 1000 feet (~300 meters).

The DM-RMC-100-F 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 latest version of the Crestron e-Control® Reference Guide (Doc. 6052), which is available from the Crestron Web site ([www.crestron.com/manuals](http://www.crestron.com/manuals)).

For information specifically related to Ethernet connectivity using DigitalMedia devices, refer to the latest version of the Crestron IP Considerations Guide for the IT Professional (Doc. 4579), which is also available from the Crestron Web site ([www.crestron.com/dmresources](http://www.crestron.com/dmresources)).

### Identity Code

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**NOTE:** In the SIMPL™ Windows program, the IP ID of the DM-RMC-100-F is assigned automatically and does not require additional programming when the DM-RMC-100-F is dropped onto an output card of a DM switcher. Use the information below when the DM-RMC-100-F is dropped directly into an Ethernet slot on the control system in SIMPL Windows without a DM switcher.

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The IP ID is set within the DM-RMC-100-F's 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-100-F 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 following tools and accessories are required for installation of a DM-RMC-100-F:

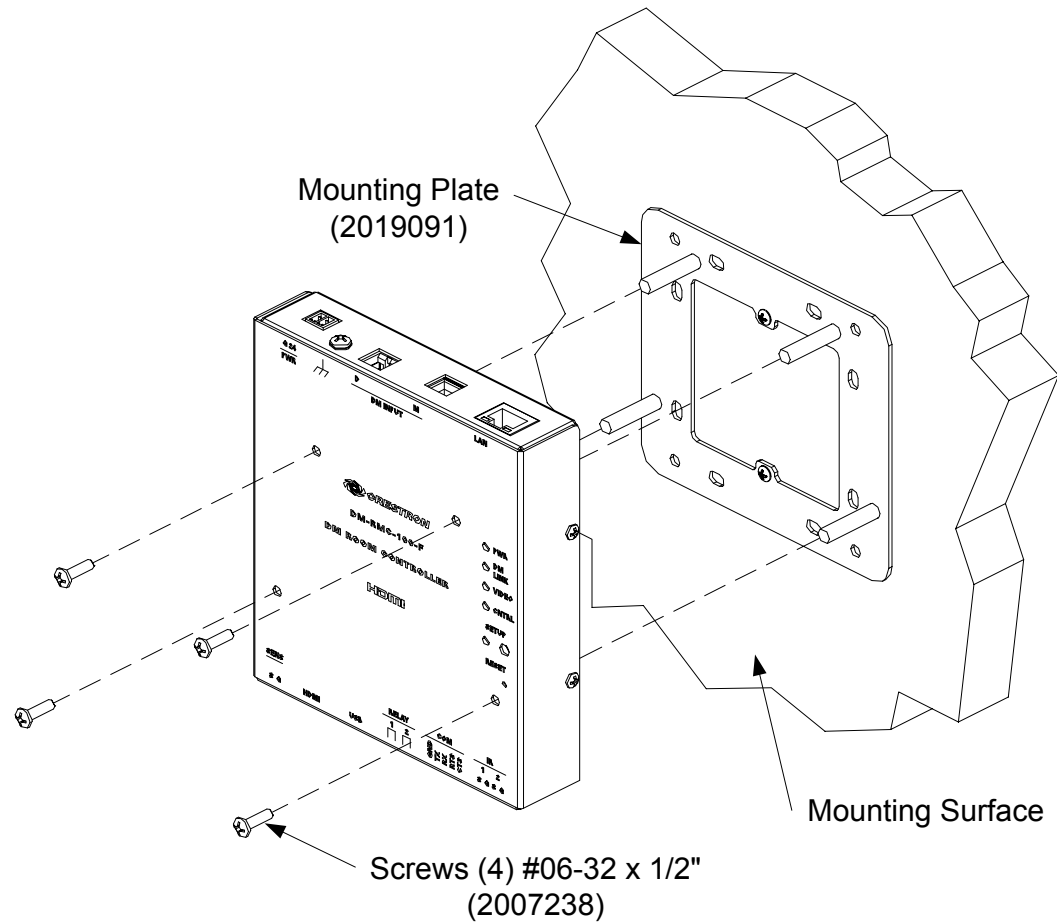
- CresFiber cable (not supplied) terminated with SC type fiber optic connectors.
- Phillips screwdriver (not supplied)
- Metal mounting plate (included)
- Four #06-32 x 1/2" pan head Phillips screws (included)
- 2-, 4- and 5-pin connector plugs (included)

Use the following procedure to install the DM-RMC-100-F.

