Every Room Connected
Design Guide

Contents

Introduction

Crestron Electronics, Inc. delivers the only complete control and connectivity solution for every room, every application and every budget.

Offering the broadest range of products in the industry, from the signature line of advanced control systems to Crestron DigitalMedia™ and MediaManager solutions (MPS, MPC, iMedia and QuickMedia®), there is a Crestron solution for every boardroom, auditorium or classroom. Every Crestron product with an Ethernet port features our exclusive e-Control® communications platform, so every room is seamlessly connected, completely integrated, and remotely accessible.

When using any PC on the LAN or WAN, Crestron RoomView® software provides real-time remote control and management of all rooms, devices and subsystems, including AV, lighting and HVAC.

System expansion is easy. Every room and device are simply nodes on the network, throughout the building, across the campus or around the globe. From infrastructure to interfaces, Crestron delivers the power of total integrated control and connectivity. Whether you are controlling a complex auditorium with advanced Crestron controllers, a mid-level boardroom with QuickMedia, a basic classroom with iMedia, or even a third-party legacy system, they all reside on a single integrated platform.

Crestron is the only source for complete control, automation and remote management solutions. Crestron integration streamlines and simplifies the installation and programming of systems, while providing full functionality, including control and monitoring. Other manufacturers must form interlinking “partnerships” to provide complete solutions, often resulting in interoperability issues. Crestron provides the only truly integrated solutions for IT convergence, remote asset management and room control. Taking ownership of this comprehensive scope of solutions, Crestron serves as the single point of contact from system design to post installation support.

Basic Rooms

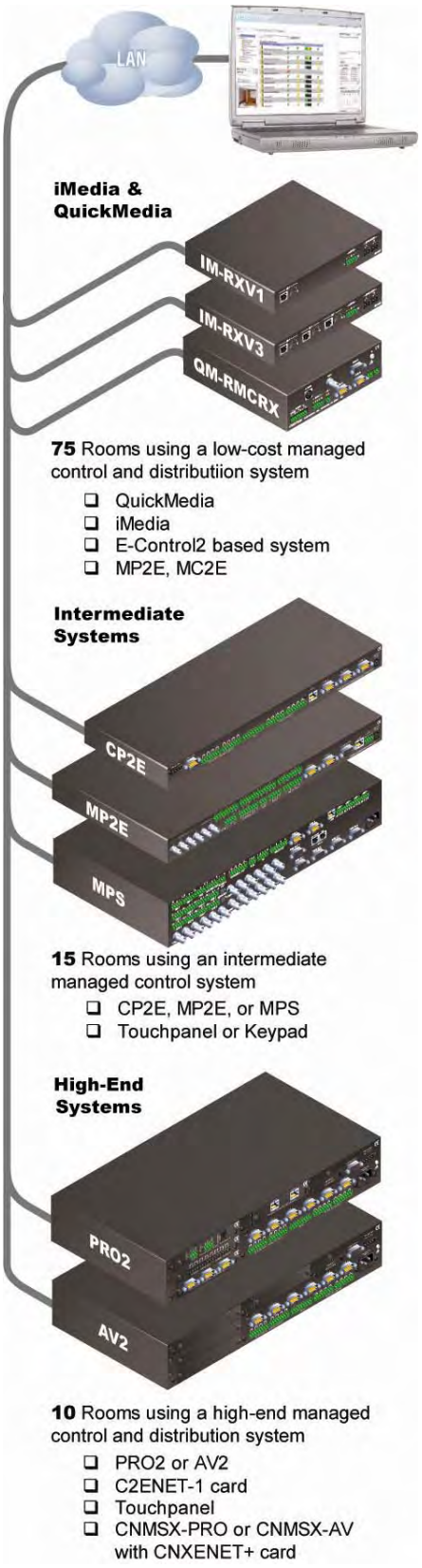
Basic rooms are the simplest classrooms or meeting rooms without installed technology, they have a projector, PC and video source. Presenters or instructors enter an empty room with just their laptop. The presentation may include a PowerPoint® presentation, an Excel® spreadsheet, a DVD, or streaming media played from their laptop. Historically, these rooms have not been accessible on the campus network or integrated with the facility's control system because it was not cost-effective. Now, with iMedia, even rooms that don't have any installed technology, or rooms that were left out due to budget constraints, can be connected via Crestron e-Control® and managed with Crestron RoomView® software.

Mid-Range Rooms

These are lecture halls, boardrooms, banquet halls and auditoriums with an array of AV sources, multiple computer inputs and several input locations to support sophisticated multimedia presentations. These larger rooms may feature multiple displays including plasmas, projectors and LCD monitors with sound reinforcement, program audio outputs, and cable runs over 300 feet. QuickMedia® (QM) is a one-wire solution providing local room control and source switching for these applications. QM delivers the full range of video, audio and high resolution computer signals over a single cable. This one-wire solution streamlines system design, simplifies installation and significantly reduces costs. QM rooms are all connected via e-Control and managed with RoomView software.

Large Scale, Multi-System Installations

These applications are part of a traditional Crestron control system using conventional AV signal routing. Multiple touchpanels and control interfaces are installed in various room locations (mounted on a wall, in a podium, in tables or on desktops). Functionality is sophisticated, programming is complex, and the communications traffic is enormous. Several subsystems are usually fully integrated and include AV, lighting, HVAC and security. These rooms have historically been networked via e-Control and managed with RoomView.

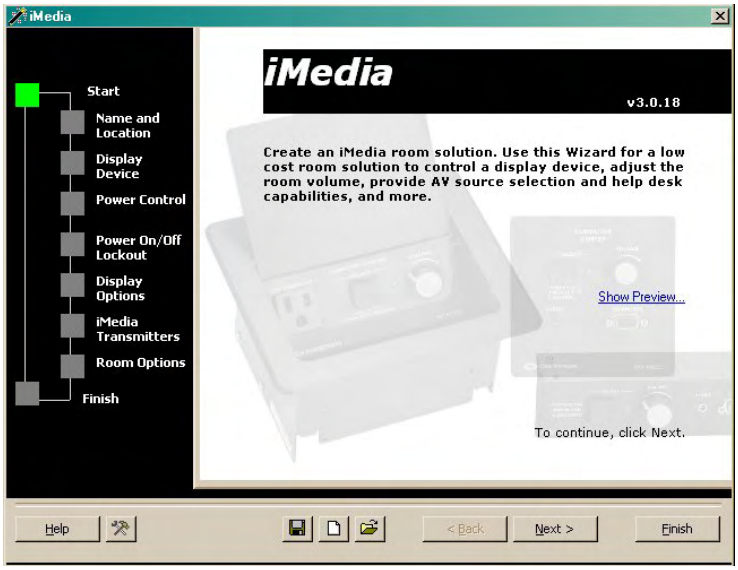


Design Software – SystemBuilder™

Designing and programming a Crestron control system is a simple process with Crestron SystemBuilder, allowing anyone to design, specify, and completely program a system of any complexity with ease.

SystemBuilder configures inputs and outputs for your system, selects input and output routing paths, and determines room devices such as screens, blinds, lighting, etc.

SystemBuilder is perfect for designing a room using MediaManager.It outputs the programming control code and generates a complete equipment list. Both can be easily edited.



iMedia Wizard

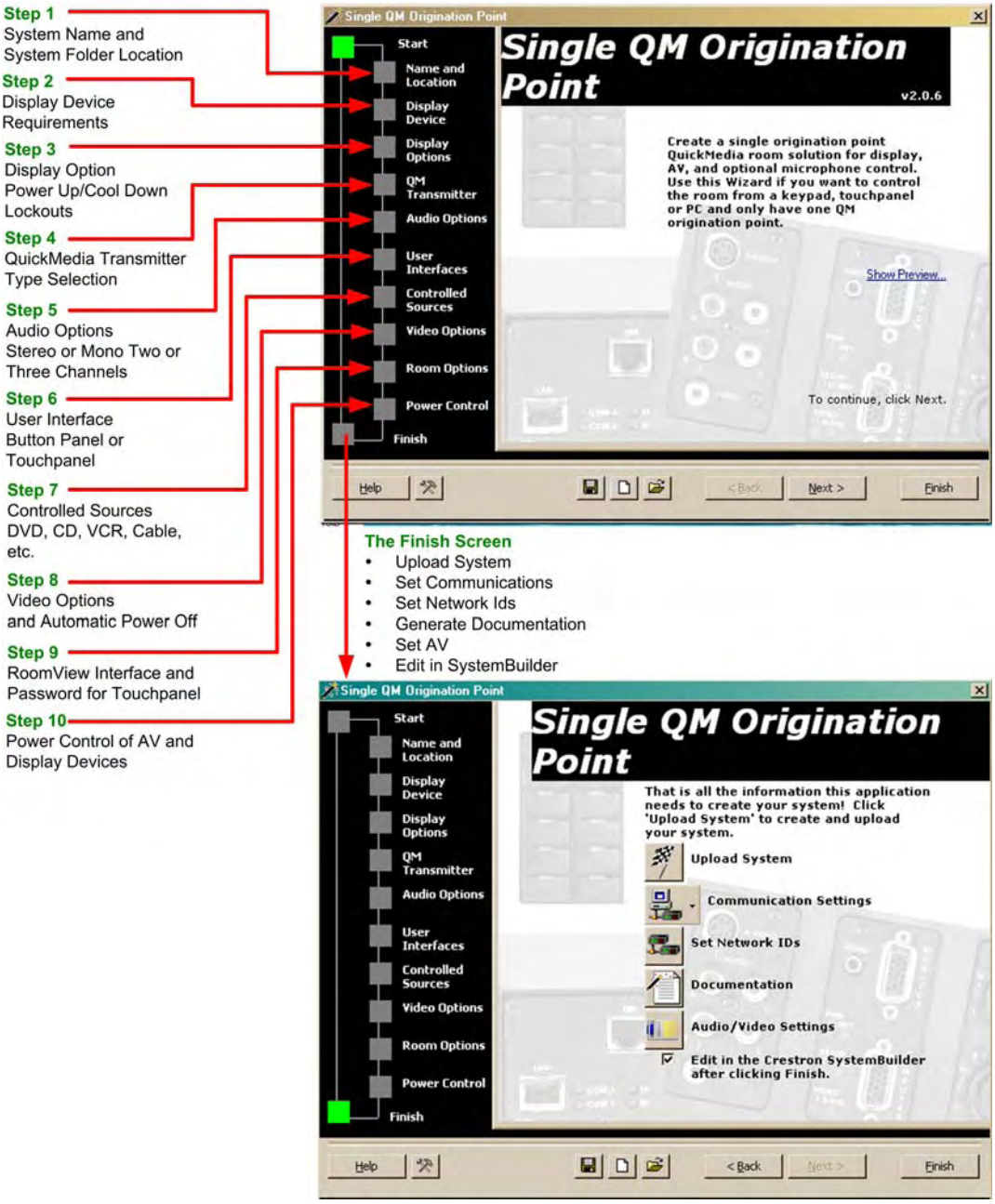
The iMedia Wizard is included with the Crestron SystemBuilder software package. The Wizard allows you to quickly design and program an iMedia system with local display control, LAN connectivity, Crestron iMedia devices and RoomView® remote asset management monitoring.

The iMedia Wizard is a stand-alone tool; projects created with the iMedia Wizard require no editing or modification in the main SystemBuilder application.

QuickMedia® Wizard

The Single QM Origination Point Wizard, built into SystemBuilder, allows you to quickly generate a basic QM-based project that includes the QM-RMCRX control processor with QM origination points, third-party display device, controlled AV sources, user interfaces, and the RoomView remote asset management software.

When additional functionality is desired, you can expand and modify your project in the main SystemBuilder application.



SystemBuilder™ also includes wizards for the Multimedia Presentation Systems series (refer to page 63) and all Crestron control systems.

The main SystemBuilder interface is organized into discrete Views. Each View provides a moveable library of equipment such as interfaces, third-party AV sources, and control modules.

SystemBuilder Templates

Application templates are pre-designed VisionTools® Pro-e projects. Pages for controlling all types of devices are copied as needed, in order to create custom projects for each interface in a SystemBuilder configuration. Some interface types have more than one template available, allowing for different styles and/or panel layouts to best suit the designer's needs.

Equipment View: Add third-party and Crestron audio/video devices. In addition, you can add RoomView® help desk monitoring, and/or set up communication with a remote Crestron control system. You can also add auxiliary devices to the control system.

QuickMedia® View: (QuickMedia systems): Connect audio/video sources to inputs and outputs on your QuickMedia equipment. You can use the Single QM Origination Point Wizard to generate connections for a basic system automatically or you can connect devices manually.

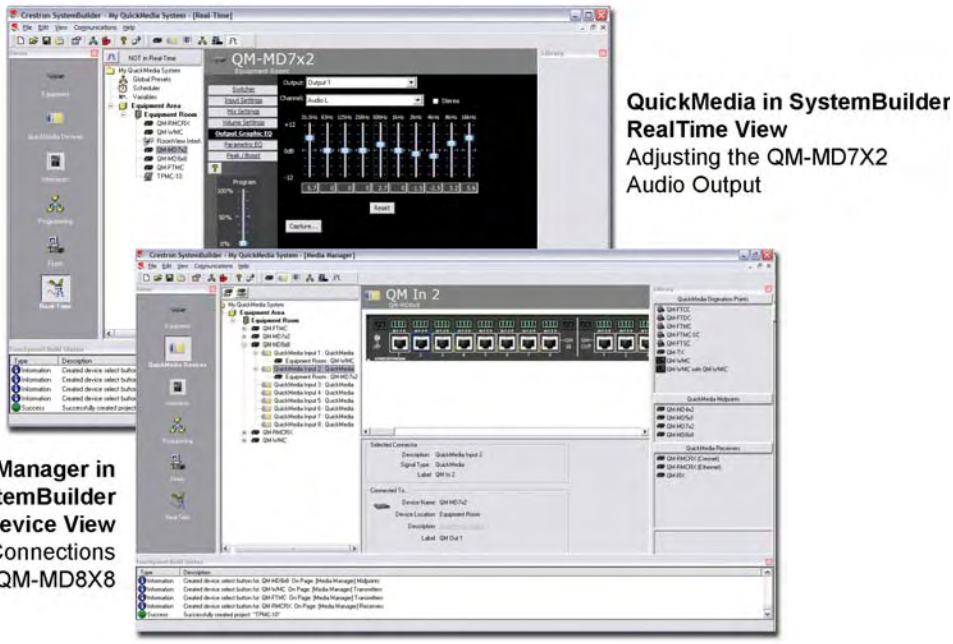
Audio Distribution View: (audio distribution systems): See the entire audio distribution system in one view, move audio sources to different inputs and move rooms (audio zones) to different outputs.

Interfaces View: Add user interfaces and, depending on the interface, assign text for engraving. The interfaces library includes the complete offering of Crestron touchpanels, keypads and remotes.

Programming View: Program the buttons on keypads, generate and customize VisionTools®Pro-e touchpanel projects, program devices and interfaces, run commands at specified times of the day using the Scheduler, and create global presets and variables to be used anywhere in the program.

Finish View: Set device Network IDs, verify system communication and generate the control system logic program. Then, upload program files to the control system and user interfaces.

Real Time View: Configure audio and video settings in real time, set up audio parameters for each room and troubleshoot problems or programming errors.



QuickMedia in SystemBuilder RealTime View
Adjusting the QM-MD7X2 Audio Output

MediaManager in SystemBuilder QuickMedia Device View
Selecting the QM Connections for a QM-MD8X8

Crestron SystemBuilder allows you to document your project by creating attractive, easy to read reports for presentations or reference during construction and installation. These reports include connection sheet, contact information, interface programming, QuickMedia routing, bill of materials, and many others.

Remote Management Software – RoomView®

Crestron RoomView® is a real-time, multi-user remote asset management software that delivers complete facility-wide network control of AV, HVAC, and lighting resources. RoomView works seamlessly with the award-winning Crestron control systems and touchpanels to manage an entire network of devices and subsystems. RoomView is available in two versions to serve the control and management requirements for every situation and level of installed technology.

RoomView allows administrators and support staff to manage AV resources, perform remote system diagnostics, track the usage of projector lamps, log network activity, monitor rooms, and automate tasks through event scheduling. An ideal master controller, RoomView remotely locks out selected rooms to prevent unauthorized use of AV equipment. In fact, RoomView can track any Crestron-based function, including lights, audio levels, motion detection, temperature, and much more. Interactive help desk capabilities allow users to send help requests from their touchpanel or Web browser. Support staff can send text messages back to the touchpanel, alert email contacts, and even launch e-Control®2 to control the room and its AV equipment. All MediaManager systems are 100% RoomView capable!

IMPORTANT NOTE ABOUT ROOMVIEW

The valuable power of Crestron RoomView (both Express and Server Edition) extends far beyond the general description in this design guide. The Crestron control processor is capable of monitoring and/or controlling devices, in any and all realms of digital, analog or serial control.

The abilities of RoomView extend beyond the control and management of AV equipment to incorporate interfacing with other control systems (i.e., security, HVAC, lighting). Crestron design and regional support team members stand ready to help as you configure the RoomView features, attributes, and abilities of your projects. Crestron welcomes your questions regarding RoomView...solutions are just a phone call or email away.

RoomView Express

RoomView Express extends the power and simplicity of RoomView to large professional and educational facilities, supporting hundreds of rooms and unlimited users. No other Pro AV help desk software can match the capability of RoomView Express to monitor so many rooms, in real time, in a single view. Imagine managing all the AV devices and Crestron-based functions throughout a large facility, allowing staff to log on and perform system tasks (while limiting access to restricted areas) and automatically sending email alerts to any number of recipients based on their assigned status, all from any computer connection on the network.

With the built-in generation of logs, reports, and charts, organizations can quickly determine equipment and purchasing needs, user activity and room usage. Tasks that could typically take days to complete are reduced to a few mouse clicks with RoomView Express!

- Real-time facility-wide monitoring and control of AV devices and systems
- Fully customizable graphical interface with easy to read status icons
- Status display of virtually any function – lights, audio levels, room occupancy, online status, temperature and much more
- Tracking of projector lamp life in bar graph format
- Instant help request notifications, service reminders, device failures, device removal or theft
- Email alerts to unlimited recipients with assignable contact attributes
- Multiple help desks can share a common database
- Time and date stamping of help requests
- Built-in event scheduling
- Built-in generation of logs, reports, and charts, to track device usage, call statistics, and user history
- Unlimited users with password login and assignable permissions
- Fast, easy, and affordable implementation
- Built-in asset manager
- ODBC database integration for SQL Server
- Windows Event Log support for integration with 3rd party applications

Crestron RoomView® Express Features

Scheduled Event

RoomView Express makes **scheduling of recurring or one time events easy.** Setting RoomView to automatically power down at midnight throughout the week can save valuable projector lamp life and ensure security inside the facility.

About License Information
View Groups
Edit Assets
Edit Users
Edit Events
Edit Contacts
Edit Rooms
Edit Attributes
View Log
Find Room
Log Off

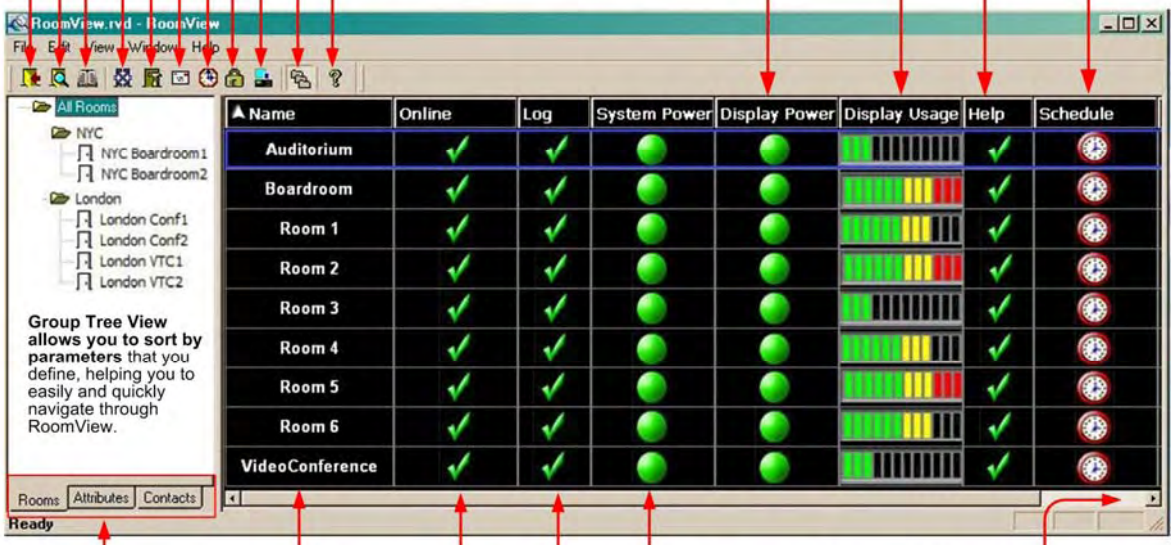
Help Alert

Real-time Interactive Help Desk requests are sorted to come to the top. The Help Desk then has the ability to respond with an automatic message or instant message the room with exact procedures.

Display Usage

Display Power

Check on/off status of display power and system power. View a bar graph to **monitor the percentage of available projector lamp life** and set an alert to notify the service department when a replacement lamp should be ordered before the lamp fails.



Select View by Rooms, Attributes, or Contacts

RoomView Express gives you the ability to simultaneously **view more than 250 rooms from a single screen.** Customize RoomView to view by room name, location, and group.

Room Name & Location (Sortable)

Online Status

Event Log

Automatically generate log files, reports and charts to analyze ROI and budget allocation. Track device usage, call statistics, and user history.

System Power

Additional Customized Attributes Available

RoomView Express gives you the ability to **add an unlimited number of attributes/ columns** as you need. Customize parameters to monitor any signal available from the control system's SIMPL program including motion, lighting, audio levels, temperature, video sync, phone number dialed or whether or not a video-conference or audio call is active.

RoomView® Server Edition

RoomView Server Edition offers enhanced customization, advanced plug-in modules, and a real-time Web-based client. Now facility managers, media directors and IT specialists have the best of both worlds – unmatched real-time control and cross-platform accessibility.

This multi-user resource and asset management program offers a high level of customization and efficiency, and features a "MyRoomView" environment, providing a personalized home page for every user.

The central screen area can be custom configured to display a selected overview of attributes for multiple rooms, a single room detail view, or room scheduling.

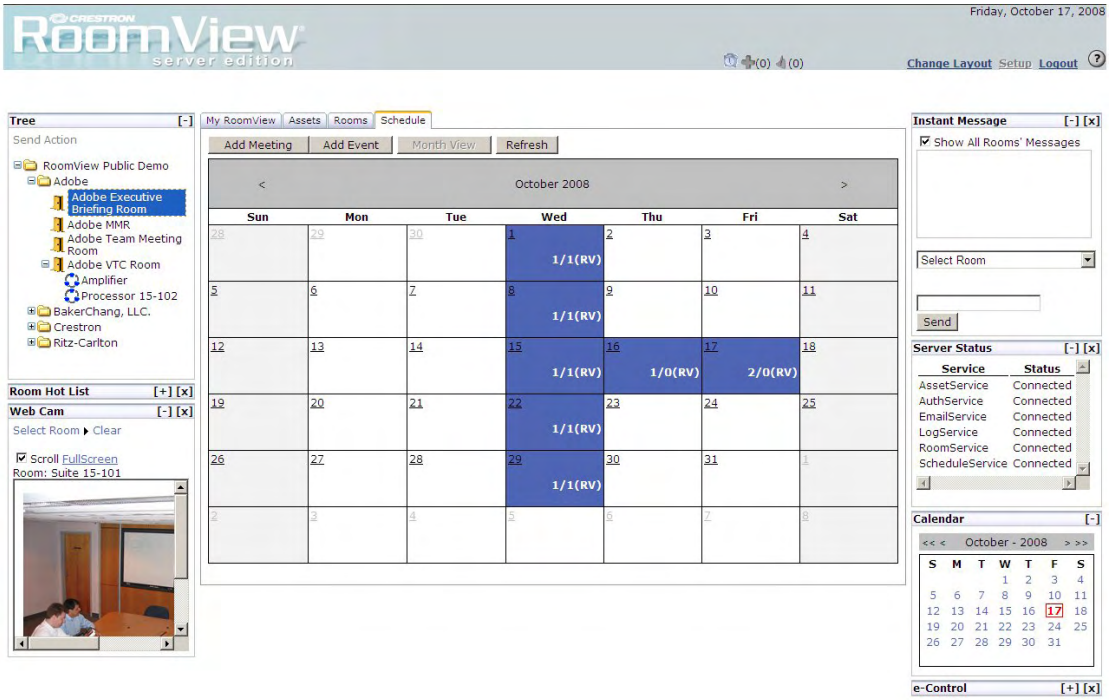
A choice of plug-in modules provides views such as Daily Schedule, Calendar, Room Hot List, Instant Messaging, e-Control®, Service Status, and Room Web Cam.

Manage and control every room from any PC. With RoomView Server Edition, every room is connected, with many of the same capabilities as RoomView Express plus the following.

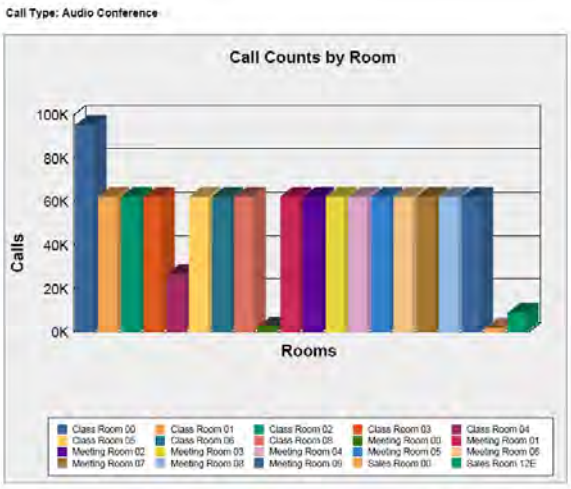
- Web-based cross-platform
- Customizable and user-defined interface
- Direct database integration with SQL Server
- Fully integrated with MS Exchange Server for scheduling
- Networking support including DHCP and SSL
- Windows Event Log support
- Device usage and call statistics reports
- Asset management tools to track and schedule maintenance
- Enhanced customization of attributes, contacts, logs and reports
- Advanced plug-in modules for calendars, hot lists, instant messaging, e-Control and Web cameras

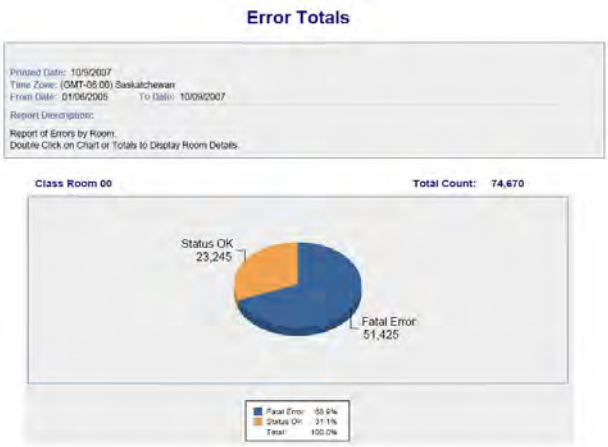
Crestron RoomView® Server Edition Features

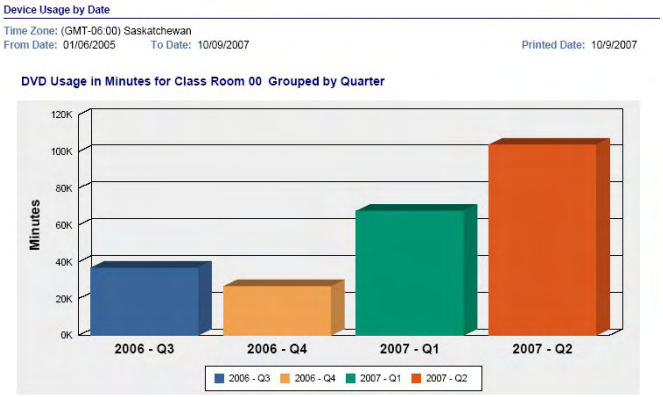
Room Scheduling Screen

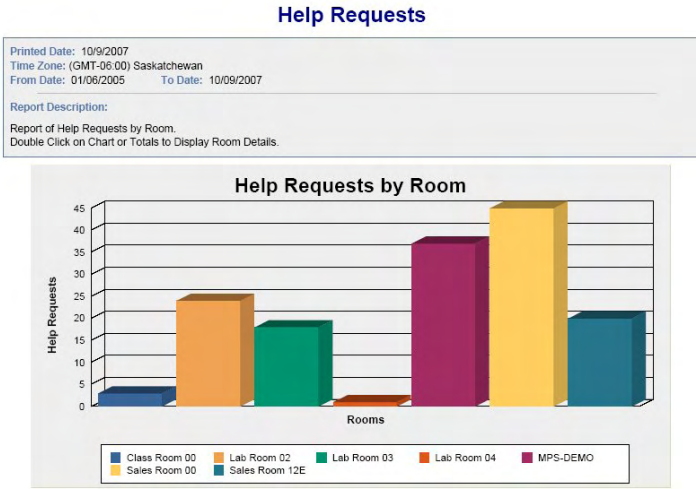


Crestron RoomView Report Examples









Help Requests Totals

Room Name	Total Count
Class Room 00:	3
Lab Room 02:	24
Lab Room 03:	18
Lab Room 04:	1
MPS-DEMO:	37
Sales Room 00:	45
Sales Room 12E:	20
Grand Total:	148

iMedia

Using a proprietary signal routing solution, RGBHV, audio, video, power and control signals are all transported using a single cable solution called iMedia. iMedia (IM) technology utilizes a single CresCAT®-IM cable to transmit computer RGB, video and stereo audio signals to a single projector or plasma display. The pin assignment is based on the EIA/TIA 568B RJ-45 jack standard. Up to three iMedia transmitters can be installed in an iMedia system. A typical XGA signal (1024 X 768 pixels at 60Hz) can be transmitted up to 84 feet using iMedia, while higher resolutions up to 1600 x 1200 can be handled over shorter distances. Audio is transmitted digitally at 20-bit, 48kHz resolution.

Crestron iMedia provides an extremely simple and affordable computer presentation solution for small conference and training rooms. No comparable solution comes close to matching the iMedia speed and ease of installation, intuitive operation, and incredibly low cost. Every iMedia system is easy and intuitive to use. A single press of the large “Select” button lowers the screen or triggers the lift, turns on the projector (or plasma, etc.) and routes the connected computer signal to the appropriate input. The front panel volume control affords easy adjustment of the audio level, and the entire system can be turned off at any time by simply holding the “Select” button for five seconds. For systems having more than one IM transmitter, pressing the “Select” button at a given input location makes that input active, overriding the previously selected input. The audio level for each input location is controlled individually.

An intuitive setup wizard makes system configuration quick and easy. IM supports XPanel, the remote system control and RoomView® integration for facility-wide system management. To begin a presentation, simply connect the laptop to any IM interface and press the “Select” button. Automatically, the screen drops down, the projector powers “ON” and the proper input on the projector is selected. An LED indicates the source is active and a tactile knob on the interface adjusts the volume level of that source.

iMedia is a one-wire solution, transmitting power, control data, video, high resolution RGBHV, and high quality audio all over a single CAT5e type cable. Refer to Appendix A for proper grounding methods. IM is designed for a boardroom, conference room, or classroom in which the presenter displays applications such as PowerPoint® and Excel, plays DVDs and runs Windows® Media from a PC or laptop.

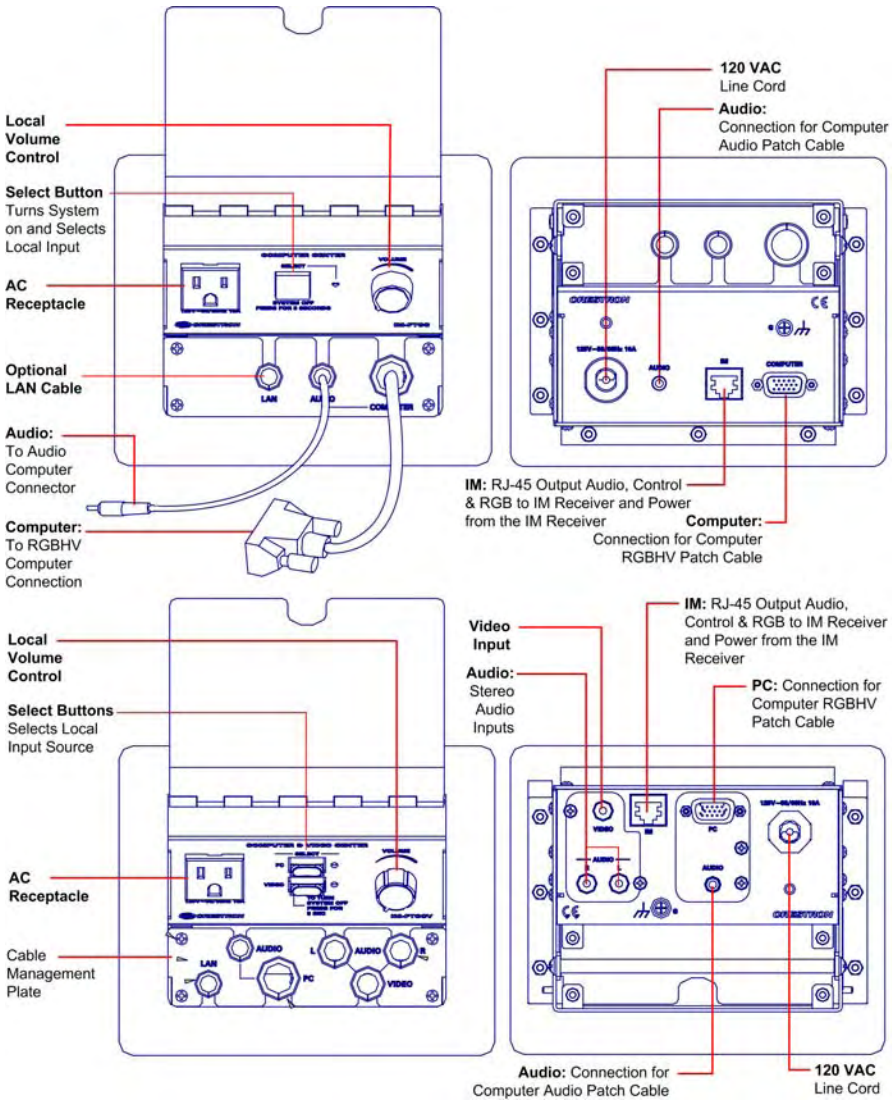
NOTE: In the following descriptions, the “-M” designates models with microphone input and the “V” in the model number indicates models with composite video input.

iMedia Transmitters

IM-FTCC, IM-FTCCV, IM-FTCC-M, and IM-FTCCV-M iMedia Transmitters

Beneath the fliptop lid, a recessed compartment contains easy pull out RGB, video, and audio cables to facilitate the connection of a single computer or AV source. The cables stow neatly within the compartment when not in use. These fliptop boxes are designed to install flush in a tabletop surface to provide a convenient and low profile interface solution.

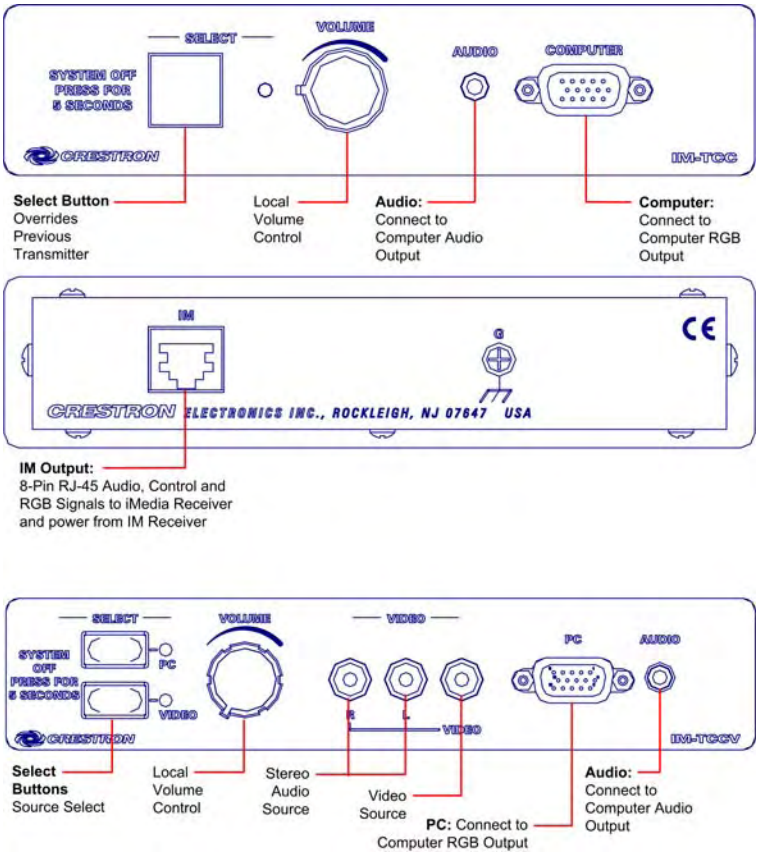
IM-FTCC and IM-FTCCV Controls and Connections



IM-TCC,IM-TCC-M, and IM-TCCV-M iMedia Transmitters

The IM-TCC transmitters are designed to install flush in any flat surface or underneath a tabletop using the mounting brackets provided.

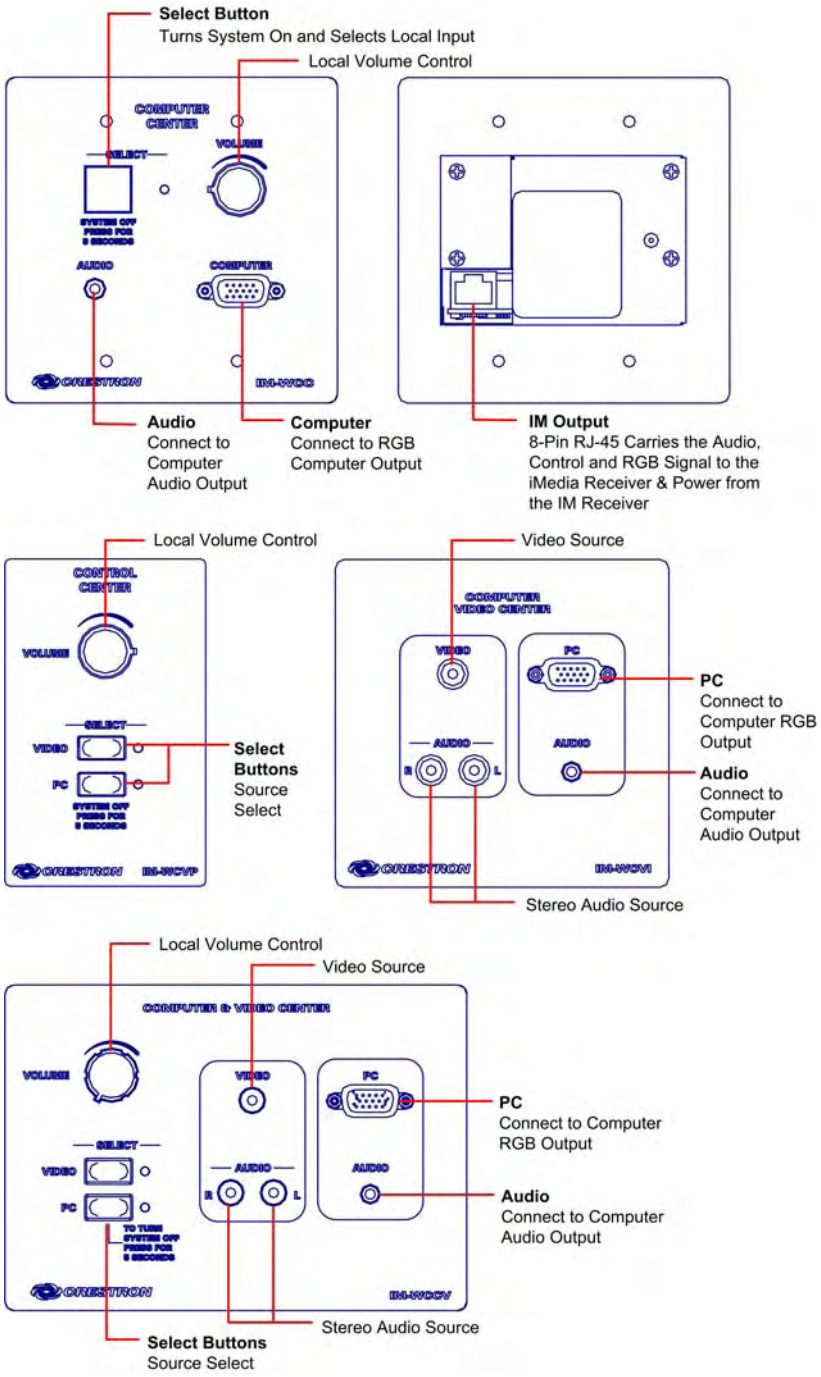
IM-TCC and IM-TCCV Controls and Connections



IM-WCC, IM-WCCV-S-M, and IM-WCCVM, IM-WCCV-S iMedia Transmitters and IM-WCCV-S-M

The IM-WCC (computer interface) and IM-WCCV (computer and AV interface) transmitters are designed to install in standard electrical boxes. The IM-WCC-S (computer interface) and the IM-WCCV-S (computer and AV interface) are designed to mount in two electrical boxes; one for the control center and one for the interface. The control center can be mounted up to 40 feet from the interface.

IM-WCC, IM-WCCV-S, and IM-WCCV Controls and Connections



iMedia Receivers

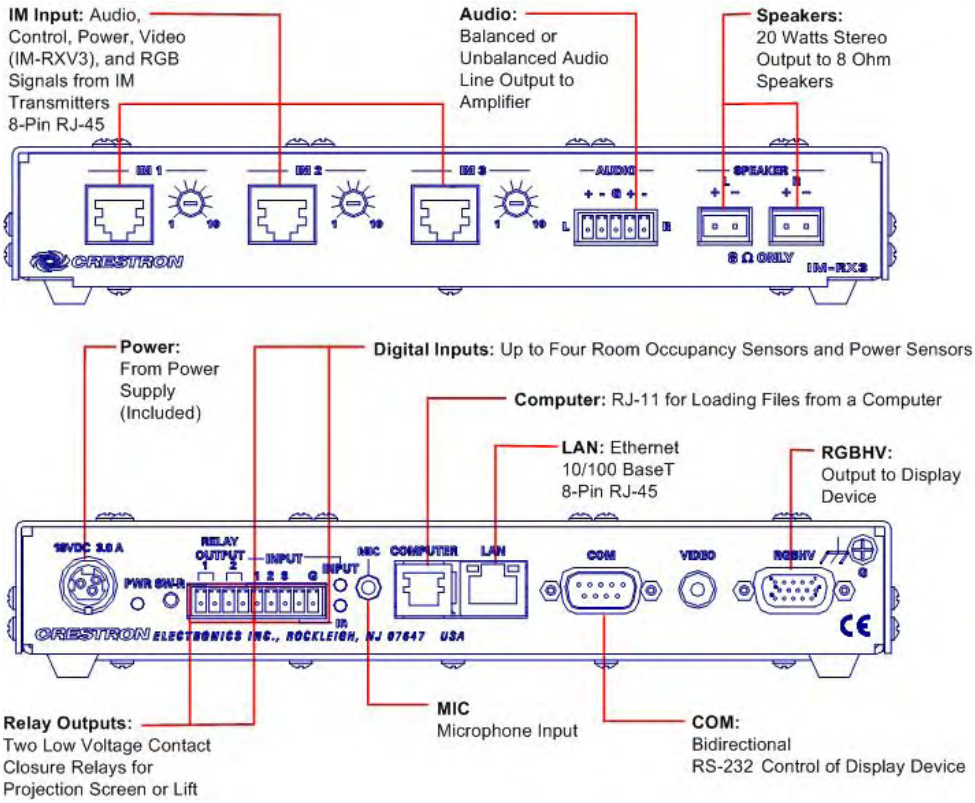
IM-RXV1

IM-RXV3

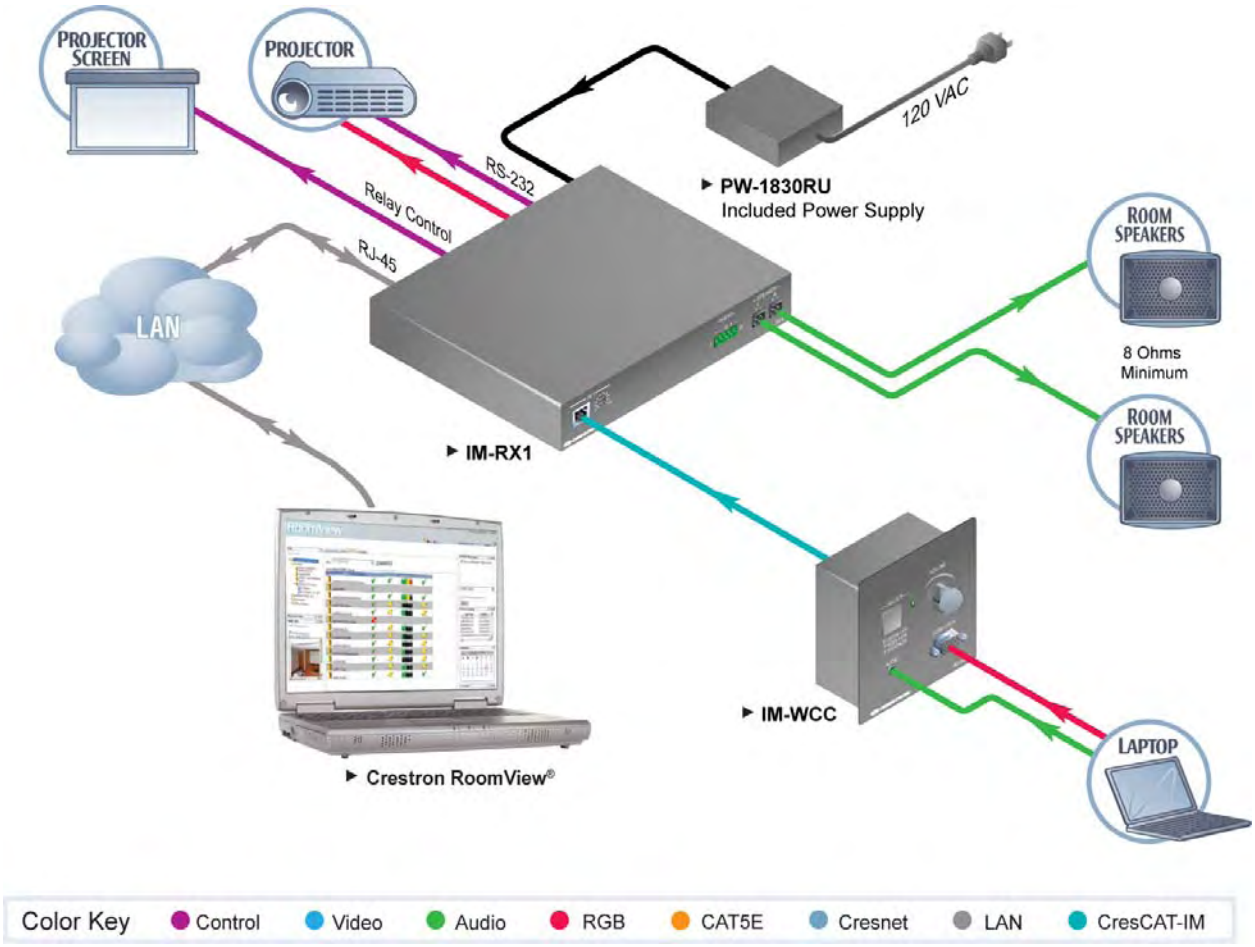
Onboard digital signal processing provides adjustment of master volume, bass, treble and balance settings at setup. Mounted at the projector or plasma display, these receivers break out the RGB, video, audio, and control signals for connection to the display device. Adjustable bandwidth compensation is provided to maximize image quality over long cable runs.

IM receivers accept computer RGB signals from any IM transmitter and composite video signals from compatible IM video transmitters. The inclusion of a balanced line input allows the connection of a microphone mixer, wireless receiver, or preamp to support speech reinforcement capabilities. Microphone level is adjustable right at the IM transmitter by simultaneously holding the **SELECT** button while turning the **VOLUME** knob.

IM-RXV3-M Front and Rear Connections

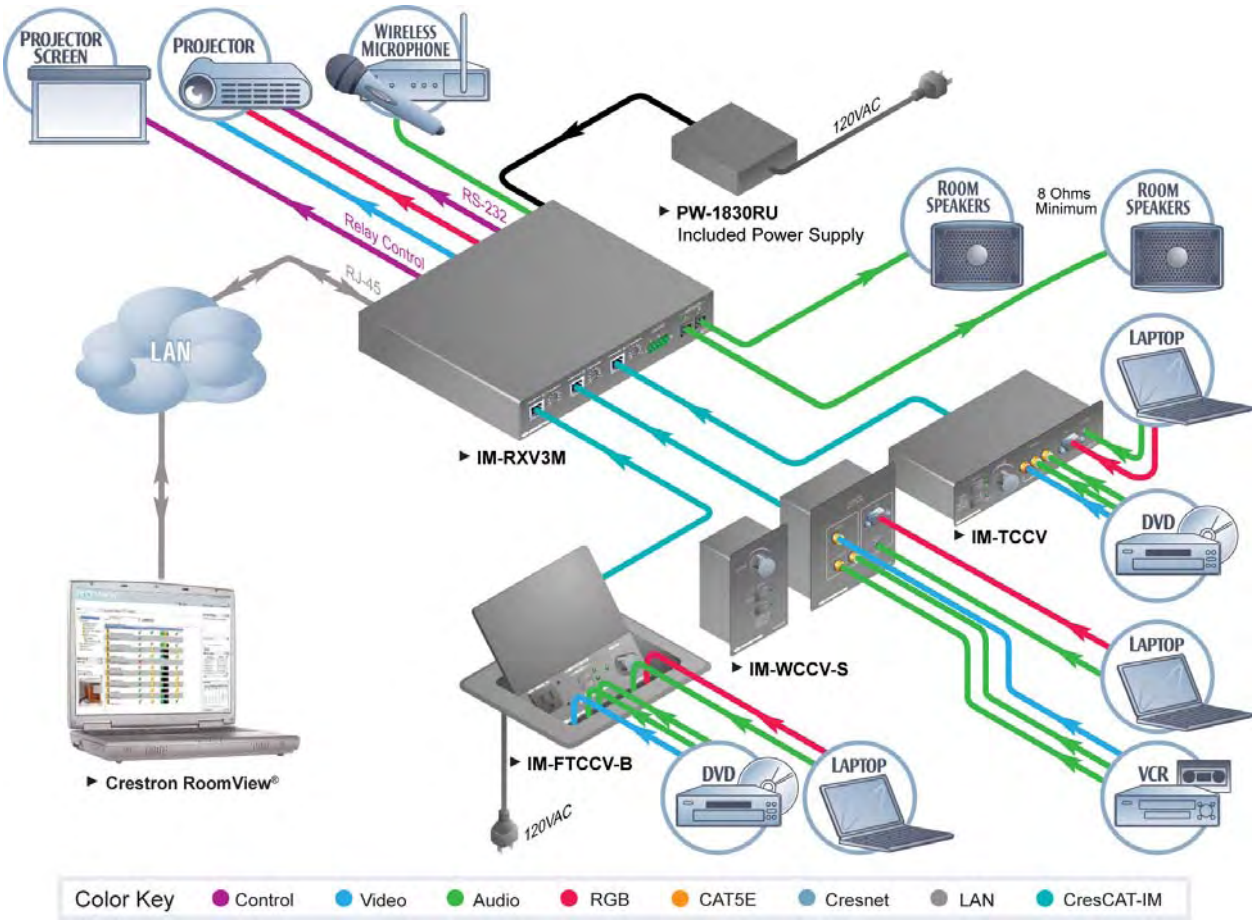


Basic iMedia System



iMedia Multi-Point Application

A simple classroom used for laptop and DVD or VCR presentation with three origination points



Control Objectives

1. Provide three, simple remote controls within an individual room with DVD/VCR
2. Provide asset management and control from outside the presentation environment. Asset management can include, but is not limited to, projector lamp life monitoring, projector power monitoring and management, and security monitoring of equipment.
3. Simplified cabling requirements

Crestron Equipment

Hardware

Three IM-WCCV-S, IM-TCCV, and/or IM-FTCCV iMedia Transmitters

IM-RXV3 iMedia Receiver

Software

SystemBuilder™ iMedia Wizard (required for configuration)

RoomView® Remote Asset Management (optional)

MPC – Media Presentation Controllers™

MPC-M25

MPC is a series of easy to install, easy to use systems that connect, route and control AV presentation devices in small, one-projector applications. The MPC setup Wizard prompts you through a few basic steps, so you can have a presentation room up and running in just minutes.

The MPC replaces all your projector and peripheral remotes, and connects the room and its devices on the managed network.

Every MPC has a Cresnet® port for infinite scalability. Install an MPC in the lectern at the front of the room and you can easily add a keypad on the wall or an iLux™ for lighting and shade control. The MPC is a ***fully expandable*** solution.

Crestron is the only system that is safe to use on the network. Other classroom systems do not provide any security and are susceptible to hackers. MPC is totally secure on the network with SSL encryption. Students cannot tap into the system and turn equipment on and off.

MPC is a wall mount 2-Series control system with a simple push-button interface and LED feedback. The MPC controllers are "all-in-one" complete solutions that fit in a standard 3-gang box; always easy to install or upgrade.

Every MPC model features Ethernet communications and a built-in Web server. Seamless integration with Crestron RoomView® software enables IT/AV managers to remotely monitor, manage and control every room on the network.

MPC-M25, MPC-M20, MPC-M10 & MPC-M5

The MPC series is engineered to be easy to integrate and use, yet versatile enough to suit each application perfectly. The programmable "hard key" buttons can be freely programmed for system power, input source selection, transport control, lighting presets, and any other functions. Custom backlit labeling of the buttons is facilitated using an assortment of pre-printed labels or Crestron Engraver software. The five-way directional navigation pad (available on the MPC-M20 and MPC-M25) enables full control of DVD players, displays, and other devices that utilize an on-screen menu. Adjusting audio volume and other parameters is enabled using the continuous-turn control knob and LED bar graph.

Configuring a complete MPC media presentation control solution is simplified using Crestron SystemBuilder™ software, allowing limitless programmability from the award-winning platform that's familiar to every Crestron dealer. The MPC Wizard included in SystemBuilder enables setup of a full-featured presentation system — complete with lighting control and RoomView remote management —without programming. Uploading and updating a facility filled with MPC systems is managed easily over the network or individually via the front panel USB port.

Wireless Remote

A range of options is available for adding wireless remote control to the MPC system. Its built-in IR receiver allows the use of any Crestron IR wireless touchpanel or handheld remote without requiring a separate receiver or gateway. For greater range and freedom of movement, MPC also supports the full line of Crestron RF wireless and WiFi-based products.

Wired Expansion
Adding a second control panel or just adding a few more buttons is easy using the MP-B10 and MP-B20 Media Presentation Button Panels. Of course, with Cresnet® and Ethernet built in, the MPC series works seamlessly with the entire Crestron line of keypads and touchpanels, lighting dimmers, shade controllers, signal processors, switchers, and much more.

Built-in Control Ports
Through a host of onboard control ports, the MPC series interfaces directly with the video display or projector, DVD player, TV receiver, projection screen, lift, occupancy sensor, and other devices in the room. In addition to Cresnet and high-speed Ethernet, there are bidirectional RS-232 COM ports, IR/serial ports, isolated relays, and input ports right on the rear panel.