1. Attach the included metal mounting plate (2019091) to the mounting surface using four screws (not supplied).
2. Attach the DM-RMC-100-F to the mounting plate using the four included #06-32 x 1/2" Phillips screws as shown in the following illustration.



*Mounting DM-RMC-100-F to a Flat Surface*

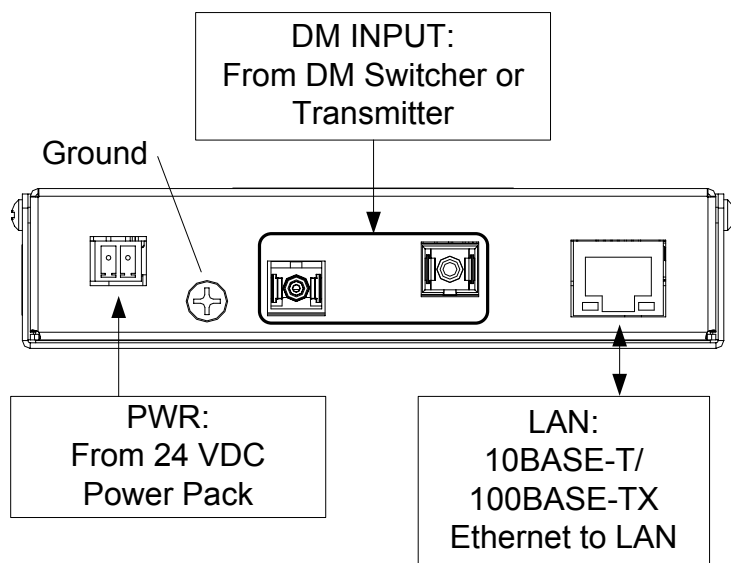


**Hardware Hookup**

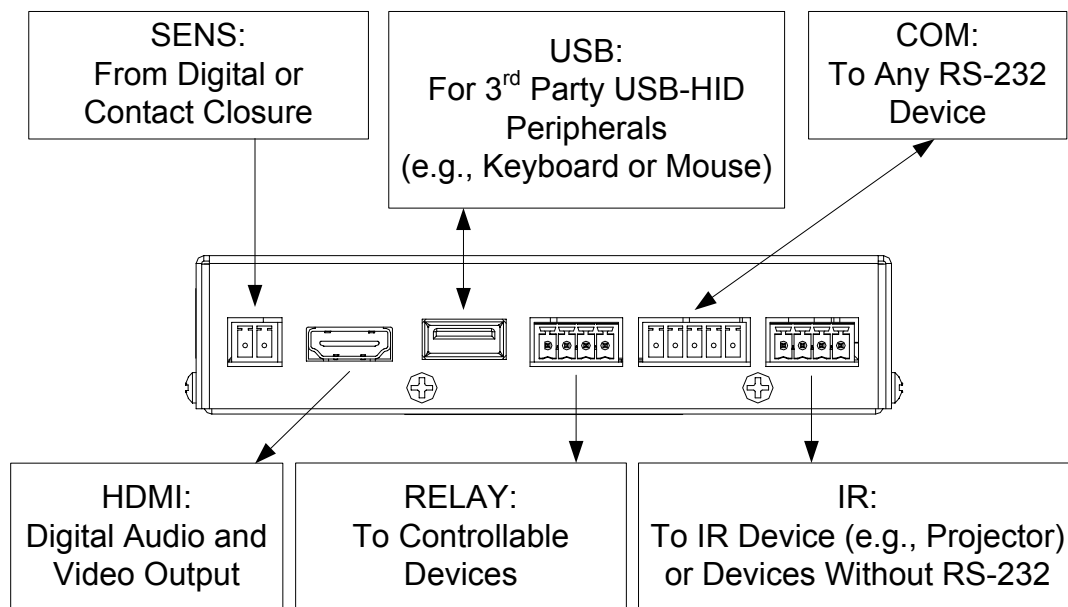
Make the necessary connections as called out in the illustrations on the following page. Refer to “Network Wiring” on page 17. Apply power after all connections have been made.