Audio and Video Control
The MPC series is ideal for small room systems utilizing a single display device with computers and other sources connected directly to it. But like any 2-Series control system, MPC is fully scalable to suit larger applications with several program sources, microphones, or even multiple displays. Simply add a C2N-VEQ4 module to enable four channels of audio volume and EQ control. Or, use any of the Crestron QuickMedia® wall plates, FlipTop interfaces, switchers, and/or receivers for a total signal routing, processing, and amplification solution.

Ethernet and e-Control®2
Built-in 10/100 Ethernet facilitates secure high-speed network connectivity, enabling extensive capabilities for remote system maintenance and control, and providing an interface to other Crestron control systems. The onboard Web server provides the foundation for the exclusive Crestron e-Control 2 XPanel technology, providing secure IP-based remote control. SSL encryption prevents hackers from breaching the system and accessing its controls.

RoomView® and SNMP
The MPC series communicates directly with the exclusive Crestron RoomView help desk software, the industry's most comprehensive facility-wide solution for remote monitoring and asset management. Built-in SNMP support also enables integration with third-party network management software, allowing full control and monitoring from the IT Help Desk or NOC in a format familiar to IT personnel.

Cresnet® Slave Mode
Selectable Cresnet Slave Mode enables the MPC to become a Cresnet keypad controller and expansion module as part of a larger Crestron system, providing a deluxe user interface with local control ports built in for interfacing to nearby devices.

Ambient Light Sensor
The built-in light sensor has a range of uses, from controlling its own backlight intensity to providing ambient lighting level data to a central building management system.

NOTE: Refer to the Quick Pack section (page 95) for competitively priced packaged systems based on the MPC-M5 controller.

MPC Feature Comparison	MPC-M50	MPC-M25	MPC-M20	MPC-M10	MPC-M5
Programmable Buttons	7 Hard, 4 Soft	15	15	10	10
5-Way Directional Navigation Pad	Yes	Yes	Yes	N/A	N/A
RS-232 Ports	2	2	1	1	1
IR Ports	2	2	1	1	1
Input Ports	4	4	4	4	2
Relay Control Ports	6	6	2	2	2
Expandable	YES	YES	YES	YES	YES

MP-B10 & MP-B20

MP-B20

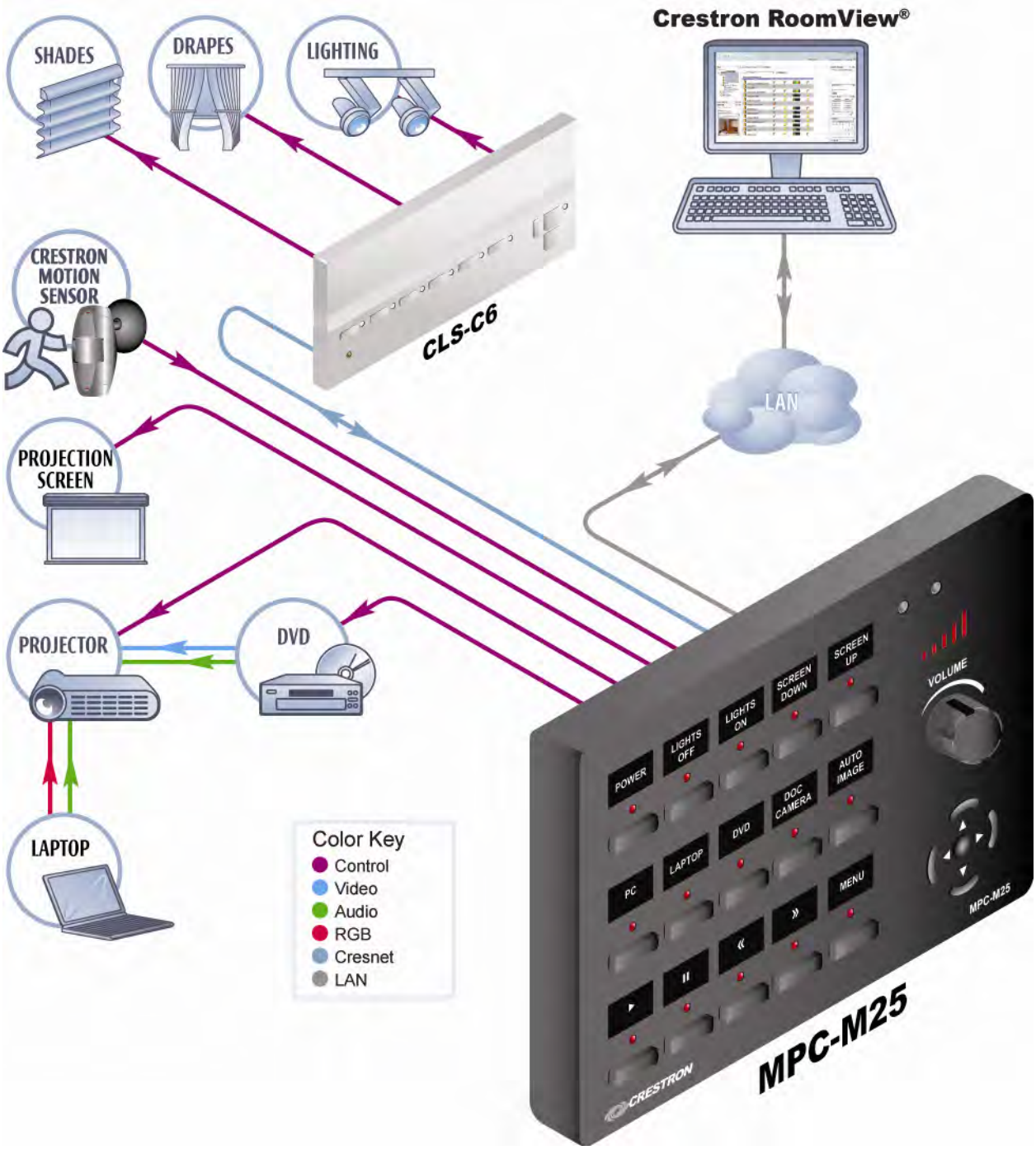
The MP-B10 and MP-B20 are enhanced pushbutton control panels designed for installation in a wall or podium. They are ideal for expanding a Crestron MPC Media Presentation Controller™ or as a cost-effective user interface for a MPS Multimedia Presentation System or any other Crestron system. Available in white or black, the MP-B20 and MP-B10 are constructed to handle the rigors of everyday use in a typical classroom, meeting room, lecture hall, or training facility.

The MP-B10 ten programmable and the MP-B20 fifteen programmable “hard-key” buttons can be freely programmed for any function such as system power, input source selection, transport control, and lighting presets. Custom backlit labeling of the buttons is facilitated using an assortment of pre-printed labels or Crestron Engraver software. The five-way directional navigation pad (available on the MP-B20) enables full control of DVD players, displays, and other devices that utilize an on-screen menu. Adjusting audio volume and other parameters is enabled using the continuous-turn control knob and LED bar graph.

A built-in IR receiver provides a gateway for Crestron IR wireless touchpanels and handheld remotes. A light sensor is also included, programmable for controlling the backlight intensity, or for providing ambient lighting level data to the control system for other applications.

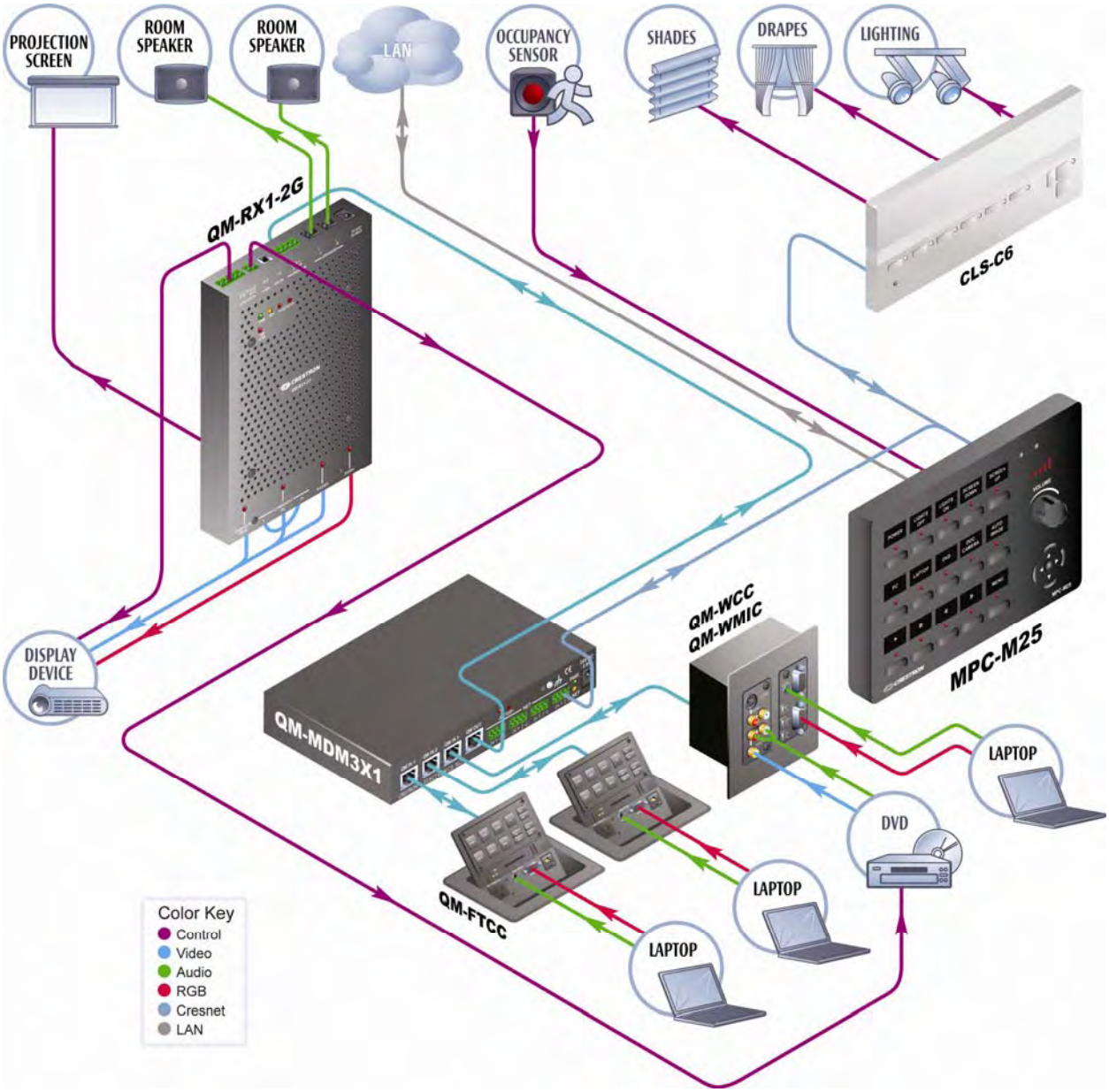
Basic MPC System

The MPC provides simple AV routing and control for small one-projector rooms. Even these basic rooms connect to the managed network and integrate directly with RoomView® help desk and asset management software.



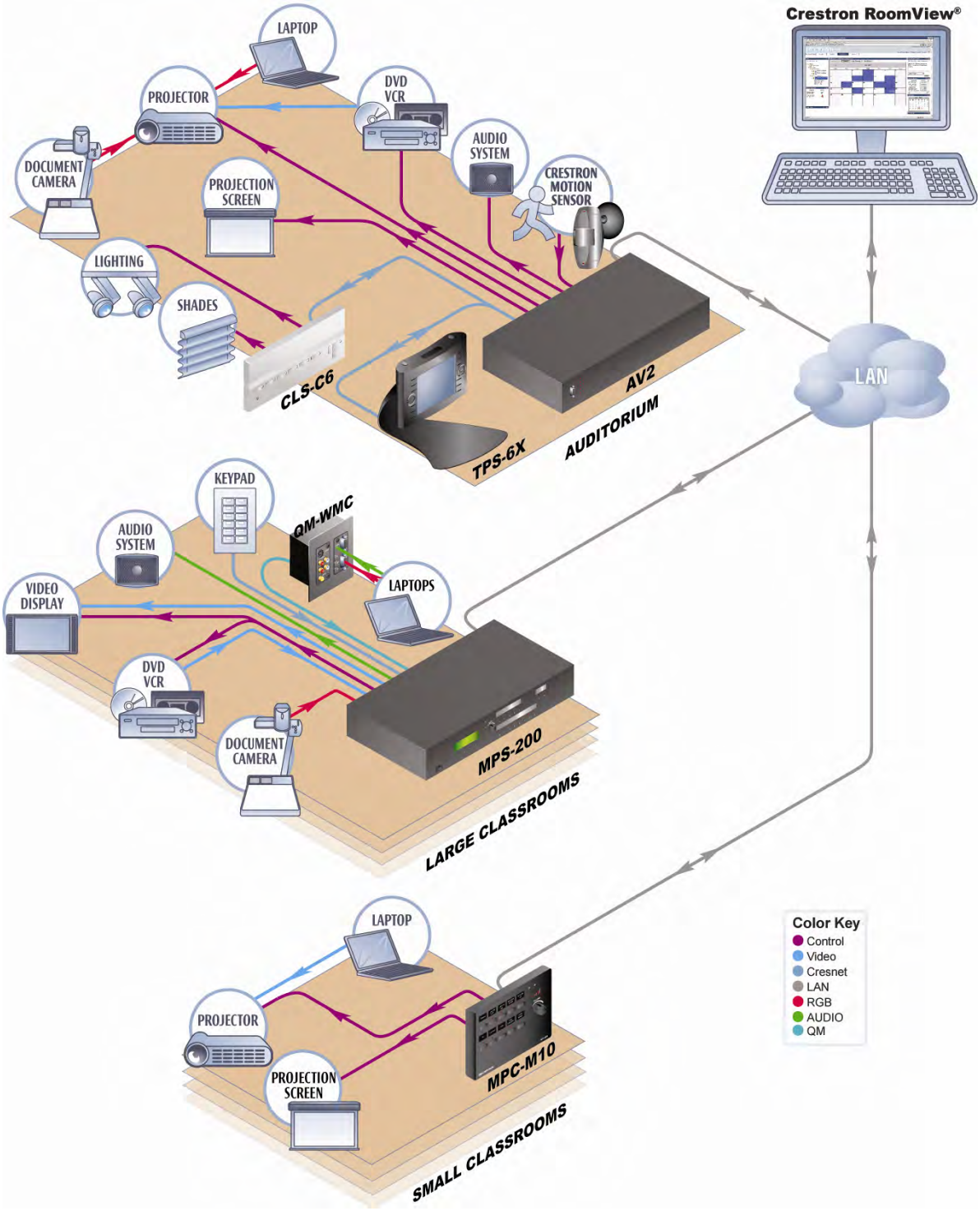
Expanded MPC System

The standard onboard Cresnet® port enables seamless system expansion. Install an MPC in the podium at the front of the room and easily add a keypad on the wall or iLux™ for lighting and shade control.



Advanced MPC System

More sophisticated rooms may require a Crestron MP2E or MPS control system. Deliver a consistent interface for presenters by using a "button-only" MPC model. Connect an MP-B10 or MP-B20 directly to an external controller for these larger rooms.



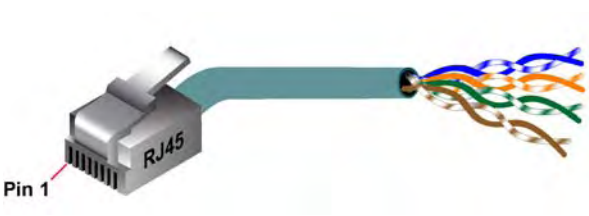
QuickMedia®

The QuickMedia transport system is capable of managing computer, video and audio signals simultaneously through one CresCAT®-QM cable, simplifying installations. Routing CresCAT-QM cable is less expensive and much simpler than routing multi-colored, multi-conductor coax cable.

All Crestron products using the QM transport system are capable of sending and receiving QM signals via CresCAT-QM cable. Installation of any QM device is as simple as installing one set of QM wires from output to input. Installations are flexible, affordable, and fast.

The Crestron QuickMedia cable "CresCAT-QM" contains one low-skew CAT5e cable and one Cresnet® cable in siamese jackets. The QuickMedia transport mechanism performs delay compensation on each video input to compensate for signal skew, and frequency/bandwidth compensation for cable length. Signal skew occurs when part of the signal is delayed with respect to other signal components. The amount of skew largely depends on the length and design of the wire. Because CAT5 consists of twisted pairs within the cable, unequal wire lengths are created. The maximum aggregate cable length from QM transmitter to QM receiver is limited only by the loss of bandwidth over long distances and the amount of available skew compensation.

QuickMedia Pin Assignments



Pin 4	+ Audio		
Pin 5	– Audio		
Pin 8	+ RGB BLUE	+Composite	$+P_B$
Pin 7	– RGB BLUE	–Composite	$-P_B$
Pin 6	+ RGB GREEN	+Luminance	+Y
Pin 3	– RGB GREEN	–Luminance	–Y
Pin 2	+ RGB RED	+Chrominance	$+P_R$
Pin 1	– RGB RED	–Chrominance	$-P_R$

The maximum length for a QM cable run is 450 feet when using CresCAT-QM cable. This is the aggregate length from the origination point (QM transmitter) to the endpoint (QM receiver), and may include up to two midpoint devices inline. This is contingent upon the use of low-skew CAT5e or CAT6 cable with a delay skew of 15nS per 100m, such as CresCAT-QM or CresCAT-IM. A maximum of two midpoint devices may be inserted anywhere between the origination point and endpoint of a given QM signal path.

Generally, a midpoint device is a QM routing product having both QM in and out ports, such as a QM-MD8X8, QM-MD4X2, QM-MD7X2, or QM-MD5X1. The QM-AE does not count as a midpoint because it passes its QM signal through passively. Touchpanels and TPIs may qualify as both endpoints and origination points, but are never midpoints. To determine the allowable maximum length of installed cable, the installer must first perform a calculation based on the skew rating of the cable. The use of low resolution signals may allow increased cable length but must be tested with the sources to be used.

The maximum allowable delay skew for a QM cable run (aggregate length from origination point to endpoint) is 22nS. This is contingent upon the use of an endpoint device with an available 22nS delay skew compensation.

QuickMedia supports resolutions up to 1920 x 1200 pixels (WUXGA). The refresh rate (vertical sync) is limited to 60Hz for resolutions of 1600 x 1200 (UXGA) or higher. Skew compensation is primarily relevant to RGB sources; however, any/all video or VGA signals may experience a loss of quality over very long lengths of cable. This phenomenon is due to the added resistance and capacitance of longer cable lengths, and is not particular to either Crestron and/or QuickMedia systems.

Regardless of resolution, QuickMedia® supports pixel clocks up to 200MHz; higher rates may work with some reduction in fine detail.

QuickMedia components provide a low-cost multimedia interface solution for AV device control and facility-wide management. This unique family of products is available in a wide variety of configurations to provide solutions for every conceivable situation. Utilizing a simple single cable wiring installation, the QuickMedia family of components provides the maximum flexibility for high performance signal switching and routing.

QuickMedia Transmitters

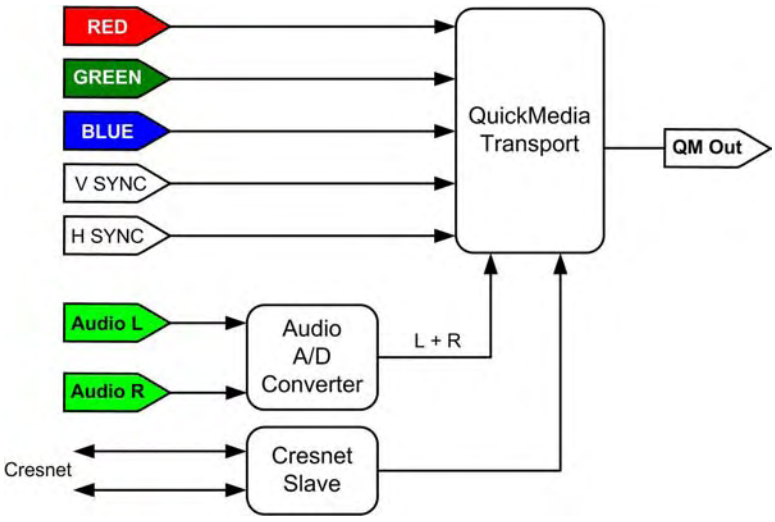
QM-TX

The QM-TX provides a low-cost multimedia interface solution for QuickMedia-based MediaManager systems. As a portable or rack-mounted alternative to the popular Crestron QM FlipTops and Wallplates, the QM-TX can be used in a variety of applications to send audio, video, and computer signals to one or more projectors, plasmas and audio amplifiers using the Crestron exclusive single wire QuickMedia transport.

Installed in a central equipment rack, the QM-TX is ideal for converting the output of a conventional matrix or system switcher to QuickMedia for transmission to a QM Receiver or Distribution Center using just a single inexpensive CresCAT® QM cable. It's also the perfect portable interface, requiring just one RJ45 plus a 4-pin Cresnet® connection in any standard wall plate or floor box to provide an extremely simple yet versatile AV or computer input anywhere in the room. Since Cresnet powers it, an AC power connection is not required.

- Five BNCs are provided on the QM-TX to accept composite, S-video, component, HDTV, or RGBHV signals (up to 1920 x 1200 at 60 Hz)
- Balanced stereo line-level audio signals are transmitted simultaneously with 24-bit digital resolution
- Video formats can be switched dynamically and automatically under system control, and complete MediaManager systems using the QM-TX can be configured easily for a variety of applications using Crestron SystemBuilder™ software
- The QM-TX is ½ space rack-mountable by using the optional ST-RMK kit

QM-TX Block Diagram



QM-TX2-CC Transmitter Computer Center

This QM transmitter provides RGB inputs for two computers, each with a separate audio input and monitor pass-thru.

- QuickMedia® computer interface
- Single cable signal transmission up to 450 feet
- 2 DB15HD RBG computer inputs
- 2 buffered monitor pass-throughs
- 2 3.5mm TRS stereo audio inputs
- Video input signal sensing
- 2x1 input source switching
- Front panel control
- IR control port
- ½ space rack-mountable

QM-TX2-MC Transmitter Media Center

The QM-TX2-MC variation features separate video and computer inputs with built-in 2x1 switching. Other features include front panel switcher controls, buffered monitor pass-thru, and an IR control port.

- QuickMedia multimedia interface
- Single cable signal transmission up to 450 feet
- 1 BNC composite/S-video/component video input
- 1 DB15HD RBG computer input
- Buffered monitor pass-thru
- 1 balanced stereo audio input
- 1 3.5mm TRS stereo audio input
- Video input signal sensing
- 2x1 input source switching
- Front panel control
- IR control port
- ½ space rack-mountable

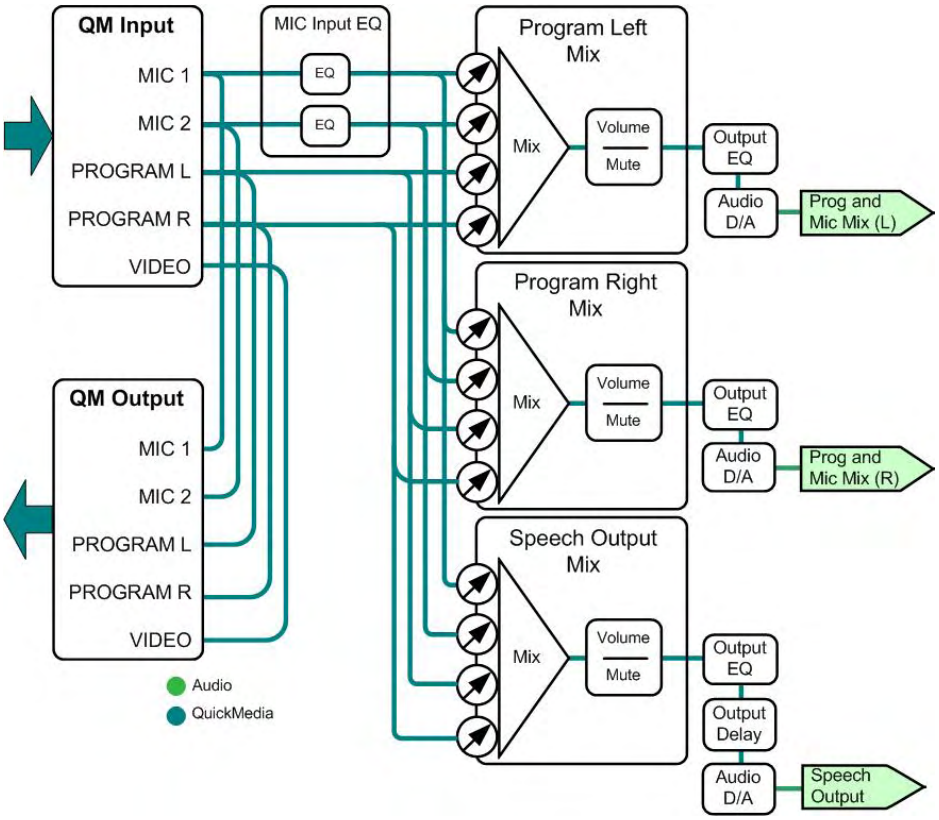
QM-AE Audio Extractor

The QM-AE Audio Extractor provides a solution for extracting stereo program and speech audio signals from the QuickMedia® transport to feed a power amplifier or other audio device. Built-in mixing, equalization, and delay adjustment eliminates the need for expensive signal processors.

Three outputs are provided to supply discrete stereo program and mono speech signals, perfect for feeding QM-AMP3X80MM and QM-AMP3X80SR 3-channel amplifiers. Each output includes versatile input mixing and professional 12-band graphic or parametric EQ, plus 40mS delay adjustment on the Speech output. The QM-AE is ½ space rack-mountable using the optional ST-RMK kit. The QM-AE may be inserted anywhere along the QM signal path without effecting the audio, video, and computer signals passing through it.

- Extracts QuickMedia audio signals
- Inserts transparently in the QM signal path
- Discrete stereo program and mono speech outputs
- Built-in mixing, equalization, and delay processing
- Professional balanced line-level outputs
- Perfect QM interface for QM-AMP3X80 3-channel amplifiers
- ½ space rack-mountable

QM-AE Block Diagram

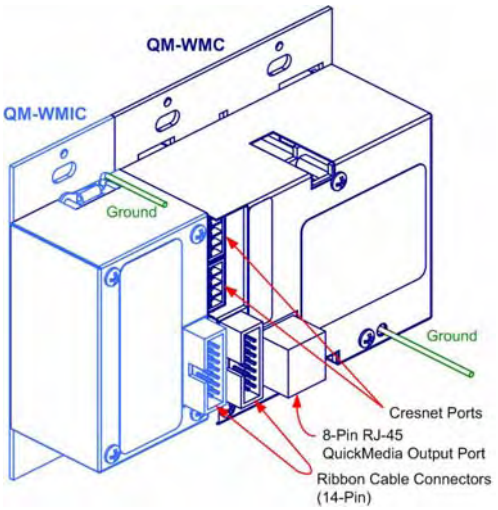


QM-WMC Wall Plate Media Center

The QM-WMC provides an elegant wall mount multimedia interface solution for MediaManager AV presentation systems. Composite, S-video, and RGBHV inputs are provided, each with corresponding stereo audio, to accept connections from portable AV devices and computers. An optional 2-channel gated microphone preamp delivers tremendous input flexibility for applications ranging from small conference rooms to large banquet halls and auditoriums.

- A buffered monitor pass-thru connector is feeds the RGBHV input signal to a local monitor
- For complete connectivity, the QM-WMC can easily be mounted alongside any third-party Decora® style phone/data jack
- The built-in switcher includes audio breakaway to allow the three program audio inputs to be switched independently of the video and RGBHV inputs
- Two gated microphone/line inputs may be added using the optional QM-WMIC microphone input module (sold separately)
- All audio inputs are converted to 24-bit digital and routed to the output as two discrete microphone channels and one stereo program audio channel
- Built-in video sensing on every input can be utilized to trigger automatic input selection and system power control

The QM-WMC installs in a 2-gang electrical box using any Decora® style faceplate (not supplied) and is easily accompanied by the optional 1-gang QM-WMIC microphone input module and any Crestron C2N-DB Series Decorator keypad for a complete multimedia interface and control solution



QM-WMIC QuickMedia Wall Plate Media Center Microphone Input

The QM-WMIC is an optional add-on to the QM-WMC Wall Plate Media Center, providing two Neutrik® Combo jacks for the connection of microphone sources to the system. Each input accepts balanced microphone level signals via XLR-type connectors, and also accommodates 1/4" phone-type connectors carrying balanced or unbalanced line-level signals (such as wireless microphone receivers).

Software-switchable 48V phantom power is available at both XLR jacks to support either dynamic or condenser microphones

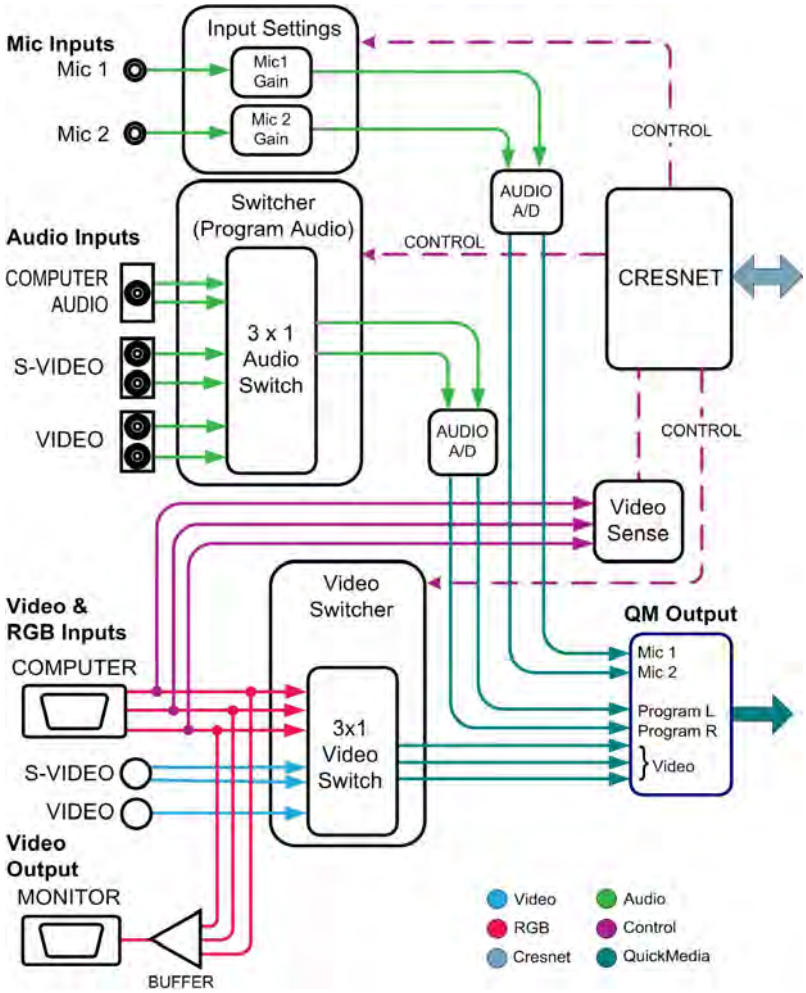
Input gain and gating controls for each microphone input are fully adjustable at setup, and can also be controlled in real-time from any touchpanel or keypad

The QM-WMIC installs alongside the QM-WMC (sold separately) in a 3-gang electrical box using any Decora® style faceplate (not supplied)

As part of a complete MediaManager system, the microphone signals are routed, mixed, and processed separately from the program audio signal providing dedicated EQ, gating, and time delay for optimal intelligibility

At the system output, speech signals may be mixed with the stereo program signal or routed to a dedicated speech output to feed separate loudspeakers

QM-WMC and QM-WMIC Block Diagram



QM-WMC-VCC Wall Plate Media Center

Individual video inputs are provided for composite, component, and RGB signals, each with corresponding stereo audio, to accept connections from portable AV devices and computers.

- Wall mount QuickMedia® multimedia interface
- Single cable signal transmission up to 450 feet
- RCA composite and component video inputs DB15HD RBG computer input
- Buffered RGB monitor pass-thru
- 3 stereo audio inputs
- Video input signal sensing
- 3x1 input switching with audio breakaway
- Compatible with QM-WMIC Mic Input Module
- QuickMedia transport | Cresnet® communications
- Low cost, quick and easy installation
- Integrates with Crestron C2N-DB Series Decorator Keypads
- Installs alongside 3rd Party LAN jacks and other devices
- Easy setup using Crestron SystemBuilder™ software

QM-WCC-1 Wall Plate Computer Center, Single Input

The new single-gang solution is perfect for wall and floor box installations, providing a single computer RGB input with audio.

- Wall mount QuickMedia® computer interface
- Single cable signal transmission up to 450 feet
- Single-gang Decora®-style
- Fits many floor boxes solutions
- DB15HD RBG computer input
- 3.5mm TRS stereo audio input
- Video input signal sensing

QM-WCC-2 Wall Plate Computer Center, Dual Input

This QM Wall Plate provides separate RGB inputs for two computers, each with a mini-TRS stereo audio input and monitor pass-thru.

- Wall mount QuickMedia computer interface
- Single cable signal transmission up to 450 feet
- 2-gang Decora®-style
- 2 DB15HD RBG computer inputs
- 2 buffered monitor pass-thrus
- 2 3.5mm TRS stereo audio inputs
- Video input signal sensing
- 2x1 input source switching
- Compatible with QM-WMIC Microphone Input Module

QuickMedia FlipTops

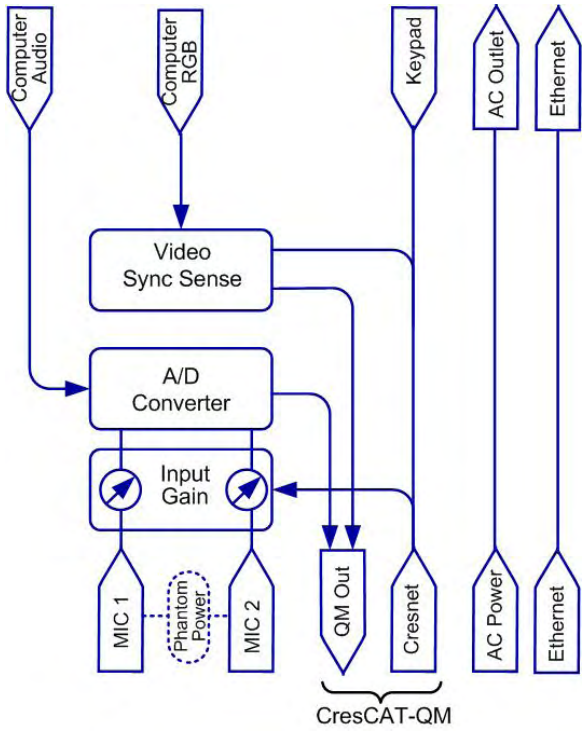
QuickMedia FlipTops provide a multimedia interface and control solution in an elegant flush-mount tabletop design. A variety of models are offered with a full array of computer, video, audio, and gated microphone inputs, plus pass-thru connections for LAN, phone, and AC power to deliver a truly complete connectivity solution. The sleek design of the fliptop lid features an integrated keypad for programmable pushbutton control over AV, lighting and other functions at every interface location. Each FlipTop includes an AC receptacle, and to prevent accidental button presses, the keypad is automatically disabled whenever the lid is not fully opened. All button caps are engravable and include an LED indicator.

QM-FTCC QuickMedia FlipTop Computer Center

Inputs are provided for one RGBHV signal (can also be a component signal) with corresponding stereo audio to accept a connection from a computer or other high-resolution source. For complete connectivity, the QM-FTCC includes an RJ45 LAN pass-thru connector and AC power receptacle.

- The customizable keypad provides 10 to 20 programmable pushbuttons for control of AV, lighting, and other functions (also available as a no button [NB] model)
- Two LED bar graphs display level settings and other parameters
- Two gated microphone inputs are included via terminal block connectors located below the table surface. Both dynamic and condenser type microphones are supported with software-switchable 48V phantom power available at both microphone inputs
- Balanced or unbalanced line-level sources, such as wireless microphones, can also be accommodated. Input gain and gating controls for each microphone/line input are fully adjustable at setup, and can be controlled in real-time from a keypad or touchpanel

QM-FTCC Block Diagram

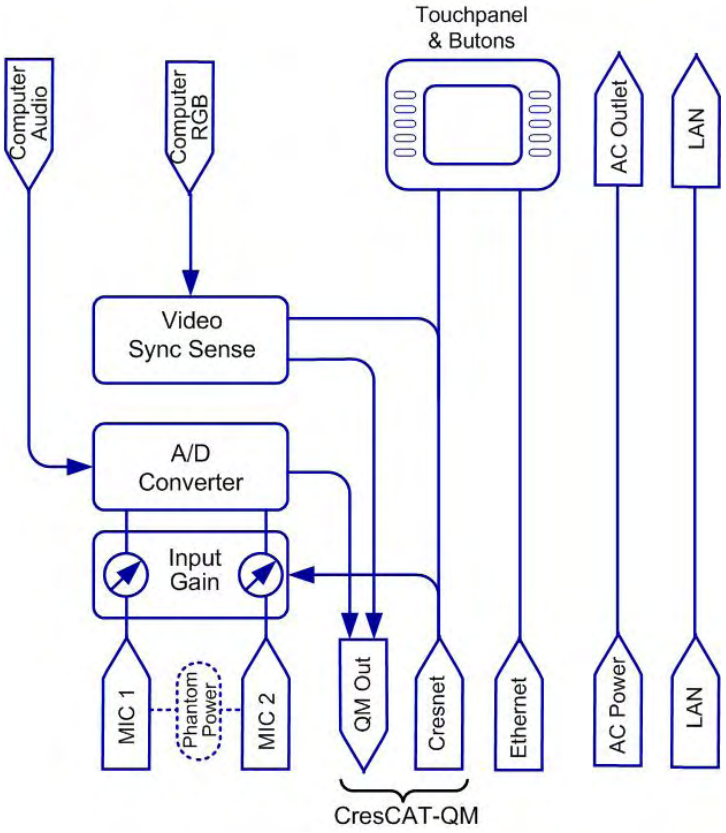


QM-FTCC-TPS4 QuickMedia FlipTop Touchpanel Computer Center

The bright 3.6" active matrix color touchscreen provides a fully customizable user interface for control of AV, lighting, and other functions. With 16-bit Isys® graphics, the QM-FTCC-TPS4 produces astounding 3D graphics, dynamic text, and full-motion animations complete with WAV file audio feedback.

- Ten programmable pushbuttons feature translucent buttons with white LED backlighting and engravable faceplate
- Inputs are provided for one RGB/component signal with corresponding stereo audio to accept a connection from a computer or other high resolution source
- Balanced or unbalanced line-level sources, such as wireless microphones, can also be accommodated. Input gain and gating controls for each microphone/line input are fully adjustable at setup, and can also be controlled in real-time from the touchpanel
- Connectivity for computer signals is facilitated using easy pull-out RGB and audio cables (included), which attach to inputs hidden beneath the table surface and stow neatly within the FlipTop compartment when not in use
- Excess cable simply drops out of sight below the box through grommeted holes provided in the bottom plate. Network connectivity is easily included using any third-party LAN cable
- Two gated microphone inputs are included via terminal block connectors located below the table surface. Both dynamic and condenser type microphones are supported with software switchable 48V phantom power available at both microphone inputs.

QM-FTCC-TPS4 Block Diagram

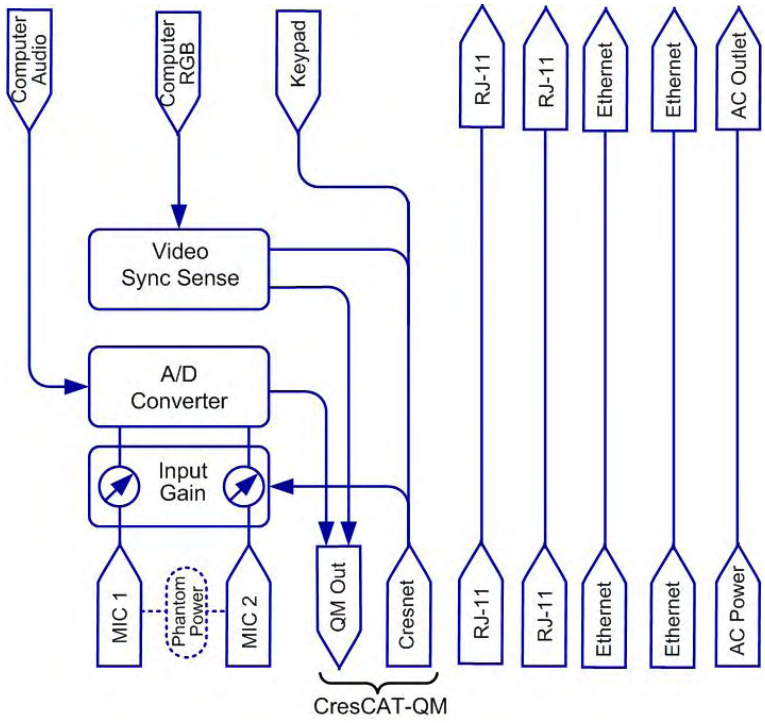


QM-FTDC QuickMedia FlipTop Data Center

Computer/Data Interface inputs are provided for one RGB/component signal with corresponding stereo audio to accept a connection from a computer or other high-resolution source. The QM-FTDC also includes RJ-11 and RJ-45 pass-thru connectors for phone, LAN and other data sources.

- Two RJ11 and two RJ45 pass-thru connectors accommodate phone, LAN, and other data signals
- The customizable keypad provides 10 to 20 programmable pushbuttons for control of AV, lighting, and other functions (also available as a no button [NB] model)
- All button caps are engravable and include LED feedback indicators
- Two LED bar graphs are also provided to display level settings and other parameters
- Two gated microphone inputs are included via terminal block connectors located below the table surface. Both dynamic and condenser type microphones are supported with software-switchable 48V phantom power available at both microphone inputs
- Balanced or unbalanced line-level sources, such as wireless microphones, can also be accommodated
- Input gain and gating controls for each microphone/line input are fully adjustable at setup, and can also be controlled in real-time from a keypad or touchpanel

QM-FTDC Block Diagram

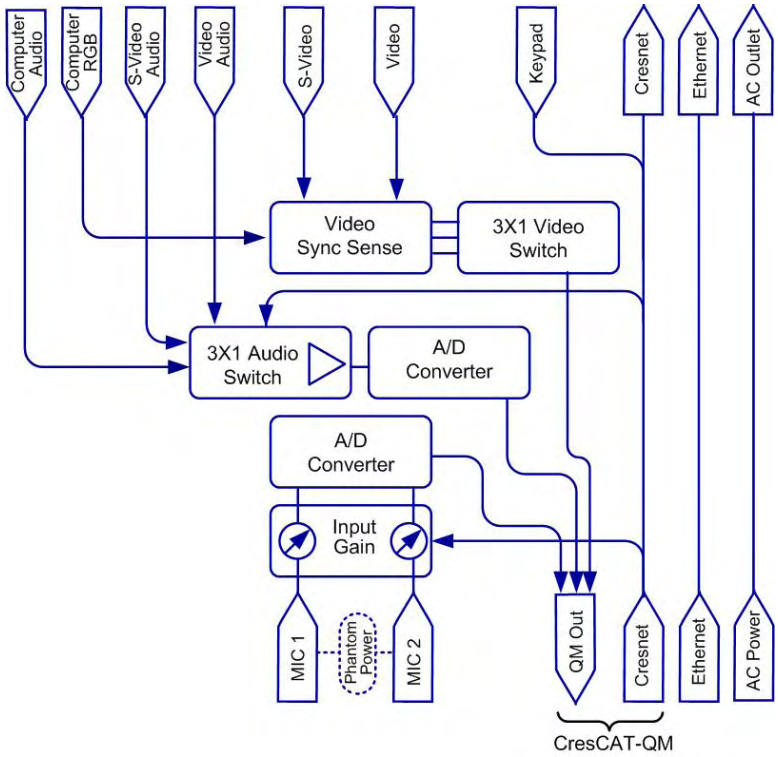


QM-FTMC QuickMedia FlipTop Media Center

The QM-FTMC provides individual inputs for composite, S-video, and RGB/component signals, each with corresponding stereo audio, to accept connections from portable AV devices and computers.

- The QM-FTMC also includes an RJ45 LAN pass-thru connector and AC power receptacle
- The customizable keypad provides 10 to 20 programmable pushbuttons for control of AV, lighting, and other functions (also available as a no button [NB] model)
- Two LED bar graphs are also provided to display level settings and other parameters
- The built-in 3X1 switcher includes audio breakaway to allow the three program audio inputs to be switched independently of the video and RGB inputs
- Two gated microphone inputs are included via terminal block connectors located below the table surface. Both dynamic and condenser type microphones are supported with software-switchable 48V phantom power available at both microphone inputs
- Balanced or unbalanced line-level sources, such as wireless microphones, can also be accommodated
- Input gain and gating controls for each microphone/line input are fully adjustable at setup, and can also be controlled in real-time from a keypad or touchpanel

QM-FTMC Block Diagram



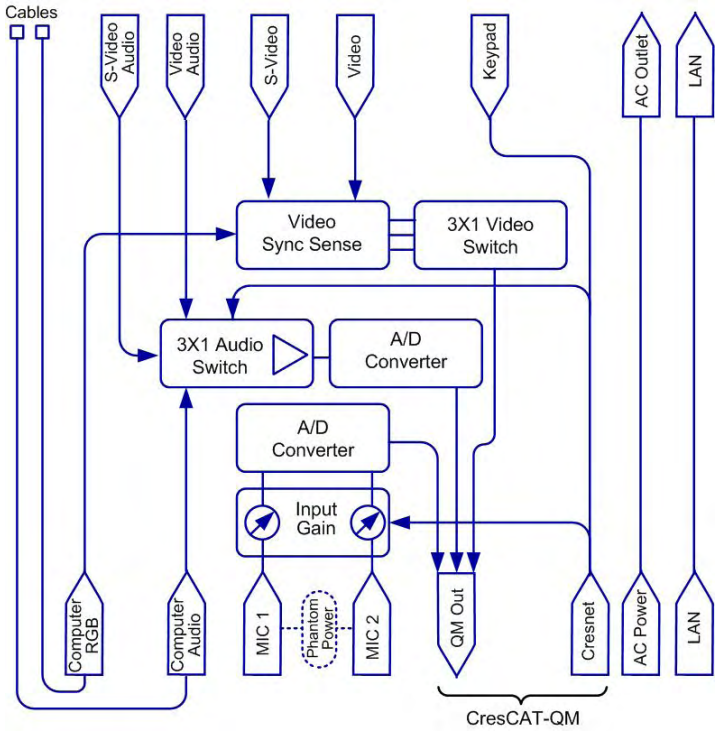
QM-FTMCSC QuickMedia FlipTop Media Center with Cable Storage Compartment

Individual inputs are provided for composite, S-video, and RGBHV/component signals, each with corresponding stereo audio, to accept connections from portable AV devices and computers. A cable management plate is included.

Connectivity for computer signals is facilitated using easy pull-out RGBHV and audio cables (included), which attach to inputs hidden beneath the table surface and stow neatly within the FlipTop compartment when not in use. Excess cable simply drops out of sight below the box. Network connectivity is easily included using any third-party LAN cable.

- The customizable keypad provides 10 to 20 programmable pushbuttons for control of AV, lighting, and other functions (also available as a no button [NB] model)
- All button caps are engravable and include LED feedback indicators
- Two LED bar graphs are also provided to display level settings and other parameters
- The built-in 3X1 switcher includes audio breakaway to allow the three program audio inputs to be switched independently of the video and RGBHV inputs
- Two gated microphone inputs are included via terminal block connectors located below the table surface. Both dynamic and condenser type microphones are supported with software-switchable 48V phantom power available at both microphone inputs
- Balanced or unbalanced line-level sources, such as wireless microphones, can also be accommodated. Input gain and gating controls for each microphone/line input are fully adjustable at setup, and can also be controlled in real-time from a keypad or touchpanel

QM-FTMCSC Block Diagram

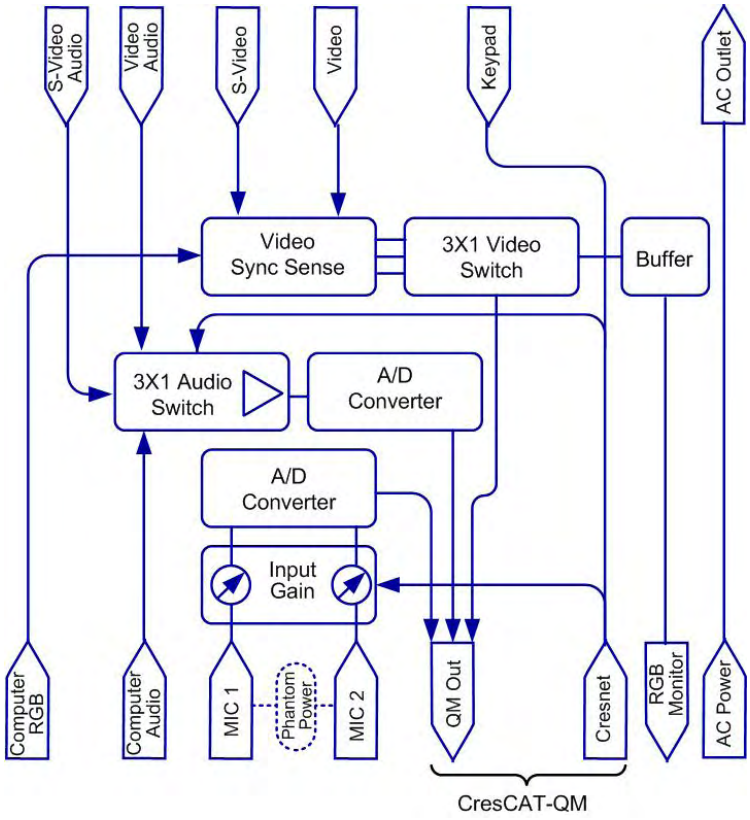


QM-FTSC QuickMedia FlipTop Media Center with Cable Storage Compartment

Individual inputs are provided for composite, S-video, and RGB/component signals, each with corresponding stereo audio, to accept connections from portable AV devices and computers. The QM-FTSC includes a six-button programmable keypad and cable management plate. A buffered monitor pass-thru connector is also provided to feed the RGB input signal to a local monitor. For complete connectivity, the QM-FTSC also includes an AC power receptacle. Connectivity for all of the inputs is facilitated using easy pull-out cables (included), which stow neatly within the FlipTop compartment when not in use. Excess cable simply drops out of sight below the box. Network connectivity is easily accomplished using any third-party LAN cable.

- A customizable keypad is included within the recessed compartment, providing six programmable pushbuttons for manual control of input selection, volume, power, and other functions
- The built-in 3X1 switcher includes audio breakaway to allow the three program audio inputs to be switched independent of the video and RGB inputs
- Two gated microphone inputs are included via Neutrik® Combo connectors located below the table surface. The XLR connections support both dynamic and condenser type microphones with software switchable 48V phantom power available at both microphone inputs
- Balanced or unbalanced line-level sources, such as wireless microphones, can also be accommodated using the 1/4" TRS connections. Input gain and gating controls for each microphone/line input are fully adjustable at setup, and can also be controlled in real-time from a keypad or touchpanel

QM-FTSC Block Diagram



NOTE: Additional versions of FlipTops are available. Refer to the Crestron website for details.

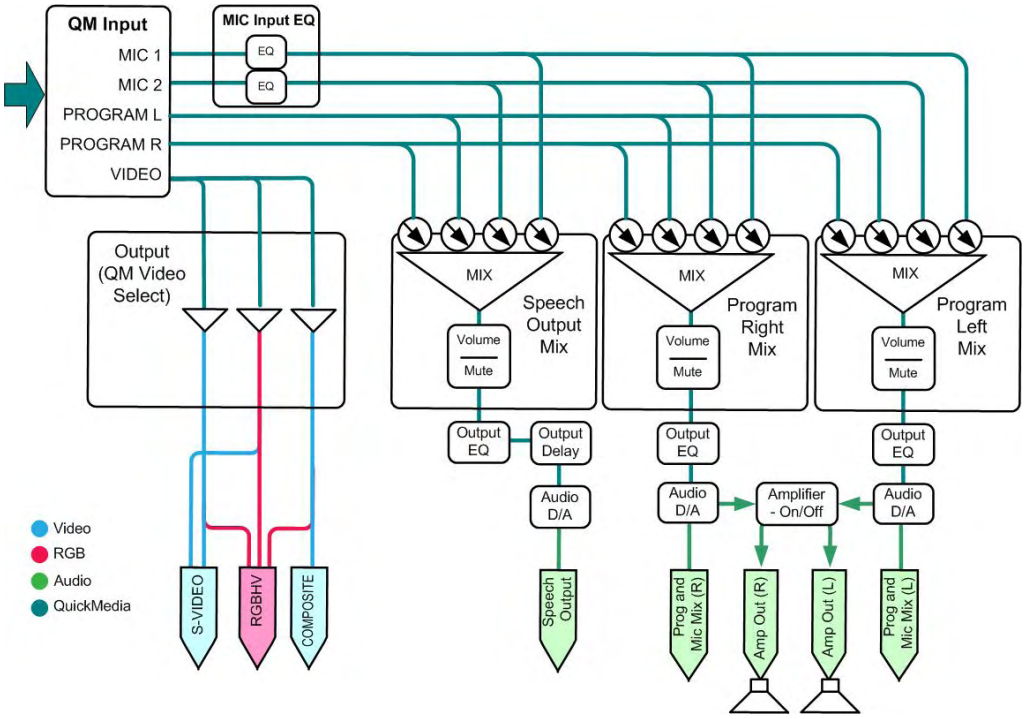
QuickMedia Receivers

QM-RMCRX-BA

Mounted at the projector or plasma display location, the QM-RMCRX-BA receives the QuickMedia (QM) signal from any QM Transmitter or Distribution Center, breaking out each media signal to its respective format to feed the AV inputs on the display device.

Separate composite, S-video, and RGBHV outputs deliver high quality video and high resolution computer graphics to the display device. Signal routing occurs automatically under the command of the control system based upon the input source selected at the QM transmitter.