When making connections to the DM-RMC-100-F, use Crestron power supplies for Crestron equipment.

*Hardware Connections for the DM-RMC-100-F (Top View)*



*Hardware Connections for the DM-RMC-100-F (Bottom View)*



**NOTE:** Ensure 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:** The maximum continuous current from equipment under any external load conditions shall not exceed a current limit that is suitable for the minimum wire gauge used in interconnecting cables. The ratings on the connecting unit's supply input should be considered to prevent overloading the wiring.

**NOTE:** Fiber optic cable connectors and cable ends should be protected from contamination and scratching at all times. When cables are not connected, protect the optical receivers on the DM-RMC-100-F by using the included caps. Fiber ends should be handled carefully and the cables should not be bent or coiled tightly.

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## Programming Software

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### Have a question or comment about Crestron software?

Answers to frequently asked questions (FAQs) can be viewed in the Online Help section of the Crestron Web site. To post a question or view questions you have submitted to Crestron's True Blue Support, log in at <http://support.crestron.com>. First-time users will need to establish a user account.

---

### Earliest Version Software Requirements for the PC

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**NOTE:** Crestron recommends that you use the latest software to take advantage of the most recently released features. The latest software is available from the Crestron Web site ([www.crestron.com/software](http://www.crestron.com/software)).

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Crestron has developed an assortment of Windows®-based software tools to develop a customized system. Use SIMPL Windows to create a program to control the DM-RMC-100-F.

### Programming with SIMPL Windows

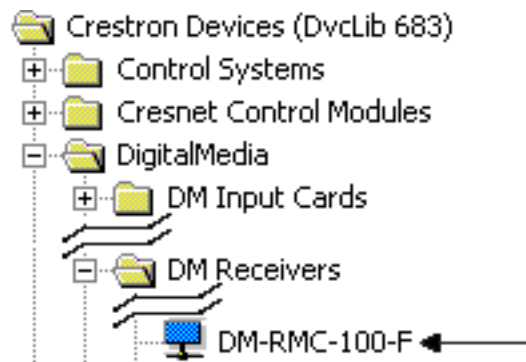
SIMPL Windows is Crestron's premier software for programming Crestron control systems. It is organized into two separate but equally important "Managers": Configuration and Program.

#### Configuration Manager

Configuration Manager is the view where programmers "build" a Crestron control system by selecting hardware from the *Device Library*.

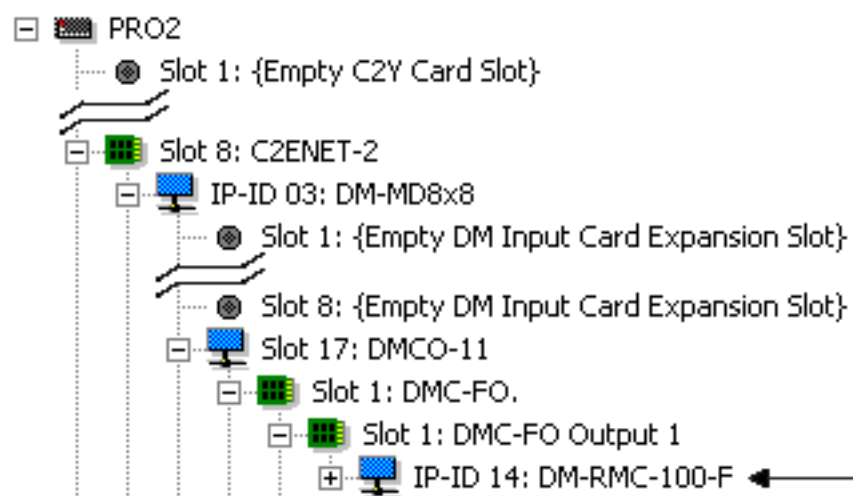
1. To incorporate the DM-RMC-100-F into the system, drag the DM-RMC-100-F from the DigitalMedia | DM Receivers folder of the *Device Library* and drop it into either of the following *System Views*:
  - A compatible output card of a DM switcher
  - Directly to a card in the Ethernet slot of the control system (used without a DM switcher)

*Locating the DM-RMC-100-F in the Device Library*

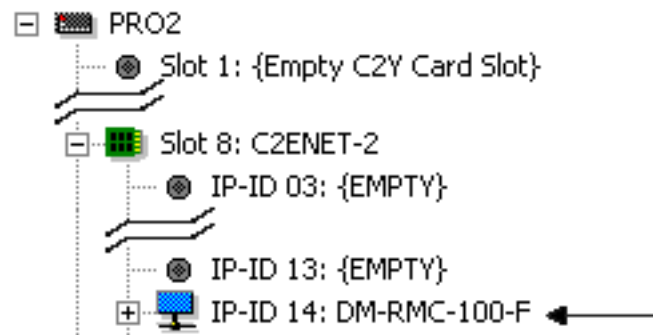


The system tree of the control system displays the DM-RMC-100-F in the appropriate slot with a default IP ID as shown in the following illustrations. In the first example, the DM-RMC-100-F is used with the DMCO-11 output card in a DM-MD8X8 switcher (both sold separately). In the second example, the DM-RMC-100-F is used with the C2ENET-2 card (sold separately) in an Ethernet slot on the control system.

*C2ENET-2 Device, Slot 8 (Using Output Card in a DM Switcher)*

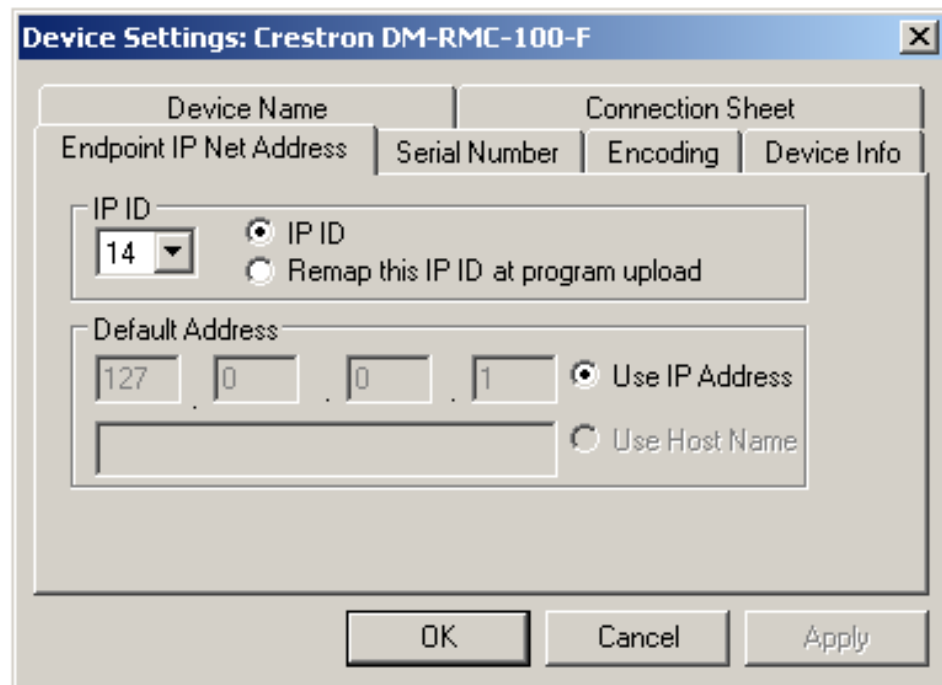


**C2ENET-2 Device, Slot 8 (Using Ethernet Slot on Control System)**



2. If additional DM-RMC-100-F devices are to be added, repeat step 2 for each device. Each DM-RMC-100-F device is assigned a different IP ID.
3. If necessary, double-click a device to open the “Device Settings” dialog box and change the IP ID.

**“Device Settings: Crestron DM-RMC-100-F” Dialog Box**




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**NOTE:** The ID code specified in the SIMPL Windows program must match the IP ID of each unit. Refer to “Identity Code” which starts on page 17.

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**Program  
Manager**

Program Manager is the view where programmers “program” a Crestron control system by assigning signals to symbols.

The symbol can be viewed by double clicking on the icon or dragging it into *Detail View*. Each signal in the symbol is described in the SIMPL Windows help file (**F1**).

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## 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 (for example, firmware) can be transferred to the device. In addition, the IP table of the device can be configured.