QM-RMCRX-BA Block Diagram



- Each output channel includes software-adjustable volume, bass, treble, mute, and versatile 12-band parametric/graphic equalization. In addition, the speech output includes up to 40mS of delay for ceiling speaker alignment
- The QM-RMCRX-BA includes two bidirectional RS-232 ports and one IR/Serial port to provide full control of the display device and other equipment
- The four digital input ports can accept the direct connection of room occupancy sensors and power sensors for enhanced automation and monitoring
- Two relay ports are included for control of a projection screen or lift

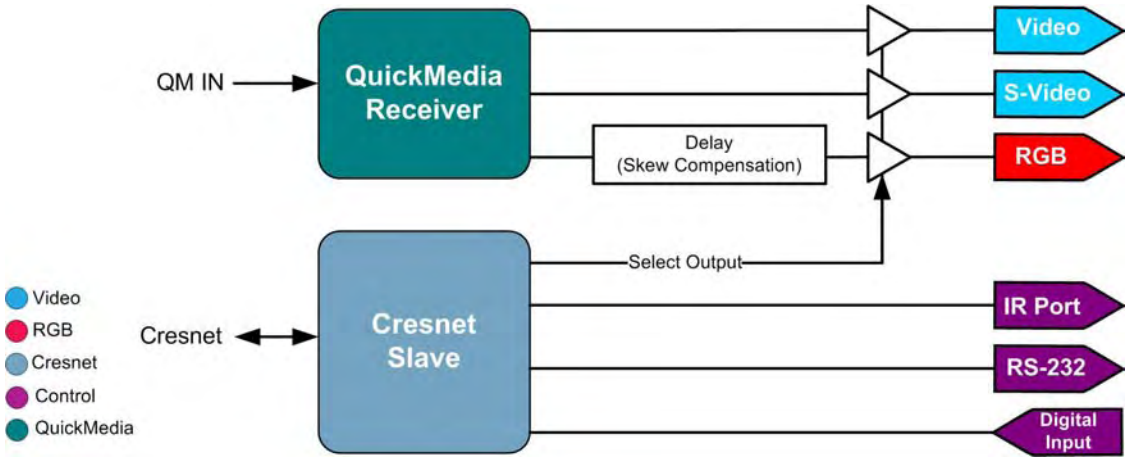
- The powerful 2-Series control engine can be configured to serve as the master control system for an entire MediaManager system or as a slave device communicating with other Crestron components via Cresnet® or Ethernet
- The built-in high speed Ethernet port and Web server provide full connectivity for remote programming and diagnostics, and seamless integration into control networks of any size
- Native support for Crestron e-Control®2 and RoomView® applications delivers the industry's best IP-based control and help desk solution
- QuickMedia® transport carries four channels of 24-bit digital audio comprised of a stereo program signal and two discrete microphone signals
- The internal 4-band speech-optimized graphic equalizer processes each of the two incoming microphone signals
- Versatile 4X3 mixing allows the microphone signals and stereo program signal to be precisely adjusted and routed to any or all three audio output channels
- The three balanced line-level outputs can be connected directly to inputs on the display device or used to feed a separate amplifier or external powered speakers
- A built-in 20 watt stereo amplifier is also provided to drive a pair of speakers directly

QM-RX

The QM-RX receives RGBHV and video signals from any QuickMedia Wall Plate, FlipTop Box, or Distribution Center. Mounted at the projector or plasma display location, the QM-RX breaks out composite video, S-video, and RGBHV signals to feed the respective inputs on the display device.

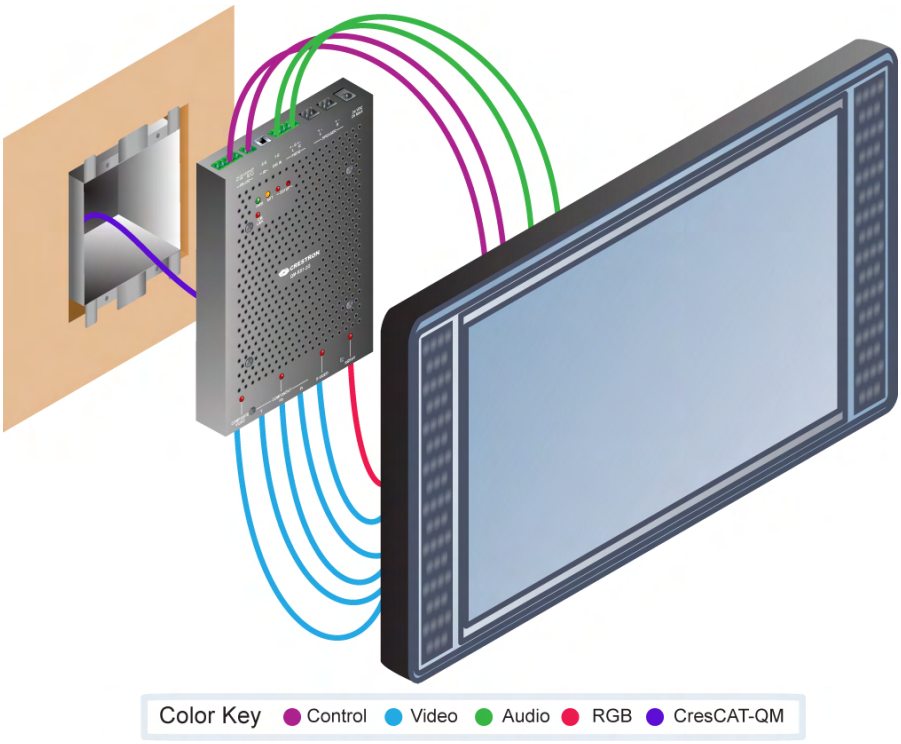
All signal routing occurs automatically under the command of the control system based upon the input source type selected. The QM-RX includes one bidirectional RS-232 port and one IR/serial port for control of the display device. A digital input port is also included to enable direct connection of a room occupancy sensor, power sensor, or any contact closure device.

QM-RX Block Diagram



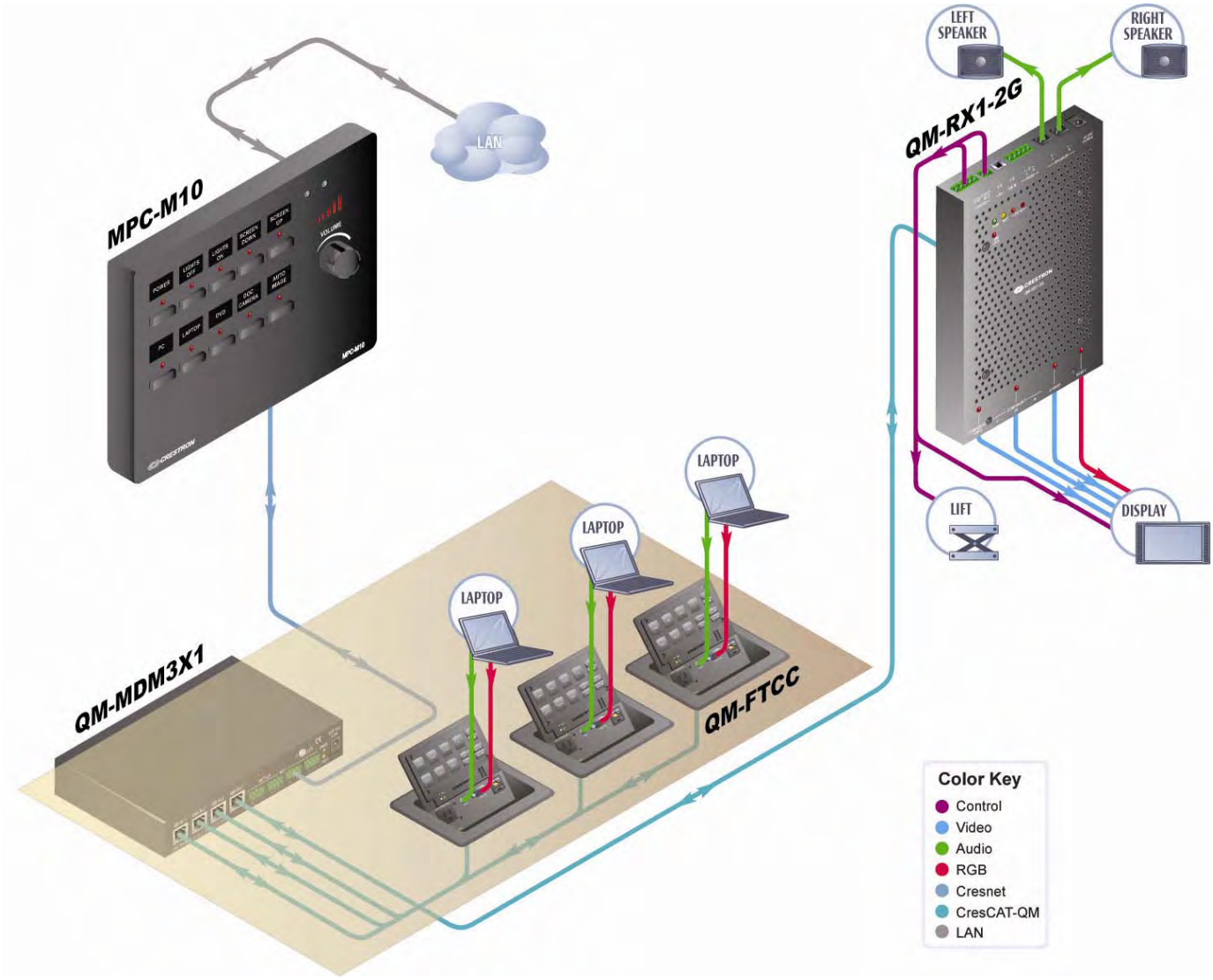
QM-RX1-2G

This new QM Receiver features a low profile design, perfect for installation behind flat panel displays and above ceiling mounted projectors. It mounts to a standard 2-gang or 85mm European electrical box and extends only one inch from the surface. Connections for the display device and speakers are all positioned on the sides of the receiver, while the QuickMedia® cable and screen/lift connections are made behind the unit within the electrical box. A second set of speaker connections is also provided on the back.



- Low profile design
- Mounts to a 2-gang or 85mm European electrical box
- Meets requirements for plenum-rated ceilings
- Discrete composite, S-video, component, and RGBHV display outputs
- Stereo program line-level audio output
- Built-in 20 watt stereo amplifier
- 10-band graphic + 2-band parametric EQ
- Input mixing and microphone EQ
- RS-232, IR, digital in, and relay control ports
- Optional power current sensor

QM-RX1-2G Application Diagram



QuickMedia Distribution Centers

Expanding any MediaManager system is easy using the Crestron QuickMedia Distribution Centers, providing matrix routing of QuickMedia input and output signals to support numerous Wall Plates, FlipTops, and Receivers. Some models also provide local inputs to support multimedia sources located in a central equipment rack or podium, and 3-channel local audio outputs featuring professional digital signal processing to feed directly to power amplifiers and other components.

Individual inputs are provided for composite, S-video, and RGB/component signals, each with corresponding stereo audio, to accept connections from portable AV devices and computers.

QM-MDM3X1

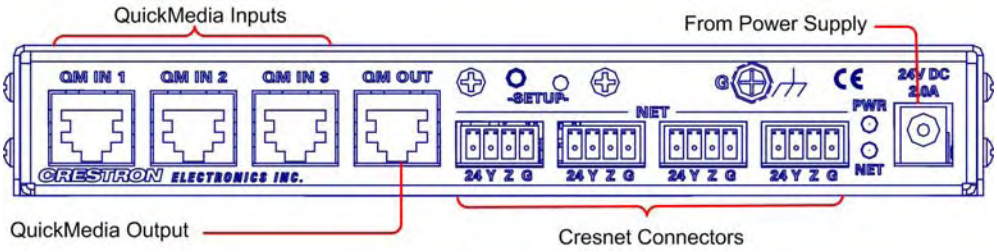
The QM-MDM3X1 is a compact 3x1 QuickMedia switcher designed to expand the input capacity of a single QM-RMCRX-BA Receiver or any device with a QM Input port. It attaches directly to the top of a QM-RMCRX-BA, providing inputs for up to three QuickMedia Wall Plates, FlipTop Boxes, and other QM Transmitters. It can also be installed beneath a table or in a closet to provide localized switching of any three QM sources.

The QM-MDM3X1 behaves as a midpoint QM device in the same manner as other QM switchers. All signal routing is provided over inexpensive CAT5e type cable via the exclusive Crestron QuickMedia transport, supporting the distribution of high resolution RGB, video, stereo audio and microphone signals up to a total of 450 feet end to end. Up to two QM-MDM3X1s or other QuickMedia Switchers, Distribution Centers, and Distribution Amplifiers may be cascaded in a given QuickMedia signal path to support larger system configurations.

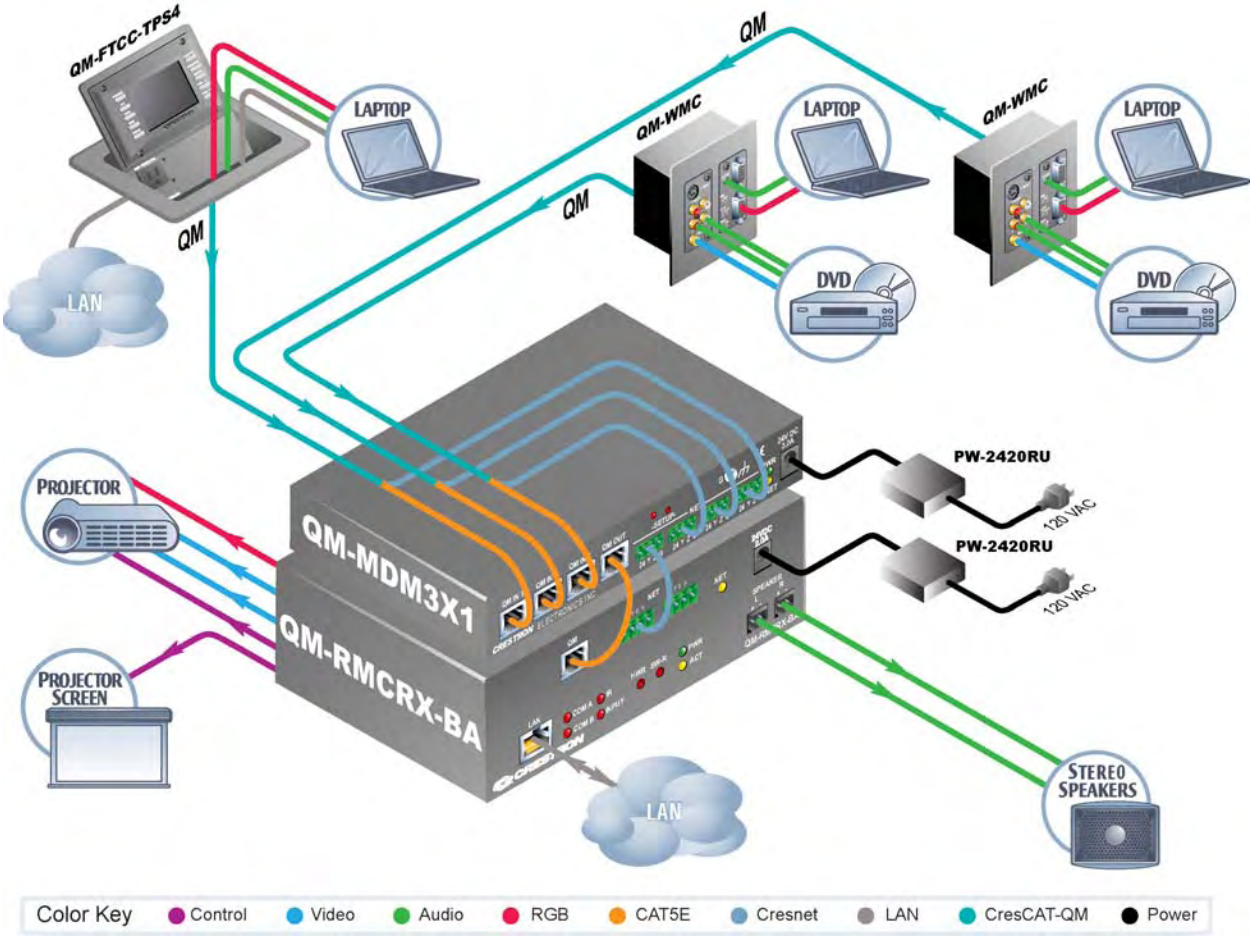
Regardless of the configuration, complete system operation can be made transparent to the end user with all signal routing occurring smoothly under the command of the MediaManager control system. Audio breakaway capability allows audio signals to be selected independent of video signals.

Four (4) built-in Cresnet® ports provide for distribution of Cresnet control signals and power. The QM-MDM3X1 can furnish up to 41 watts Cresnet power when powered by a dedicated PW-2420RU power supply, or 16 watts if powered by a PW-2410RU. The QM-MDM3X1 may also be powered directly from any 2-Series control system or Cresnet power supply via the Cresnet network.

QM-MDM3X1 Connectors



QM-MDM3X1 Application Diagram



QM-MD4X2

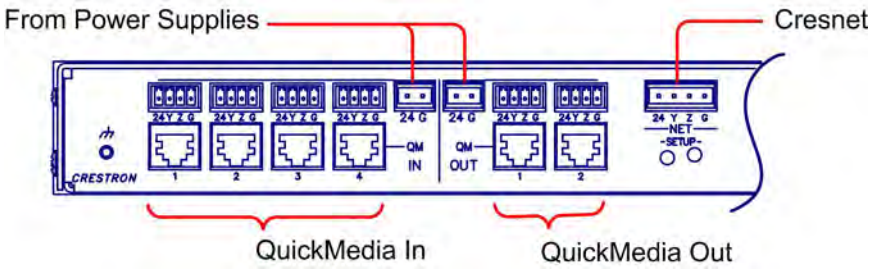
The QM-MD4X2 is a 4X2 QuickMedia® matrix switcher designed to provide versatile routing of up to four inputs from QuickMedia Wall Plates and FlipTop Boxes to either of two QuickMedia Receivers. All signal routing is provided over inexpensive CAT5e type cable via the exclusive Crestron QuickMedia transport, supporting the distribution of high resolution RGB, video, stereo audio and microphone signals up to a total of 450 feet end to end. Audio breakaway capability allows audio signals to be routed independent of video signals.

Up to two QuickMedia Matrix Switchers, Distribution Centers, and Distribution Amplifiers may be cascaded in a given QuickMedia signal path to support larger system configurations. For instance, a QM-MD4X2 may be used to expand the input capacity of a QM-MD7X2, or multiple QM Matrixes can be combined to support applications such as room-combining with numerous inputs and outputs. Regardless of the configuration, complete system operation can be made transparent to the end user with all signal routing occurring smoothly under the command of the MediaManager control system. Control and monitoring of the QM-MD4X2 is also possible independent of the control system using its front panel pushbuttons and LEDs. Customizable label strips are provided to easily designate inputs and outputs by name using Crestron Engraver software or standard 3/8" tape labels. For security, the front panel controls can be locked out.

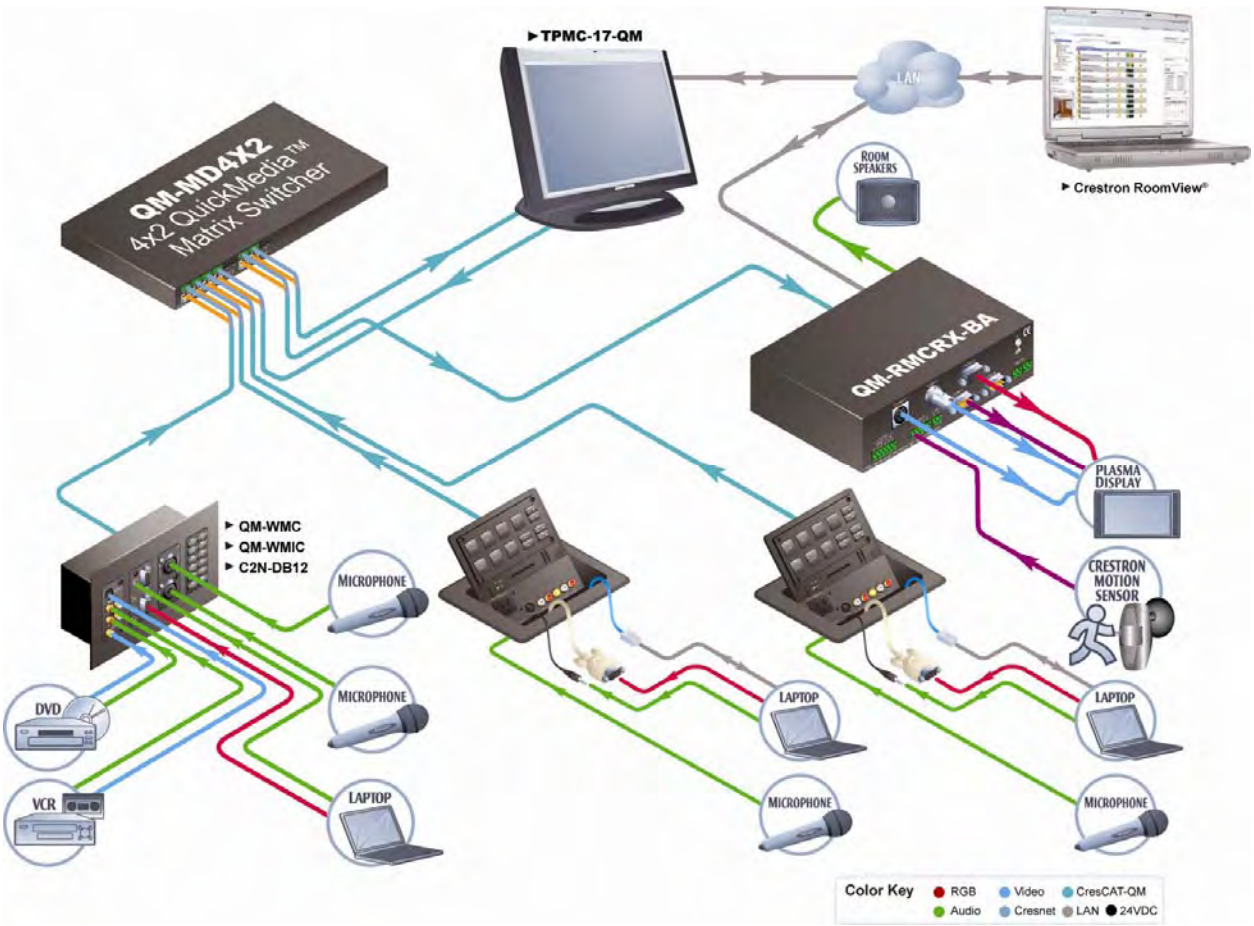
Every QuickMedia® port on the rear panel is accompanied by a Cresnet® port with 24VDC power distribution built in to simplify termination of the QuickMedia® and Cresnet wiring.

- Simple, versatile QuickMedia signal routing
- Easy single cable connections
- Audio breakaway capability
- Front panel controls
- Single space rack-mountable

QM-MD4X2 Connectors



QM-MD4X2 Application Diagram



QM-MD4X4

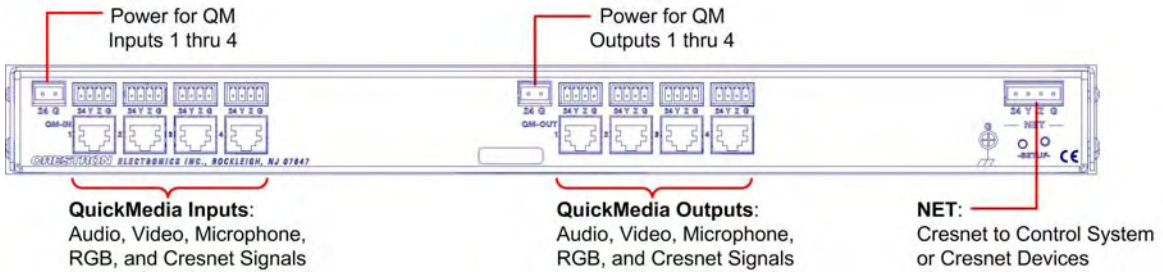
The QM-MD4X4 is a 4 x 4 QuickMedia® matrix switcher designed to provide versatile routing of up to four inputs from QuickMedia Wall Plates and FlipTop Boxes to any of four QuickMedia Receivers. All signal routing is provided over inexpensive CAT5e type cable via the exclusive Crestron QuickMedia transport, supporting the distribution of high-resolution RGB, video, stereo audio and microphone signals up to a total of 450 feet end to end. Audio breakaway capability allows audio signals to be routed independent of video signals.

Up to two QuickMedia Matrix Switchers, Distribution Centers, and Distribution Amplifiers may be cascaded in a given QuickMedia signal path* to support larger system configurations. For instance, a QM-MD4X4 may be used to expand the input capacity of a QM-MD7X2, or multiple QM Matrixes can be combined to support applications such as room-combining with numerous inputs and outputs.

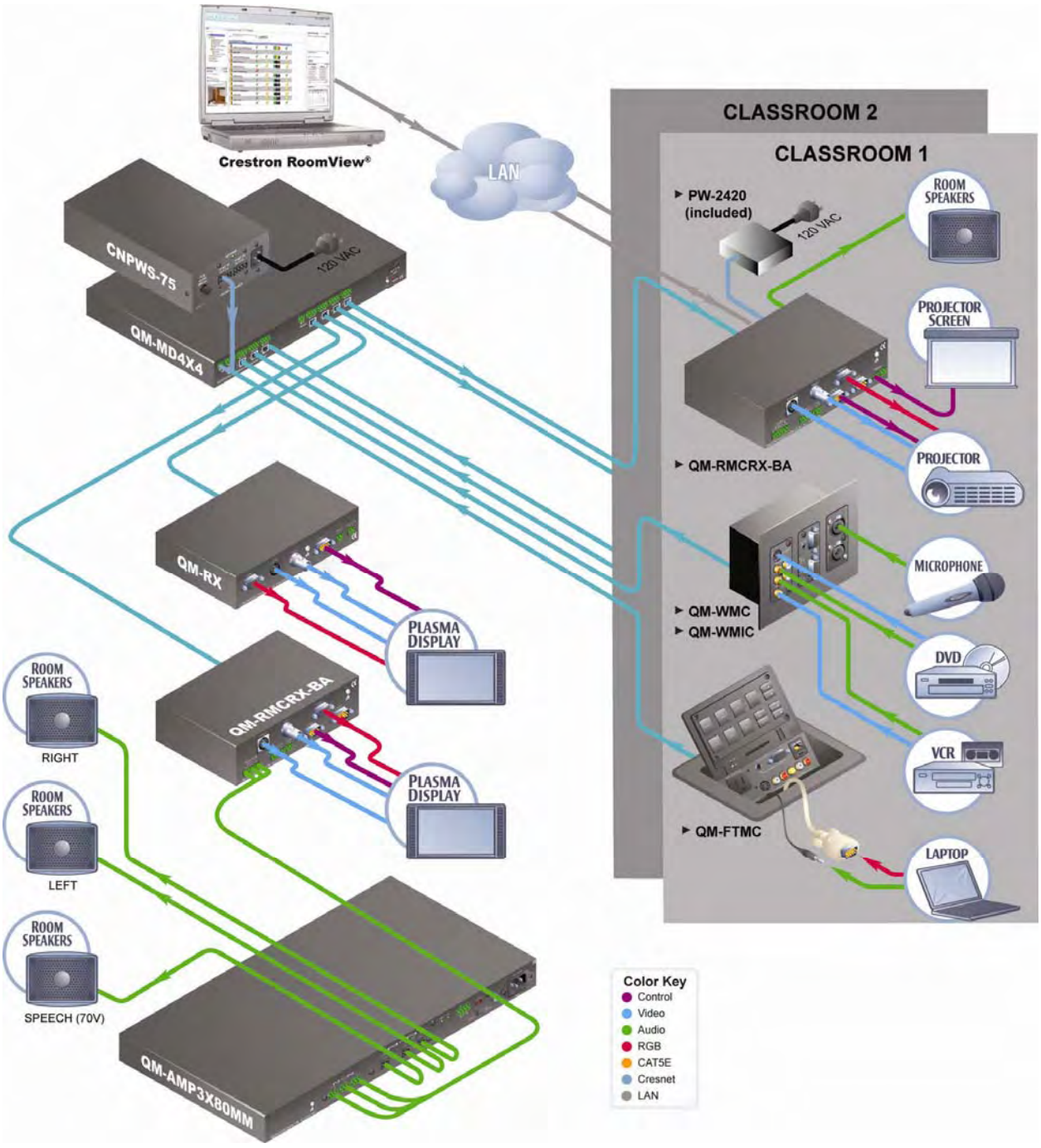
Regardless of the configuration, complete system operation can be made transparent to the end user with all signal routing occurring smoothly under the command of the MediaManager control system. Control and monitoring of the QM-MD4X4 is also possible independent of the control system using its front panel pushbuttons and LEDs. Customizable label strips are provided to easily designate inputs and outputs by name using Crestron Engraver software or standard 3/8" tape labels. For security, the front panel controls can be locked out.

Every QuickMedia port on the rear panel is accompanied by a Cresnet® port with 24VDC power distribution built in to simplify termination of the QuickMedia and Cresnet wiring.

QM-MD4X4 Connectors



QM-MD4X4 Application Diagram



QM-MD5X1

The QM-MD5X1 is a professional AV switcher and digital audio signal processor featuring a QuickMedia® input and output plus four sets of local AV inputs and one set of discrete program and speech audio outputs. Occupying just one rack space, the QM-MD5X1 provides versatile signal routing and processing capability as a midpoint distribution switcher or front end multimedia interface for a complete MediaManager AV presentation system.