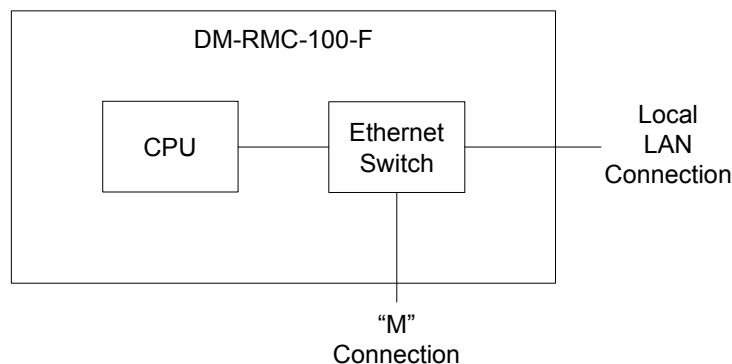
## Establishing Communication

Use Crestron Toolbox for communicating with the DM-RMC-100-F; refer to the Crestron Toolbox help file for details.

The DM-RMC-100-F has an internal Ethernet switch that allows communication between the DM-RMC-100-F and a PC running Crestron Toolbox. As shown in the following illustration, the DM-RMC-100-F connects to the PC in either of the following ways:

- Remotely via the “M” fiber. In this scenario, the DM-RMC-100-F connects to a DM switcher using TCP/IP or USB communication. TCP/IP provides a faster method of communication than USB.
- Locally via the LAN port. In this scenario, the DM-RMC-100-F is used in a standalone configuration, i.e., not used with a DM switcher.

### *Internal Ethernet Switch Connection via “M” Fiber or Local LAN Port*





Via DM  
Switcher

### *TCP/IP Communication via DM Switcher*



To establish TCP/IP communication between the PC and the DM-RMC-100-F via the DM switcher:

1. Establish communication between the PC and the DM switcher as described in the latest version of the DigitalMedia Switchers Operations Guide (Doc. 6755).
2. Use the Device Discovery Tool in Crestron Toolbox to find the IP address of the DM-RMC-100-F. The tool is available in Toolbox version 1.15.143 or later.
3. Use the Address Book in Crestron Toolbox to create an entry for the DM-RMC-100-F using the *TCP* connection type, and enter the IP address of the DM-RMC-100-F.
4. Display the “System Info” window of the DM-RMC-100-F (click the **i** icon); communications are confirmed when the device information is displayed.