Two sets of three BNC connectors are provided on the QM-MD5X1 to accept video inputs from two composite, S-video, component, or HDTV sources. Independent 4-band speech-optimized graphic equalization is provided for each of the two microphone signals brought in at the QM input. A 2X1 microphone mixer combines the processed microphone signals prior to feeding the QM output. In addition to the QM output, the QM-MD5X1 also provides three local audio outputs consisting of a stereo program channel and a mono speech channel.

The balanced/unbalanced line-level outputs are designed to drive rack-mounted amplifiers (like the QM-AMP3X80MM) as well as codecs, recorders, assistive listening devices, and more. Generally, these outputs contain the same stereo program signal and microphone mix as those fed to the QM output, with the added ability to adjust the mix of left program, right program, and microphone signals independently for each local output channel.

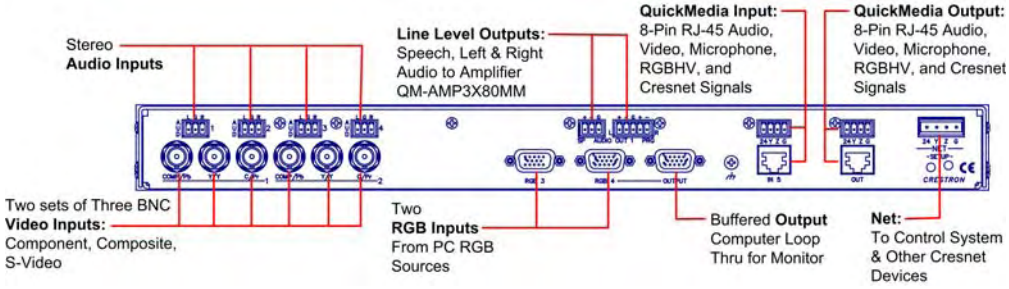
Each local output channel includes adjustments for volume, bass, and treble, a mute control, and a versatile 12-band parametric/graphic equalizer. In addition, the speech output includes up to 40mS of delay adjustment for loudspeaker alignment. Two RGBHV inputs are also included to accept high resolution computer sources up to 1920 X 1200 pixels. Four stereo audio inputs accommodate unbalanced line-level signals from computers and program audio sources.

In addition to the local video, RGBHV, and audio inputs, there is a single QuickMedia (QM) input port which receives RGBHV, video, program audio and microphone signals from a FlipTop or Wall Plate transmitter over inexpensive CAT5e or CAT6 cable via the Crestron exclusive QuickMedia transport. The 5X1 video and audio switchers built into the QM-MD5X1 allow any of the local or QM input signals to be routed to a single QM output.

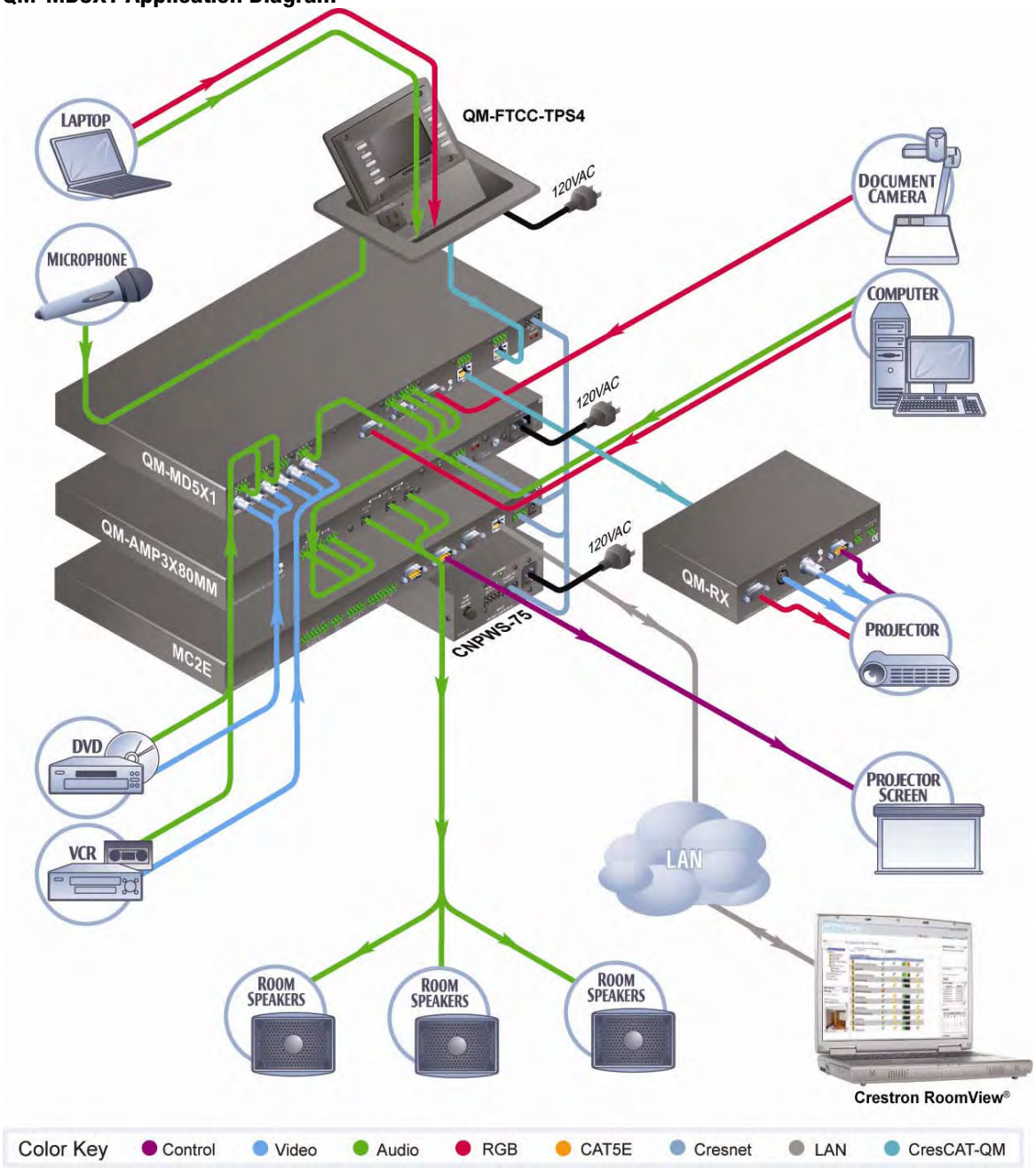
With such extensive control over the system's audio performance, the QM-MD5X1 effectively eliminates the need for expensive outboard processors to attain precise adjustment tailored to the acoustical environment. All audio processing and mixing is performed in the digital domain, adjustable at setup using QM Tools software. Many parameters are also controllable in real-time from a keypad or touchpanel, with numerous presets that can be saved for instant recall to account for varying source material or room conditions. Built-in video sensing on every input can be utilized to trigger automatic input selection and provide power status information to the control system. Control and monitoring of the QM-MD5X1 is also possible independent of the control system using its front panel pushbuttons and LEDs.

To gain additional signal routing flexibility and expand input and output capacity, up to two QuickMedia Distribution centers may be cascaded in a given QuickMedia signal path. For instance, a QM-MD8X8 or QM-MD4X2 may be used to expand the input capacity of the QM-MD5X1s QM input. Customizable label strips are provided to easily designate inputs and outputs by name using Crestron Engraver software. For security, the front panel controls can be locked out.

QM-MD5X1 Connectors



QM-MD5X1 Application Diagram



QM-MD7X2

The QM-MD7X2 is a versatile matrix switcher and multi-channel digital audio signal processor featuring two QuickMedia® inputs and outputs plus five sets of local AV inputs, gated microphone mixing, and two audio outputs sections each with discrete program and speech channels. Occupying just one rack space, the QM-MD7X2 affords extensive signal routing and processing capability as a midpoint distribution switcher or front end multimedia interface for a complete MediaManager AV presentation system.

Three sets of three BNC connectors are provided on the QM-MD7X2 to accept video inputs from three composite, S-video, component, or HDTV sources. Two RGBHV inputs are also included to accept high resolution computer sources up to 1920 X 1200 pixels. Five stereo audio inputs accommodate unbalanced line-level signals from computers and program audio source.

In addition to the local video, RGBHV, and audio inputs, there are two QuickMedia (QM) input ports which receive RGBHV, video, program audio and microphone signals from FlipTop or Wall Plate transmitters over inexpensive CAT5e or CAT6 cable via the Crestron exclusive QuickMedia transport.

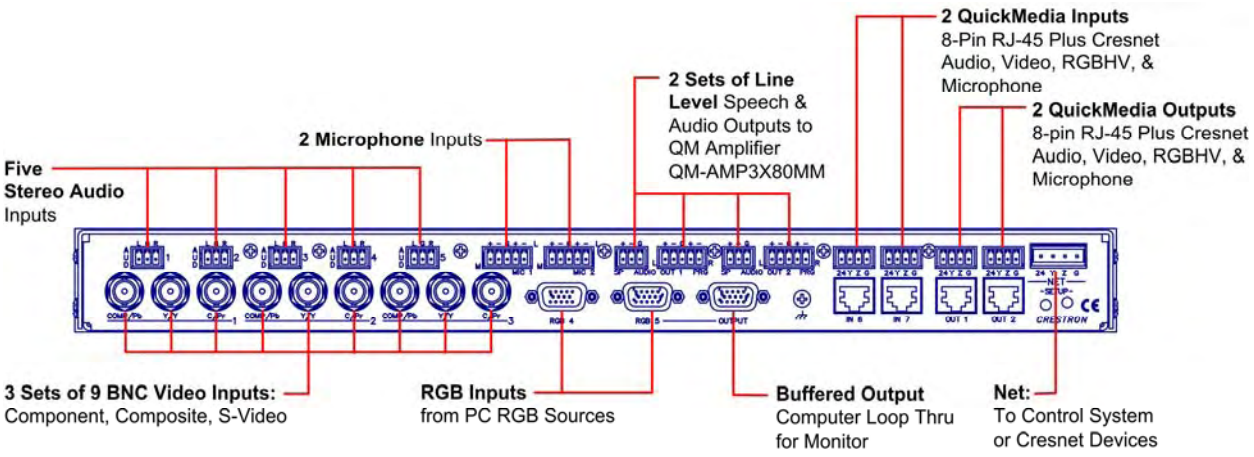
Two gated microphone inputs are included on the QM-MD7X2 with software-switchable 48V phantom power at both inputs to support either dynamic or condenser microphones. The 7X2 video and audio switchers built into the QM-MD7X2 allow any of the local or QM input signals to be routed independently to either of two QM outputs. Each QM output can be used to feed a separate QuickMedia Receiver to support two independent display devices.

Balanced or unbalanced line-level sources such as wireless microphones can also be accommodated. These two microphone/line inputs can be mixed with the two microphone signals brought in at either QM input, with two independent 4X1 mixes possible to feed each of the two QM outputs. Each mix also includes independent 4-band speech optimized graphic equalization for each individual microphone input.

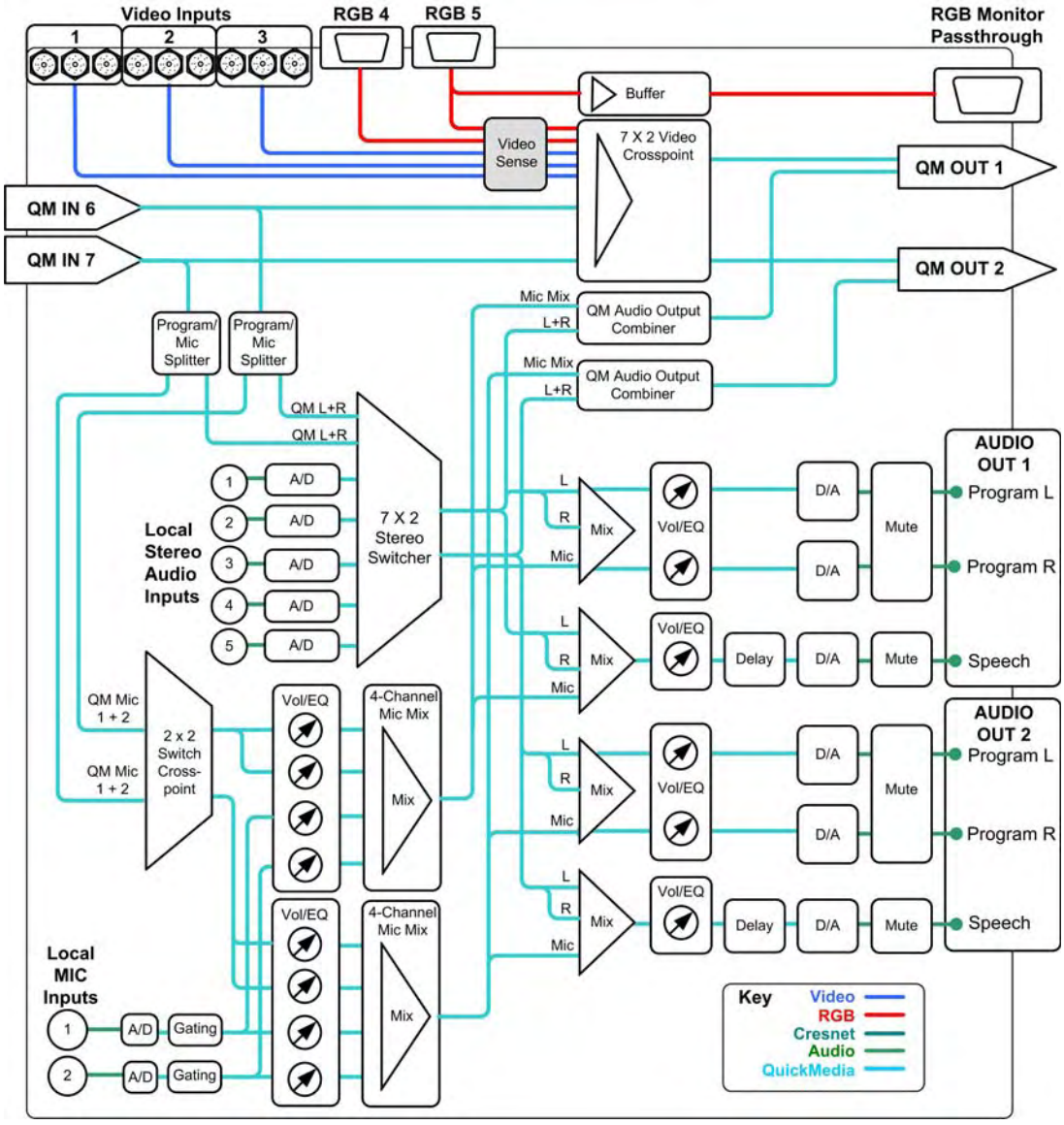
Key to the QM-MD7X2 is its two sets of local audio outputs, each consisting of a stereo program channel and a mono speech channel. These six-balanced/unbalanced line-level outputs are designed to drive rack-mounted amplifiers (like the QM-AMP3X80MM), as well as codecs, recorders, assistive listening devices, and more. Generally, Audio Output 1 contains the same stereo program signal and microphone mix as that fed to QM output 1, and likewise for Output 2. However, the mix of left program, right program, and microphones is independently adjustable for each local output channel. All audio processing and mixing is performed in the digital domain, adjustable at setup using QM Tools software. Many parameters are also controllable in real-time from a keypad or touchpanel, with numerous presets that can be saved for instant recall to account for varying source material or room conditions.

Each local output channel includes adjustments for volume, bass, and treble, a mute control, and a versatile 12-band parametric/graphic equalizer. In addition, the speech outputs include up to 40mS of delay adjustment for loudspeaker alignment. With such extensive control over the system's audio performance, the QM-MD7X2 effectively eliminates the need for expensive outboard processors to attain precise adjustment tailored to the acoustical environment. To gain additional signal routing flexibility and expand input and output capacity, up to two QuickMedia Distribution centers may be cascaded in a given QuickMedia signal path.

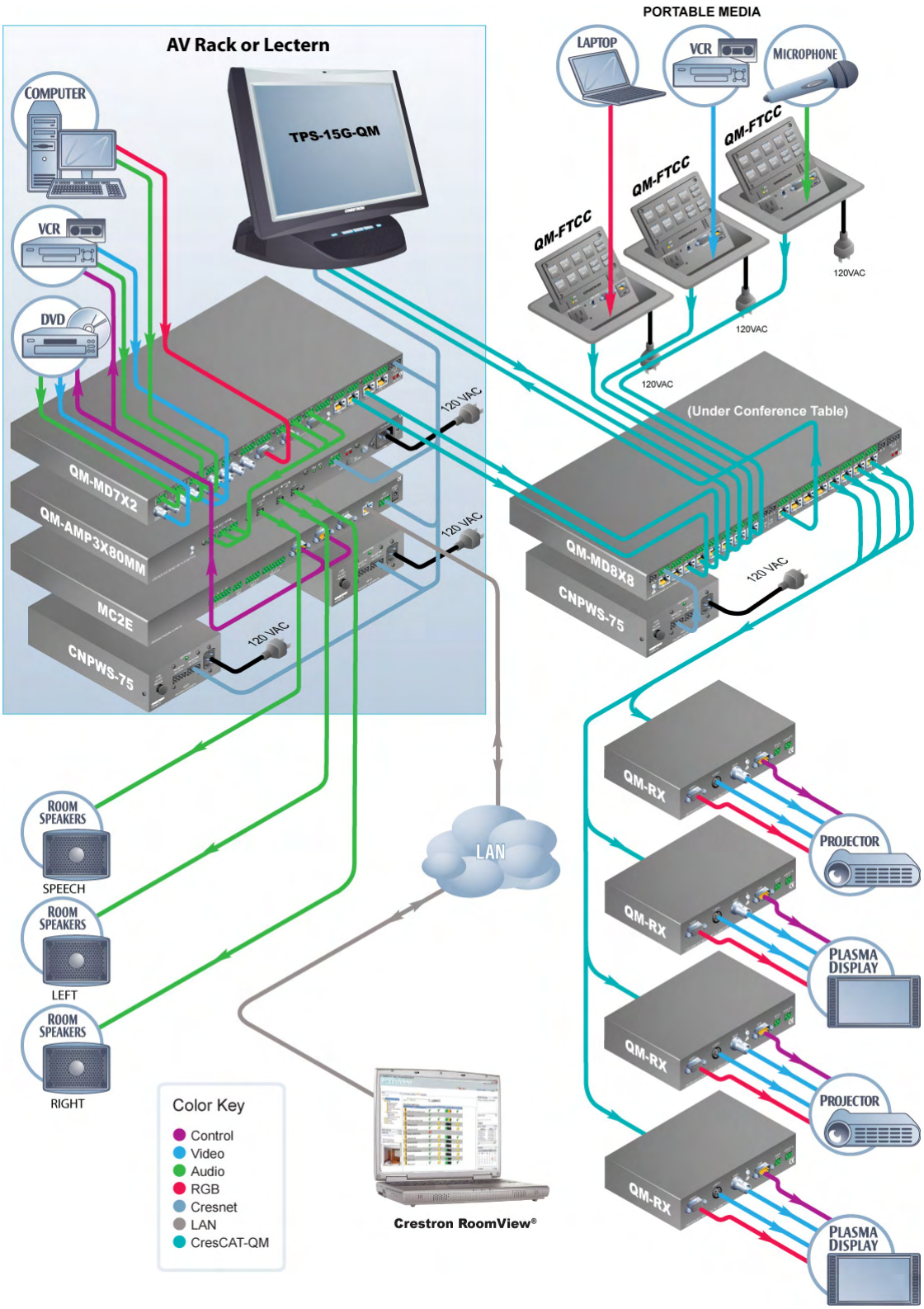
QM-MD7X2 Connectors



QM-MD7X2 Block Diagram



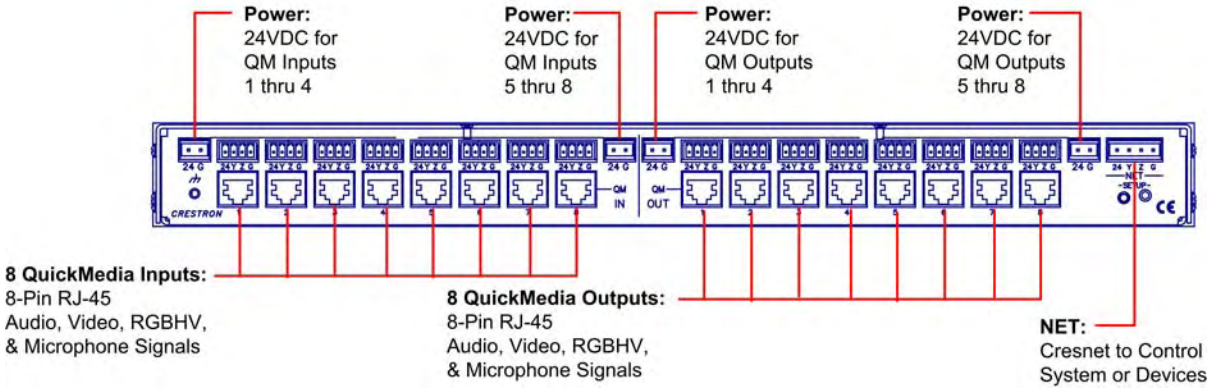
QM-MD7X2 Application Diagram



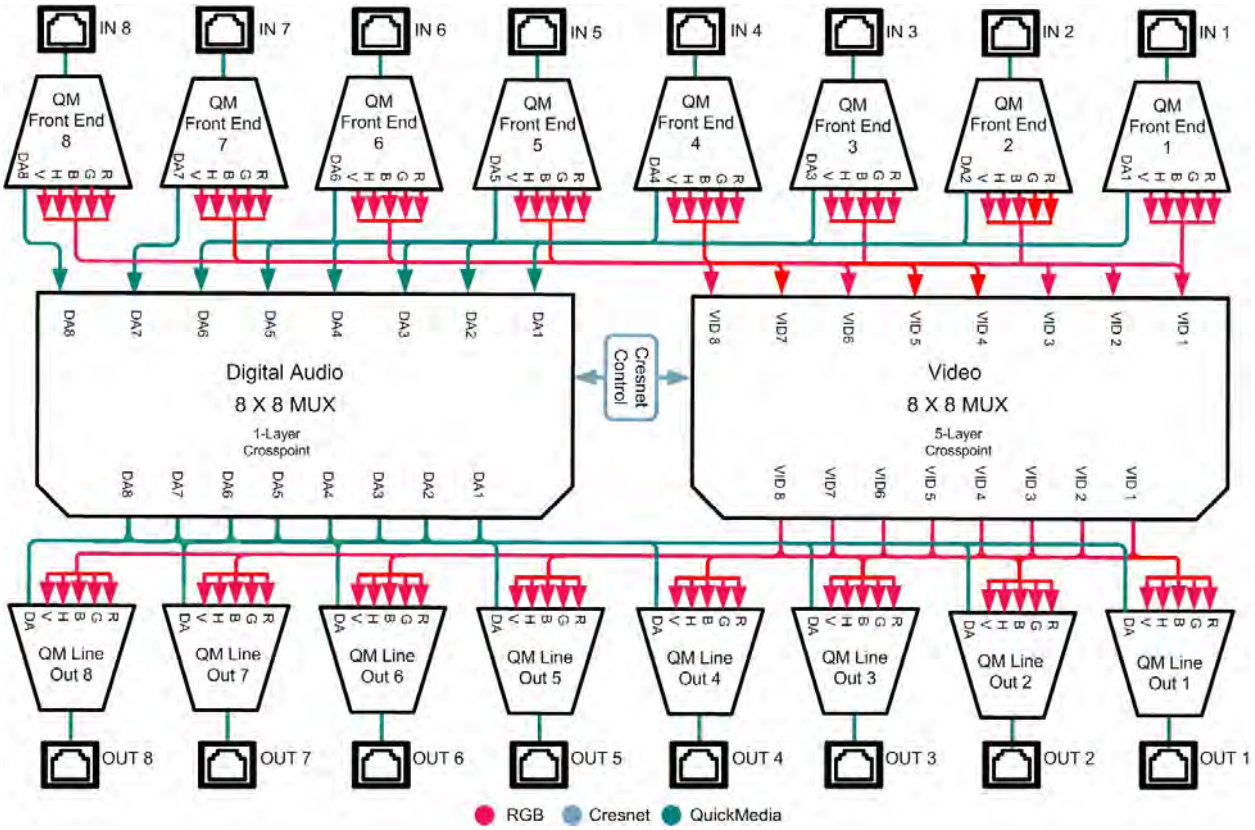
QM-MD8X8

The QM-MD8X8 is an 8X8 QuickMedia® matrix switcher designed to provide versatile routing of up to eight inputs from QuickMedia Wall Plates and FlipTop Boxes to any of eight QuickMedia Receivers. Audio breakaway capability allows audio signals to be routed independent of video signals. Up to two QuickMedia Distribution Centers may be cascaded in a given QuickMedia signal path to support larger system configurations. Multiple QM-MD8X8s can be used in a variety of combinations to support room-combining applications. Control and monitoring of the QM-MD8X8 can be independent of the control system via its front panel pushbuttons and LEDs. A Cresnet® port with built-in 24VDC power distribution to simplify termination of the QuickMedia and Cresnet wiring accompanies every QuickMedia port on the rear panel.