### *USB Communication via DM Switcher*



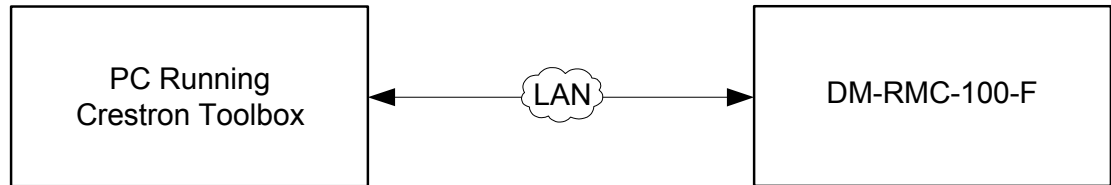
To establish USB communication between the PC and the DM switcher:

1. Use the Address Book in Crestron Toolbox to create an entry using the expected communication protocol (USB). When multiple USB devices are connected, identify the DM switcher by entering “DM-MD8X8”, “DM-MD16X16”, or “DM-MD32X32” in the *Model* textbox, the unit’s serial number in the *Serial* textbox, or the unit’s hostname in the *Hostname* textbox. The hostname can be found in the “System Info” window in the section marked *Ethernet*; however, communications must be established in order to see this information in the “System Info” window.

2. Display the “System Info” window (click the **i** icon); communications are confirmed when the device information is displayed.

Via LAN  
Port

### *TCP/IP Communication via LAN Port of DM-RMC-100-F*



To establish TCP/IP communication between the PC and the DM-RMC-100-F via the LAN port of the DM-RMC-100-F:


1. Use the Device Discovery Tool in Crestron Toolbox to find the IP address of the DM-RMC-100-F. The tool is available in Toolbox version 1.15.143 or later.

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**NOTE:** When the DM-RMC-100-F is used in a standalone configuration (i.e., without a DM switcher), DHCP is enabled by default. If desired, a default IP address (192.168.1.242) 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-100-F using the *TCP* connection type, and enter the IP address of the DM-RMC-100-F.
3. Display the “System Info” window of the DM-RMC-100-F (click the **i** icon); 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-100-F via the Crestron Toolbox (**Functions | Ethernet Addressing**).
  - b. Close the “System Info” window.
  - c. In Crestron Toolbox, change the Address Book entry for the DM-RMC-100-F so that it uses the IP address assigned in step 4a.

- d. Display the “System Info” window of the DM-RMC-100-F (click the  icon); communications are confirmed when the device information is displayed.

## Firmware

Firmware files may be distributed from programmers to installers or from Crestron to dealers. Firmware upgrades are available from the Crestron Web site as new features are developed after product releases. For details on upgrading, refer to the Crestron Toolbox help file.

Check the Crestron Web site to find the latest firmware. (New users may be required to register to obtain access to certain areas of the site, including the FTP site.)

To upgrade DM-RMC-100-F firmware:

1. Do either of the following:
  - If the DM-RMC-100-F is connected to a DM switcher, use the Device Discovery Tool in Crestron Toolbox to find the IP address of the switcher.

---

**NOTE:** When the .puf file is pointed to the DM switcher, all DM devices connected to the switcher, including the DM-RMC-100-F, will be upgraded. When it is pointed to a DM-RMC-100-F in a standalone configuration, only the DM-RMC-100-F will be upgraded.

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  - If the DM-RMC-100-F is being used in a standalone configuration (not used with a DM switcher), use the Device Discovery Tool to find the IP address of the DM-RMC-100-F.
2. Add the IP address to the Address Book in Toolbox.
3. Download the appropriate .puf file from the Crestron Web site to your PC.
4. Double-click the .puf file. The Toolbox Address Book opens.
5. From the list in the Address Book, select the DM switcher (if the DM-RMC-100-F is being used with a switcher) or select the DM-RMC-100-F (if it is being used in a standalone configuration) and click **OK**.

Either of the following occurs:

- If the DM switcher was selected, a DM device list is displayed that allows upgrading all DM devices connected to the switcher.
- If the DM-RMC-100-F was selected, a DM device list is displayed that allows upgrading of the DM-RMC-100-F 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 Configuration

If the DM-RMC-100-F is used in a standalone configuration (i.e., without a DM switcher), use Crestron Toolbox to create the IP table entry for the DM-RMC-100-F:

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**NOTE:** If the DM-RMC-100-F is connected to a DM switcher, the IP table entry of the DM-RMC-100-F is created automatically.