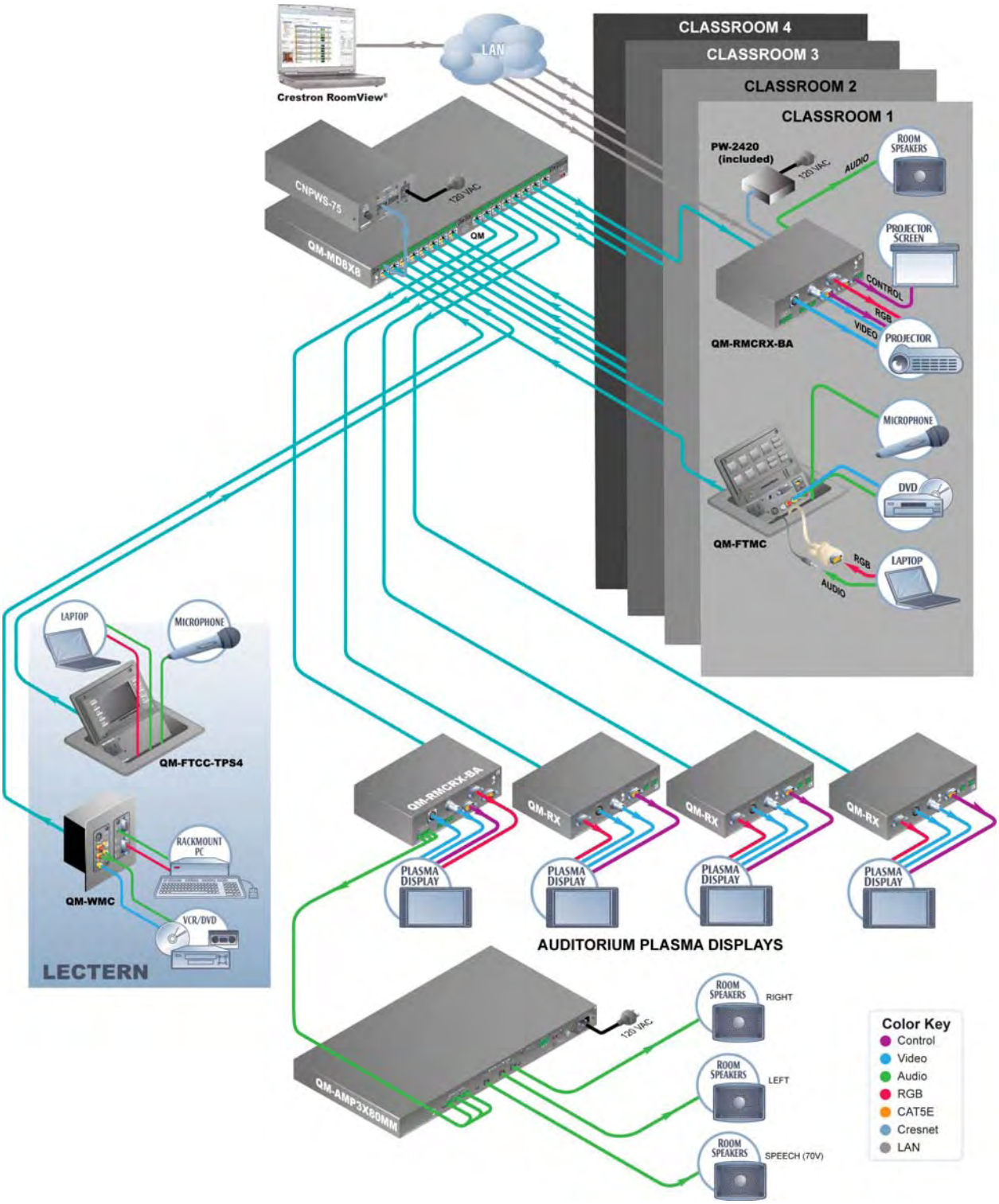
QM-MD8X8 Connectors



QM-MD8X8 Block Diagram



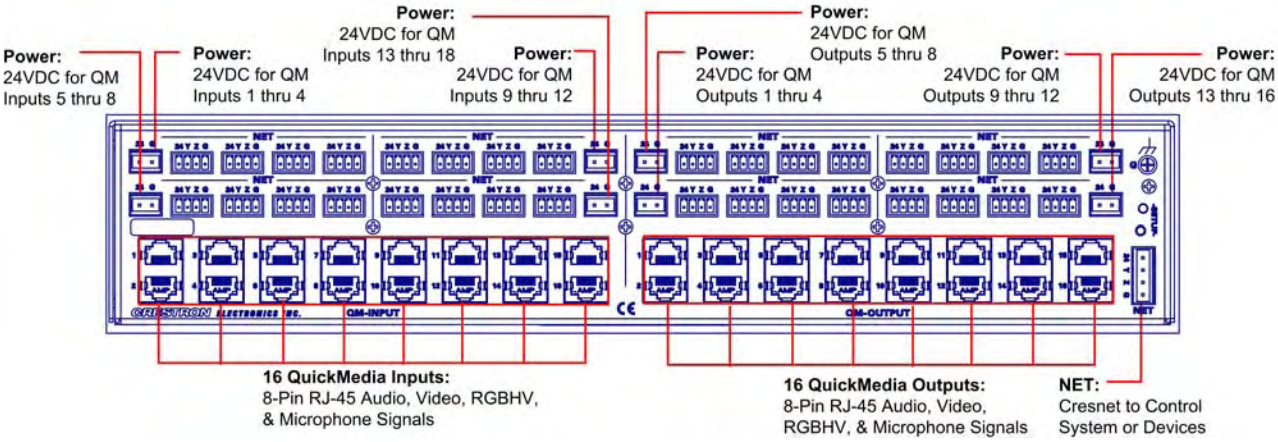
QM-MD8X8 Application Diagram



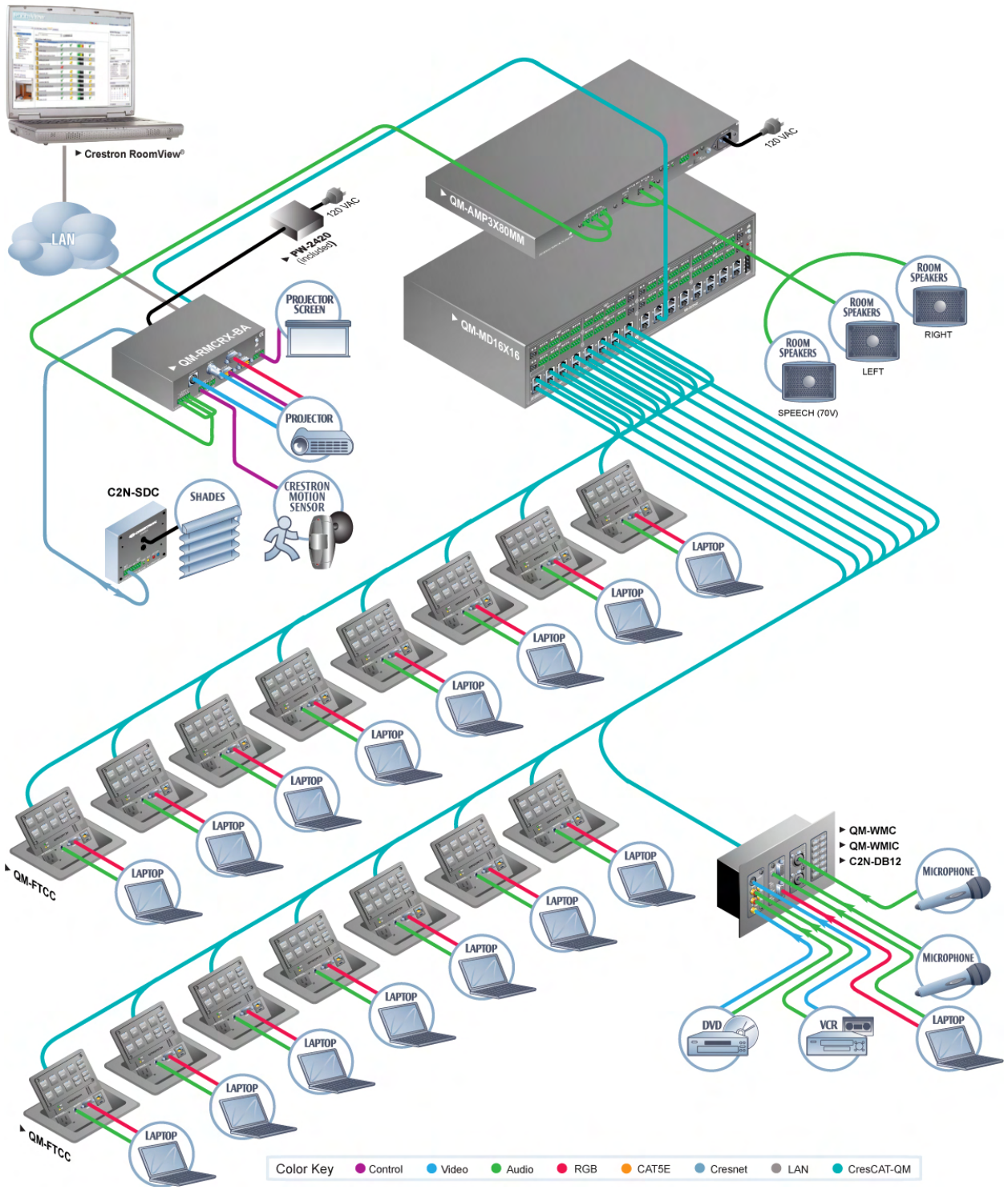
QM-MD16X16

The QM-MD16x16 is a 16x16 QuickMedia® matrix switcher designed to provide versatile routing of up to 16 inputs from QuickMedia Wall Plates and FlipTop Boxes to any of 16 QuickMedia Receivers. All signal routing is provided over inexpensive CAT5e type cable via the exclusive Crestron QuickMedia transport, supporting the distribution of high-resolution RGB, video, stereo audio and microphone signals up to a total of 450 feet end to end. Audio breakaway capability allows audio signals to be routed independent of video signals.

QM-MD16X16 Connectors



QM-MD16x16 Application Diagram



QM Distribution Amplifiers

The QM-DA-4, QM-DA-8 and QM-DA-16 are QuickMedia® (QM) distribution amplifiers designed to distribute a single QM signal to up to four, eight or 16 QM receivers. (The QM-DA-4 has four outputs, the QM-DA-8 has eight outputs and the QM-DA-16 has 16 outputs.) All signal distribution is provided over inexpensive CAT5e type cable via the exclusive Crestron QM transport, supporting high resolution RGB, video, stereo audio and microphone signals up to a total distance of 450 feet (137 meters).

Up to two QM distribution amplifiers, matrix switchers and distribution centers may be cascaded in a given QM signal path to support versatile system configurations. For instance, a QM-DA-4 may be used to expand the output capacity of a QM-MD4X2 to feed a single output to four different displays. A QM-DA-8 may be used to feed that output to eight different displays and a QM-DA-16 may be used to feed that output to sixteen different displays.

Every QM port on the rear panel is accompanied by a Cresnet® port with 24 VDC power distribution built in to simplify termination of the QM and Cresnet wiring.

On the QM-DA-16 (only), a built-in Cresnet hub provides three isolated segments, each supporting 3000 feet (914 meters) of Cresnet cabling and approximately 25 Cresnet devices.

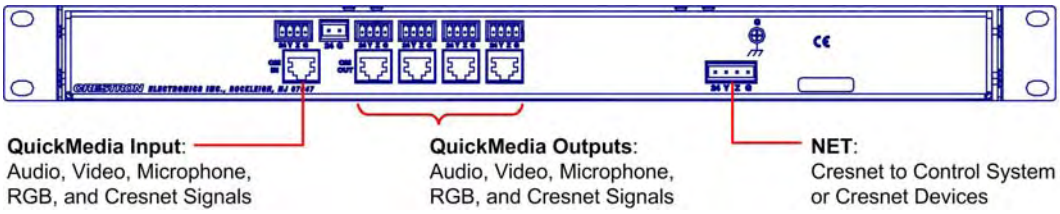
QM-DA-4

The QM-DA-4 is a 4-output QuickMedia distribution amplifier designed to distribute a single QM signal to up to four QuickMedia Receivers. All signal distribution is provided over inexpensive CAT5e type cable via the exclusive Crestron QuickMedia transport, supporting high-resolution RGB, video, stereo audio and microphone signals up to a total of 450 feet end-to-end.

Up to two QuickMedia Distribution Amplifiers, Matrix Switchers, and Distribution Centers may be cascaded in a given QuickMedia signal path to support versatile system configurations. For instance, a QM-DA-4 may be used to expand the output capacity of a QM-MD4X2 to feed a single output signal to four different displays.

Every QuickMedia port on the rear panel is accompanied by a Cresnet port with 24V DC power distribution built in to simplify termination of the QuickMedia and Cresnet® wiring.

QM-DA-4 Connectors



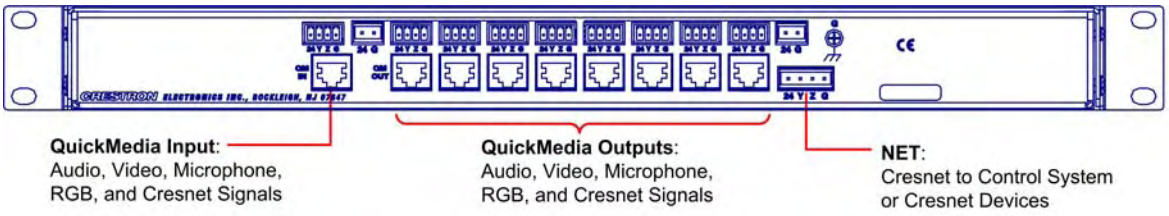
QM-DA-8

The QM-DA-8 is an 8-output QuickMedia® distribution amplifier designed to distribute a single QM signal to up to eight QuickMedia Receivers. All signal distribution is provided over inexpensive CAT5e type cable via the exclusive Crestron QuickMedia transport, supporting high resolution RGB, video, stereo audio and microphone signals up to a total of 450 feet end to end.

Up to two QuickMedia Distribution Amplifiers, Matrix Switchers, and Distribution Centers may be cascaded in a given QuickMedia signal path to support versatile system configurations. For instance, a QM-DA-8 may be used to expand the output capacity of a QM-MD4X2 to feed a single output signal to eight different displays.

Every QuickMedia port on the rear panel is accompanied by a Cresnet® port with 24V DC power distribution built in to simplify termination of the QuickMedia and Cresnet wiring.

QM-DA-8 Connectors



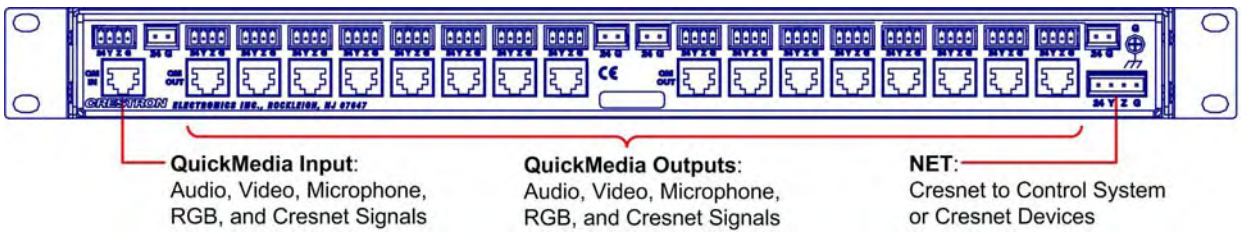
QM-DA-16

The QM-DA-16 is a 16-output QuickMedia distribution amplifier designed to distribute a single QM signal to up to 16 QuickMedia Receivers. All signal distribution is provided over inexpensive CAT5e type cable via the exclusive Crestron QuickMedia transport, supporting high resolution RGB, video, stereo audio and microphone signals up to a total of 450 feet end to end.

Up to two QuickMedia Distribution Amplifiers, Matrix Switchers, and Distribution Centers may be cascaded in a given QuickMedia signal path to support versatile system configurations. For instance, a QM-DA-16 may be used to expand the output capacity of a QM-MD4X2 to feed a single output signal to sixteen different displays.

Every QuickMedia port on the rear panel is accompanied by a Cresnet port with 24V DC power distribution built in to simplify termination of the QuickMedia and Cresnet wiring. A built-in Cresnet hub provides three isolated segments, each supporting 3000 feet of cabling and approximately 25 Cresnet devices.

QM-DA-16 Connectors



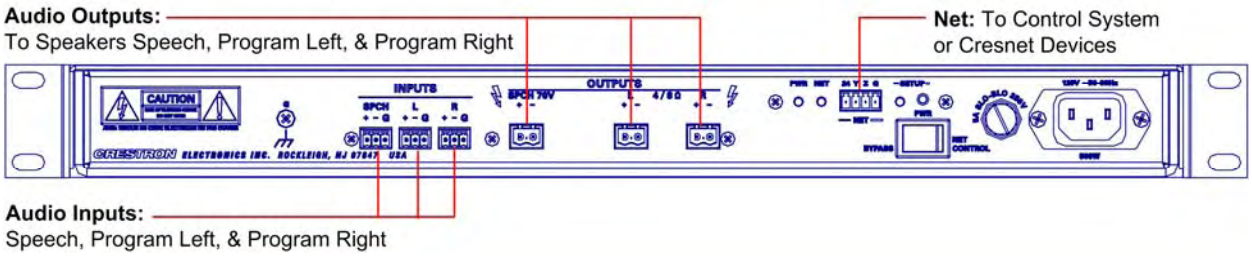
QM-Series Amplifiers

Crestron QM-Series Amplifiers provide three channels of professional amplification designed to complement the discrete program and speech channel outputs of QuickMedia® Distribution Centers and Receivers.

QM-AMP3X80MM

The QM-AMP3X80MM is a professional power amplifier designed to provide exceptional audio performance as part of a complete MediaManager AV system or anywhere multi-channel amplification is required. Occupying just one rack space, the QM-AMP3X80MM provides three channels of amplification to complement the discrete stereo program and mono speech output channels of the QM-MD7X2 QuickMedia Distribution Center and QM-RMCRX-BA QuickMedia Receiver. The first two output channels deliver 80 watts per channel at 8 ohms or 110 watts at 4 ohms to drive a pair of program loudspeakers. The third channel delivers 80 watts at 70 volts to support distributed ceiling loudspeakers for speech reinforcement. All inputs are balanced with fixed input gain optimized for use with MediaManager components. An efficient Class G power amp topology puts more output power in less space while generating significantly less heat as compared to conventional amplifier designs. With Cresnet® communications built in, the amp's power can be controlled and temperature monitored from any 2-Series or MediaManager control system.

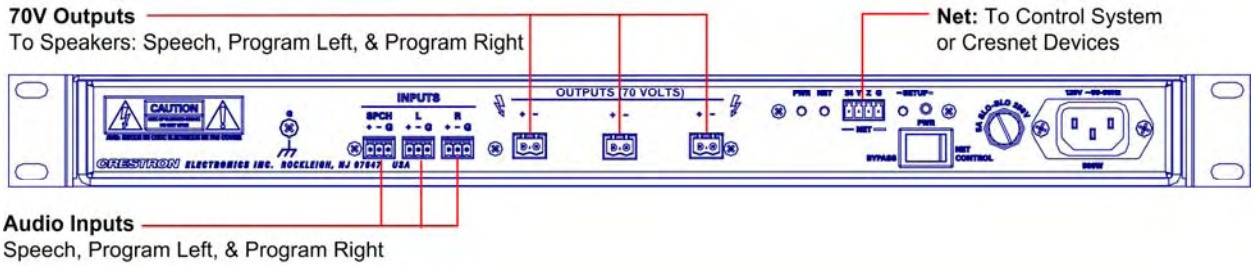
QM-AMP3X80MM Connectors



QM-AMP3X80SR

The QM-AMP3X80SR occupies just one rack space and provides three channels of amplification delivering 80 watts per channel at 70 volts to feed multiple zones of distributed loudspeakers. All inputs are balanced with fixed input gain optimized for use with MediaManager components. An efficient Class G power amplifier topology puts more output power in less space while generating significantly less heat as compared to conventional. With Cresnet communications built in, the amp's power can be controlled and temperature monitored from any 2-Series or MediaManager control system.

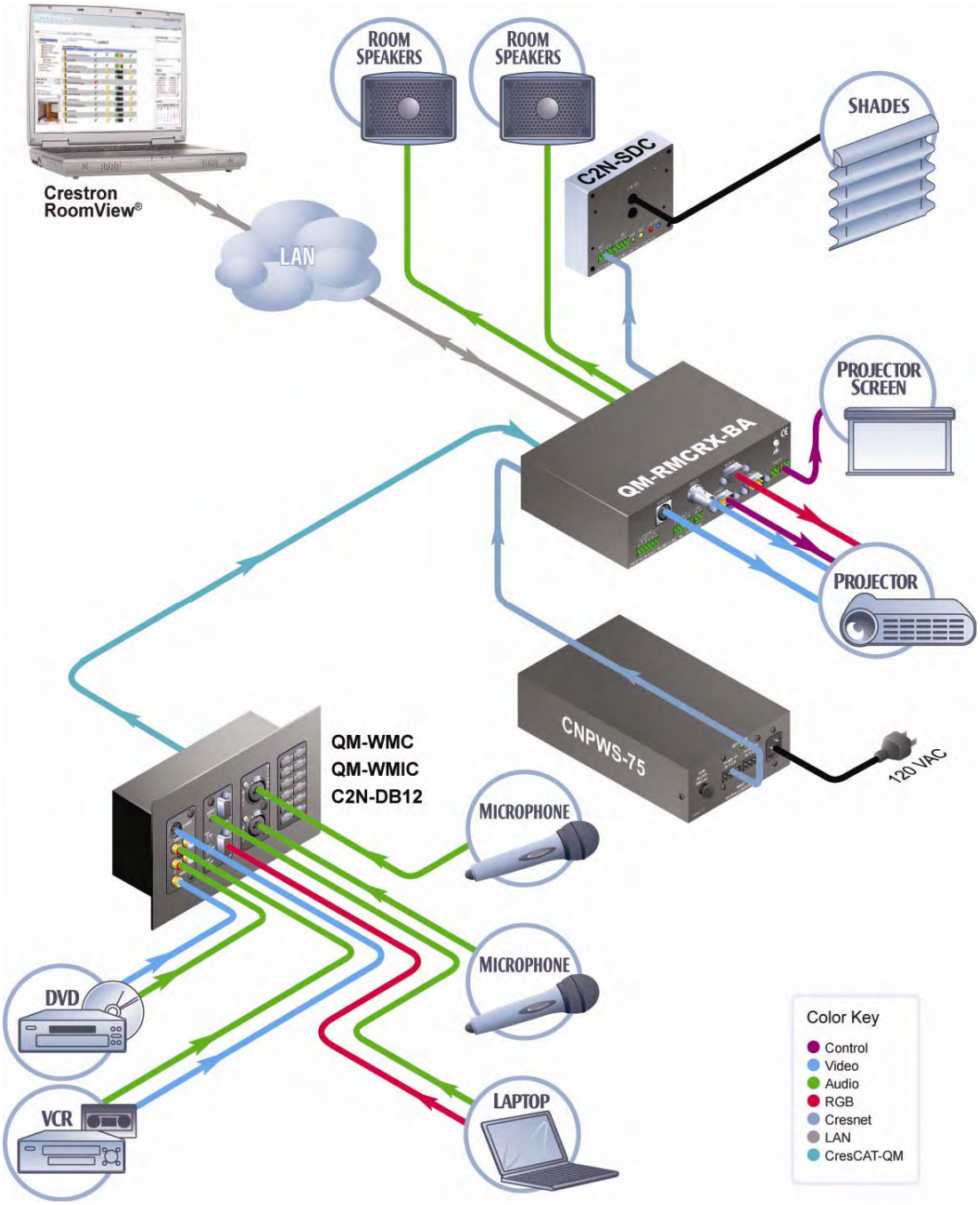
QM-AMP3X80SR Connectors



QuickMedia® Application Diagrams

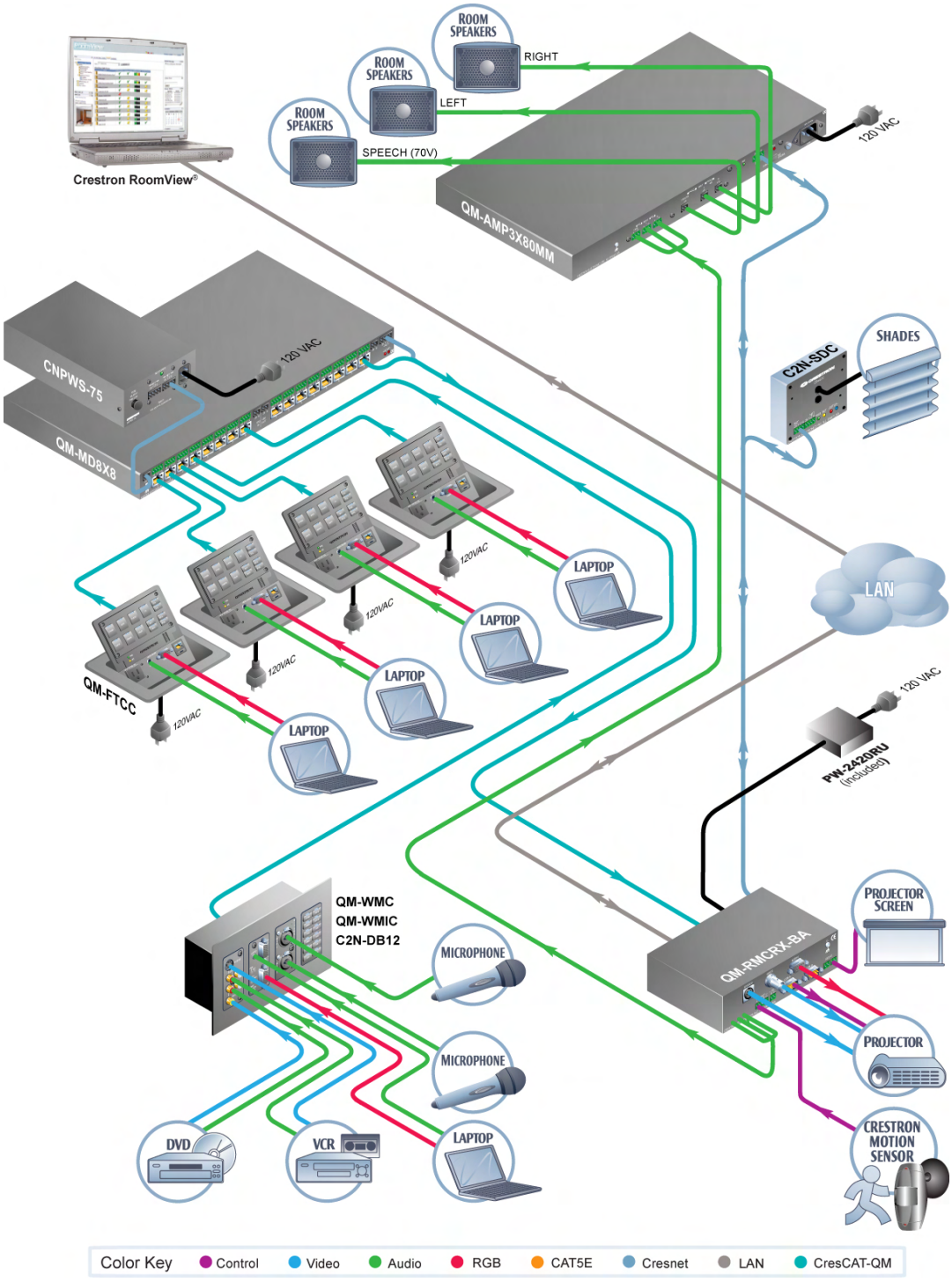
QuickMedia Single Origination Point System

A single, simple multimedia interface and room device control provided within an individual room. Asset management is provided from outside of the presentation environment via RoomView®.
NOTE: Touchpanels (wired or wireless) and/or button panels can be added to this system.



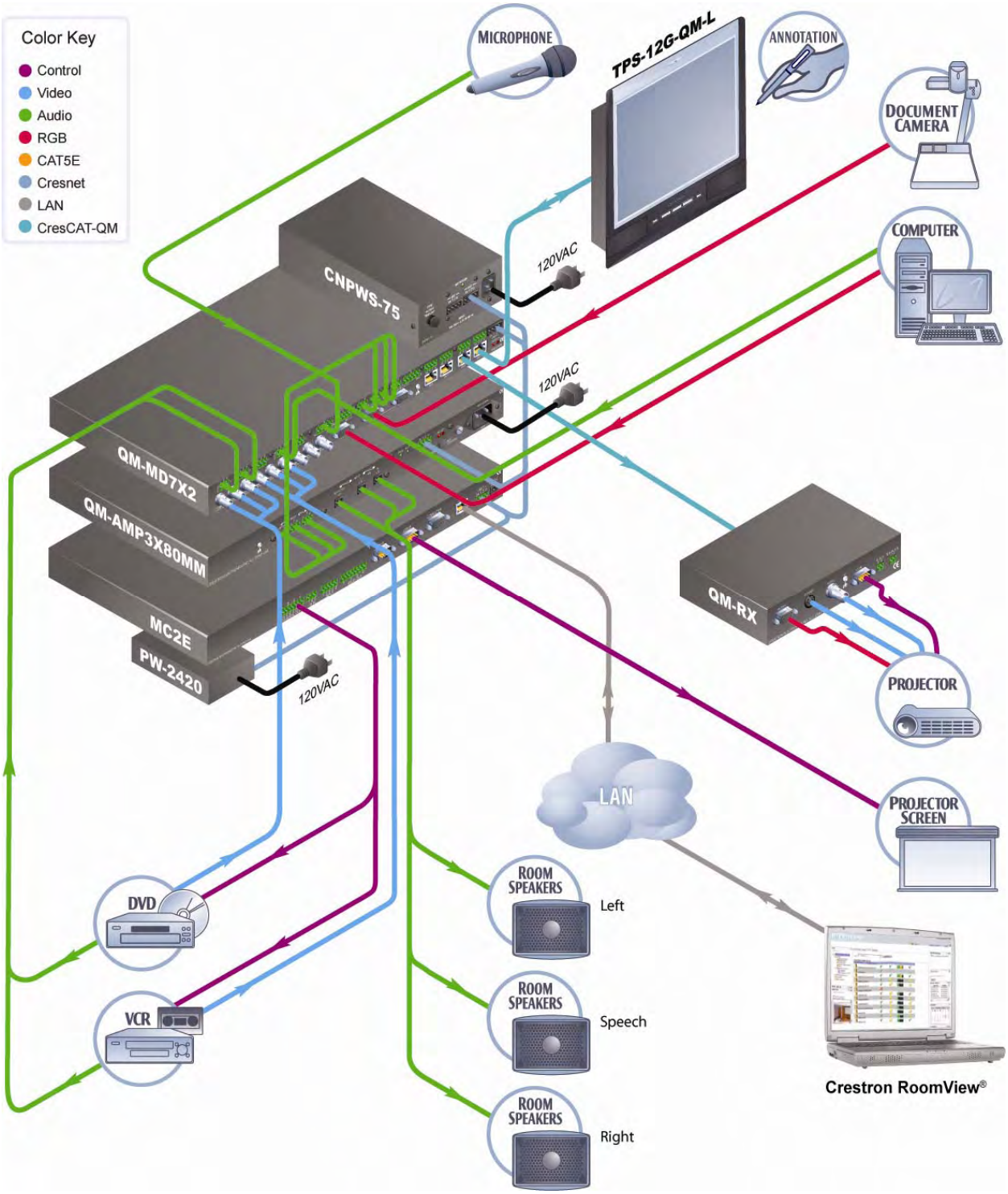
QuickMedia Classroom

Multiple, simple multimedia interface, device controls and audio amplification are provided within an individual room. Asset management is provided from outside of the presentation environment.
NOTE: Touchpanels (wired or wireless) and/or button panels can be added to this system.