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1. Use the Device Discovery Tool in Crestron Toolbox to find the IP address of the DM-RMC-100-F. Then, display the “System Info” window (click the  icon) and select the DM-RMC-100-F entry from the Address Book.
2. Select **Functions | IP Table Setup**.
3. Add, modify or delete entries in the IP table. The DM-RMC-100-F 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-100-F Troubleshooting*

<b>TROUBLE</b>	<b>POSSIBLE CAUSE(S)</b>	<b>CORRECTIVE ACTION</b>
Device does not function.	Device is not communicating with the network.	Use Crestron Toolbox to poll the network. Verify network connection to the device.
	Device is not receiving power from a Crestron power source.	Use the provided Crestron power source. Verify connections.
<b>PWR</b> LED does not illuminate.	Device is not receiving power.	Verify that <b>PWR</b> connections are properly attached.
<b>DM LINK</b> LED does not illuminate.	Device is not receiving DMNet signal.	Verify <b>D</b> cable connection.
<b>VIDEO</b> LED is red.	Device is not receiving video signal.	Ensure that proper video signal is routed to device.
<b>VIDEO</b> LED blinks red and green.	Device is receiving video but is unable to lock onto it.	Verify <b>D</b> cable connection.

*(Continued on following page)*

*DM-RMC-100-F Troubleshooting (Continued)*

<b>TROUBLE</b>	<b>POSSIBLE CAUSE(S)</b>	<b>CORRECTIVE ACTION</b>
<b>VIDEO</b> LED is green but video on connected display is black.	HDCP is blanking the video output.	If source is routed through a DM switcher, verify that it has enough HDCP keys to support all destinations.
<b>CNTRL</b> LED is red.	Device is not communicating with an Ethernet device.	Verify <b>M</b> cable connection.
<b>CNTRL</b> LED flashes red and green.	Device has Ethernet link but is not communicating with control system.	Verify the IP table entries match control system.

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

## Reference Documents

The latest version of all documents mentioned within the guide can be obtained from the Crestron Web site.

### *List of Related Reference Documents*

DOCUMENT TITLE
Crestron DigitalMedia Design Guide ( <a href="http://www.crestron.com/dmresources">www.crestron.com/dmresources</a> )
Crestron e-Control Reference Guide ( <a href="http://www.crestron.com/manuals">www.crestron.com/manuals</a> )
Crestron IP Considerations Guide for the IT Professional ( <a href="http://www.crestron.com/dmresources">www.crestron.com/dmresources</a> )
DigitalMedia Switchers Operations Guide ( <a href="http://www.crestron.com/manuals">www.crestron.com/manuals</a> )

## Further Inquiries

If you cannot locate specific information or have questions after reviewing this guide, please take advantage of Crestron's award winning customer service team by calling Crestron at 1-888-CRESTRON [1-888-273-7876]. For assistance in your region, please refer to the Crestron Web site ([www.crestron.com](http://www.crestron.com)) for a listing of Crestron worldwide offices.

You can also log onto the online help section of the Crestron Web site ([www.crestron.com/onlinehelp](http://www.crestron.com/onlinehelp)) to ask questions about Crestron products. First-time users will need to 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-100-F, 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 Web site periodically for manual update availability and its relevance. Updates are identified as an “Addendum” in the Download column.

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### Merchandise Returns / Repair Service

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2. Products may be returned for credit, exchange or service with a CRESTRON Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to CRESTRON, 6 Volvo Drive, Rockleigh, N.J. or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. CRESTRON reserves the right in its sole and absolute discretion to charge a 15% restocking fee plus shipping costs on any products returned with an RMA.
3. Return freight charges following repair of items under warranty shall be paid by CRESTRON, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

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