Compact Podium Solution with TPS-12G-QM-L

Full audio/video control in an individual room with all the control equipment contained within a podium.



Multimedia Presentation Systems

The Multimedia Presentation System (MPS) is a complete MediaManager solution in a stand-alone box. MPS integrates five separate components including a video switcher, audio switcher and mixer, amplifier, and control system. MPS presentation systems are the perfect solution for lecture halls, boardrooms, banquet halls, auditoriums - any room used for multimedia presentations. MPS systems include everything needed for presentation applications; gated microphone inputs, balanced stereo audio, full 12-band parametric equalization, a dedicated touchpanel preview output, true native HD high resolution signal outputs, and more.
MPS features a built-in Crestron 2-Series control system, QuickMedia® signal switching and processing, out-of-the box functionality, plug-and-play support for Crestron interfaces, and seamless system expansion. The Crestron 2-Series Ethernet control system is complete with an e-Control®2 Web server and a host of RS-232, IR, digital input, and relay control ports for integration with third-party equipment. A basic AV presentation room with projector, screen, keypad or small touchpanel, and wireless remote control can easily be set up in minutes using the MediaManager Wizard software.

The MediaManager Wizard prompts you through the basic setup. Using the Wizard, you can name inputs and outputs, select a projector and screen for control, and link to RoomView® the industry's most comprehensive facility-wide asset management solution. For added functionality, MPS systems offer seamless plug-and-play connectivity with Crestron 3-channel amplifiers, touchpanels, keypads, handheld remotes, and iLux™ lighting control. When equipped with an optional CNXRMIRD IR receiver, the MPS allows any Crestron IR wireless touchpanel or 3rd party universal remote to be used for a low cost wireless control solution. Or, by adding an RF wireless gateway, infiNET™, or Wi-Fi wireless LAN connection enables the use of a wide range of 1-way and 2-way RF wireless handheld remotes and touchpanels.

Out of the box, the MPS front panel supports easy pushbutton routing of input sources to each of the outputs, and audio volume adjustment using the volume control knob. Dedicated buttons and indicators are also provided for separate control of system power and projector power. In addition, five preset buttons are included for custom functions such as lowering a projection screen, closing blinds, or selecting a lighting preset.

It's so easy to get set up and connected with MPS presentation systems. Simply connect source components and display devices and you have a complete, fully functional presentation solution. Without requiring any programming, the MPS can be controlled simply by using the Crestron APAD LCD Controller or a selection of keypads. Optionally, a fully customized system can be programmed using SystemBuilder™ or SIMPL™ Windows® software, and the complete line of Crestron Isys® touchpanels and MediaManager devices are supported.

System Switcher
Composite, S-video, component and RGBHV signals are sensed and routed to the appropriate input on the display device, with display control provided via Ethernet, RS-232 or IR.

- MPS-100 provides switching of two video and three RGB computer sources
- MPS-200 provides switching of four video and four RGB computer sources
- MPS-250 provides switching of two video and three RGB computer sources
- MPS-300 provides switching of two video and three RGB computer sources

The versatile matrix switching inside the MPS-250 and MPS-300 provide additional flexibility, with discrete RGB, composite, S-video, and component video outputs, and with the option of two component outputs (in lieu of composite and S-video). Each output is fed by a separate matrix crosspoint, so all outputs can be active simultaneously and assigned any relevant input source.

Touchpanel Outputs
A second discrete output is provided on the MPS-100 and MPS-200 to feed a preview signal to the system touchpanel or other monitor. This output is controlled separately from the main display output, allowing a different source to be viewed on the touchpanel. The touchpanel connection is facilitated through a choice of QuickMedia™ (QM) or Crestron Home® (CH) CAT5 Balanced Video outputs, simplifying wiring to a wide range of Crestron touchpanels. The QM output supports high-resolution RGB and HDTV plus audio, while the CH output is limited to standard video and HDTV only (depending on touchpanel capabilities). The QM touchpanel output can also be used to feed signals straight to the primary display device, providing a very streamlined, low cost, long distance wiring solution.

Audio Features
To accommodate a wide range of signals, adjustable input compensation helps maintain consistent volume levels when switching between sources. The audio inputs accept balanced or unbalanced line-level signals from computers and other program audio sources.

Audio Inputs

- MPS-100 provides five stereo audio inputs. In addition to volume adjustment, the main PROGRAM output includes adjustable bass, treble, balance, and mute
- MPS-200 provides eight stereo audio inputs and two gated microphone/line inputs with software-switchable 48V phantom power and independent 4-band speech-optimized equalization
- MPS-250 and MPS-300 provide five stereo audio inputs, and two gated microphone/line inputs with software-switchable 48V phantom power and independent 4-band speech-optimized equalization. Additional audio sources can be brought in through the QM inputs (one on the MPS-250 and three on the MPS-300)

Audio Outputs

Versatile 12-band parametric/graphic equalization on each output eliminates the need for expensive outboard audio processors, and up to 40mS delay adjustment is available on the SPEECH output (MPS-200, MPS-250 and MPS-300) for proper loudspeaker alignment. The RECORD output (MPS-200, MPS-250, and MPS-300) allows for a completely separate stereo mix to feed a codec, recording device, or assistive listening system. The QM touchpanel audio outputs are controlled separately from the other audio outputs, allowing a different program source to be monitored on the touchpanel, or output to other audio equipment by way of an appropriate QM receiver or other QuickMedia® device. Mute relays are provided for "thump" protection on power-up. All outputs include volume, bass, treble, balance, and mute adjustments. All models support plug-and-play compatibility with Crestron QM-Series 3-channel amplifiers, providing a complete solution for driving a professional loudspeaker system with discrete program and speech channels.

- MPS-100 provides a balanced line-level main PROGRAM output and a separate balanced "fixed-level" LINE OUT with electronic mute to feed a recording device, codec, or assistive listening system
- MPS-200 and MPS-250 provide versatile matrix mixing allowing the selected program signal and the microphone signals to be separated or mixed in any combination to feed three "local" outputs, each with its own unique mix. Three discrete balanced line level outputs are provided. The stereo PROGRAM and mono SPEECH outputs are normally intended for driving external amplification
- MPS-300 provides three discrete balanced line level outputs. The stereo PROGRAM and mono SPEECH outputs are normally intended for driving external amplification

MPS Comparison Chart

	AUDIO INPUTS		AUDIO OUTPUTS				VIDEO INPUTS		VIDEO OUTPUTS				QM INPUTS/OUTPUTS	
	Stereo Audio Inputs	Mic Inputs	Total Discrete Audio Outputs	Stereo Program Output w/ mix, EQ, and Volume Control (4/8 Ohm models amplify this output)	Mono Speech output w/ mix, EQ, Volume Control and Delay (70V/100V models amplify this output)	Stereo Record Output w/ mix, EQ, and Volume Control	Video Inputs	RGB Inputs	Total Discrete Video Outputs	Composite, S-Video, Component Combo Outputs	RGBHV Outputs	*CH/ Touchpanel Outputs	QM Inputs	QM Outputs
MPS-100	5	0	2 (1 local, 1 QM)	1	0	1	2	3	2 (1 local, 1 QM)	1	1	1	0	1
MPS-200	8	2	2 (1 local, 1 QM)	1	1	1	4	4	2 (1 local, 1 QM)	1	1	1	0	1
MPS-250	5	2	2 (1 local, 1 QM)	1	1	1	2	3	5 (4 local, 1 QM)	2	1	1	1	1
MPS-300	5	2	4 (1 local, 3 QM)	1	1	1	2	3	7 (4 local, 3 QM)	2	1	1	3	3

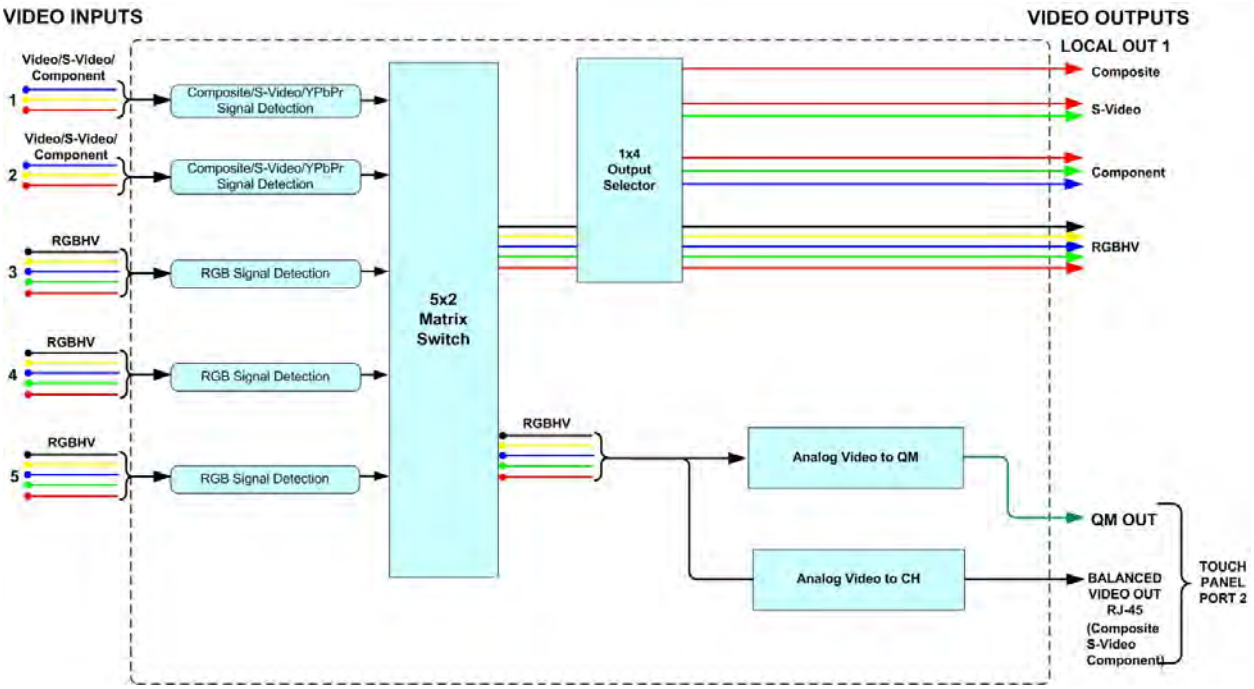
***NOTES:** CH output has same source as QM TOUCHPANEL OUTPUT and is limited to component video.
CAT5 balanced video output port; Signal Types: Dynamically configurable for component (YPbPr), S-Video (Y/C), or composite video; Video/HDTV Formats: NTSC or PAL, HDTV up to 1080i

All MPS systems are expandable!

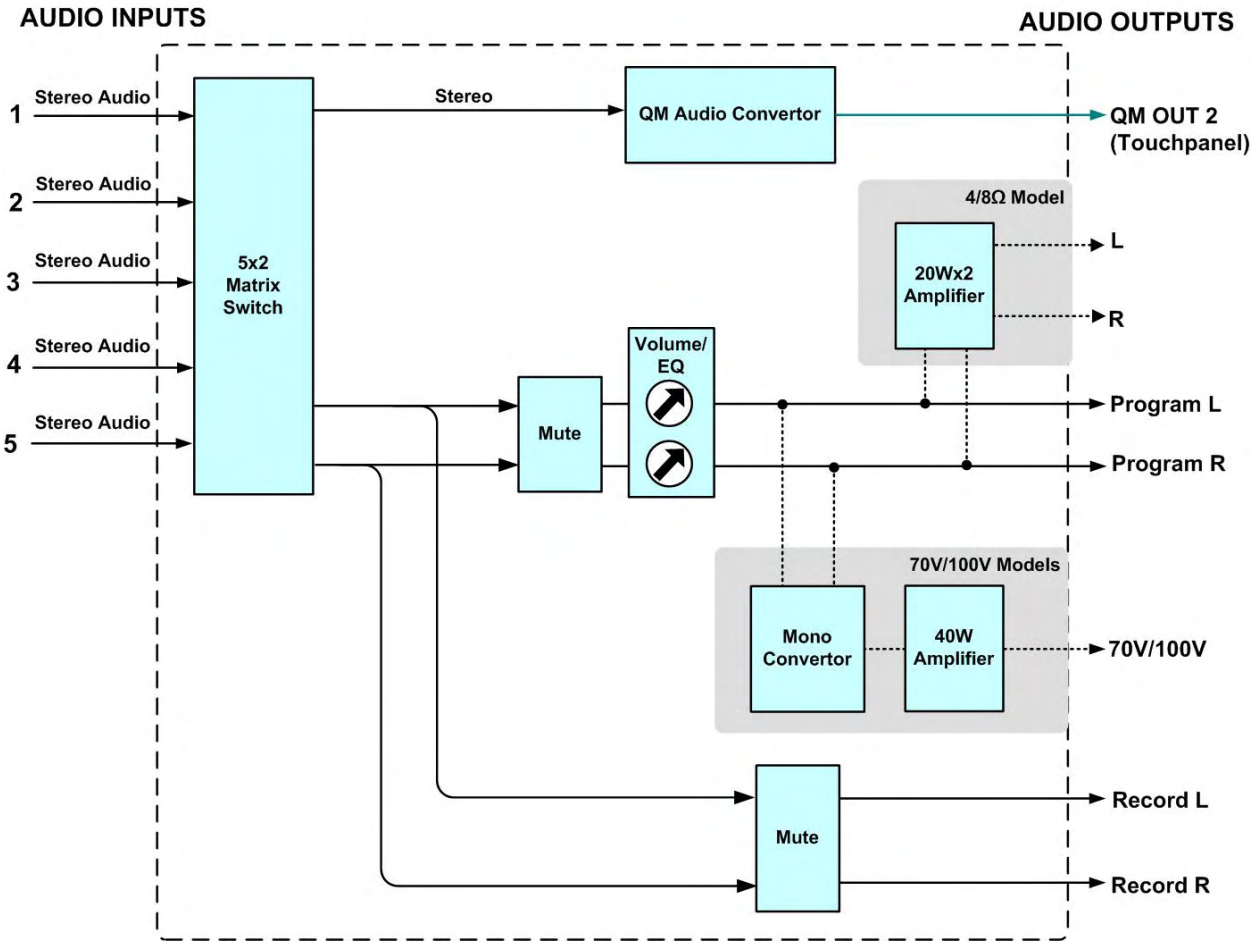
MPS-100

- Multimedia system switcher and control system
- Out-of-the-box switching and audio control
- Two video/HDTV and three RGB/computer inputs
- Built-in input signal sensing/auto-switching capable
- Separate display and touchpanel preview outputs
- QuickMedia® and Crestron Home® CAT5 AV output connectivity
- Five balanced stereo audio inputs
- Built-in 40 watt amplifier
- 8-ohm stereo and 70/100V mono versions available
- 2-Series control engine
- e-Control®2 Web server
- 10/100 Ethernet
- RoomView® and SNMP support
- Two RS-232, Four IR, four digital in, and four relay control ports
- Front panel setup and control | Backlit LCD display
- Keypad, touchpanel, and wireless control options
- Internal power supply
- 2-space rack-mountable

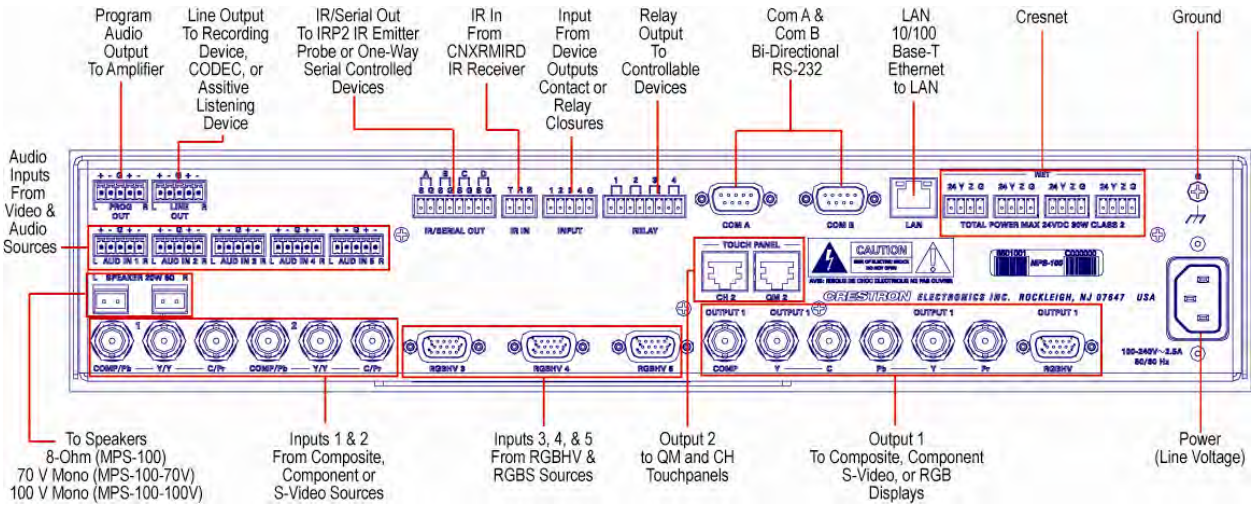
MPS-100 Video Block Diagram



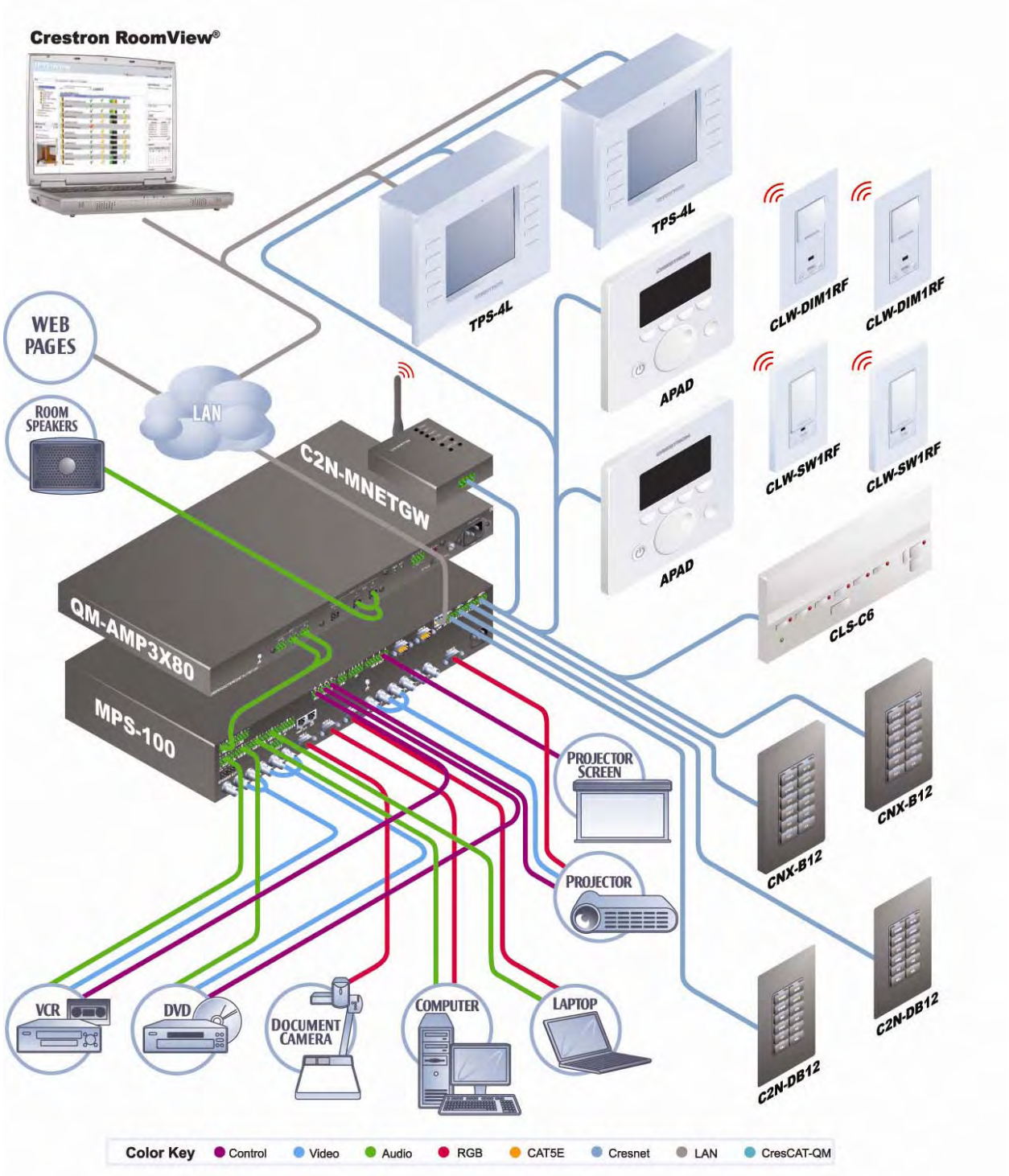
MPS-100 Audio Block Diagram



MPS-100 Connectors



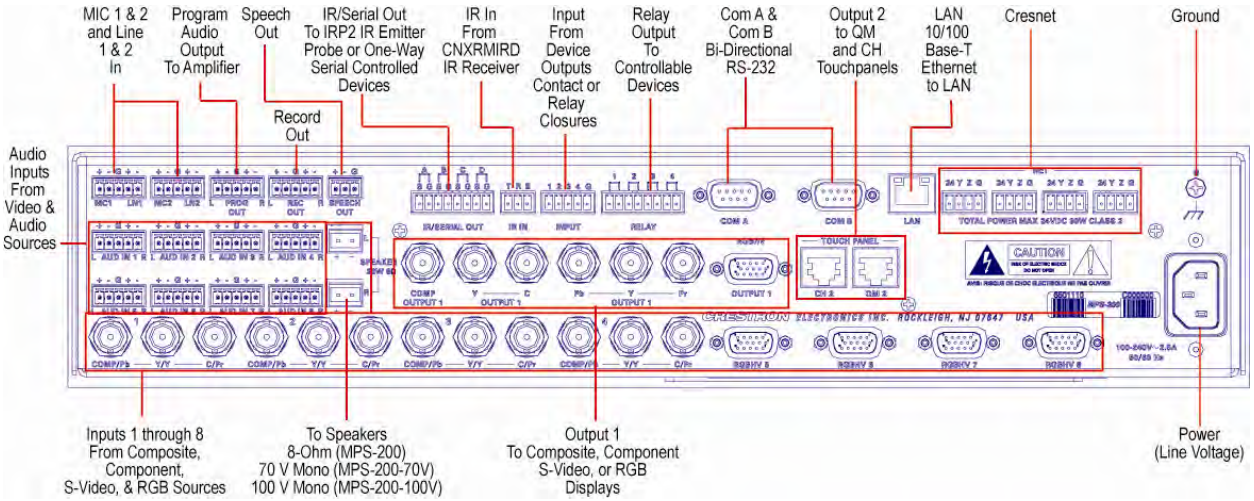
MPS-100 Application Diagram



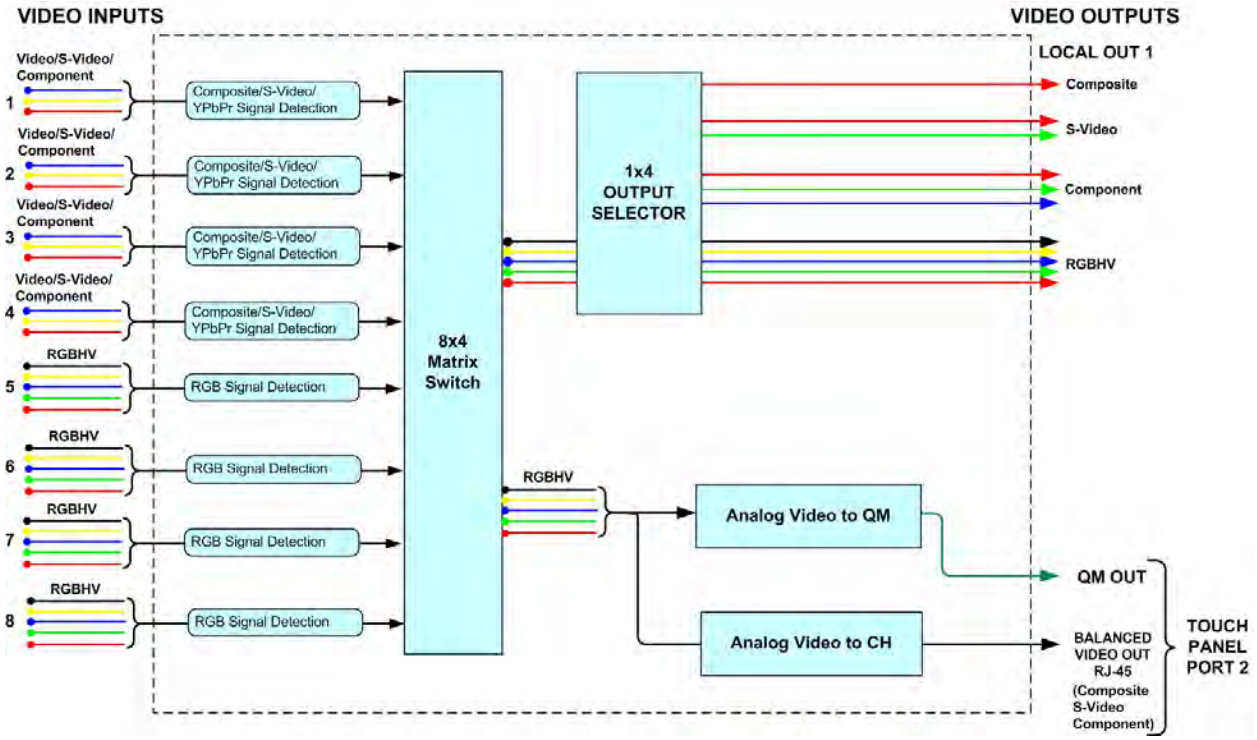
MPS-200

- System switcher, audio processor, and control system
- Out-of-the-box switching and audio control
- Four video/HDTV and four RGB/computer inputs
- Built-in input signal sensing | auto-switching capable
- Separate display and touchpanel preview outputs
- QuickMedia® and Crestron Home® CAT5 AV connectivity
- Eight balanced stereo audio inputs and two gated microphone inputs
- Discrete program, speech, and record outputs
- 12-band parametric/graphic equalization and delay
- Built-in 40 watt amplifier — stereo, 70V, or 100V models
- 2-Series control engine
- e-Control®2 Web server
- 10/100 Ethernet
- RoomView® and SNMP support
- Two RS-232, Four IR, four digital in, and four relay control ports
- Front panel setup and control and Backlit LCD display
- Keypad, touchpanel, and wireless control options
- Internal power supply
- 2-space rack-mountable

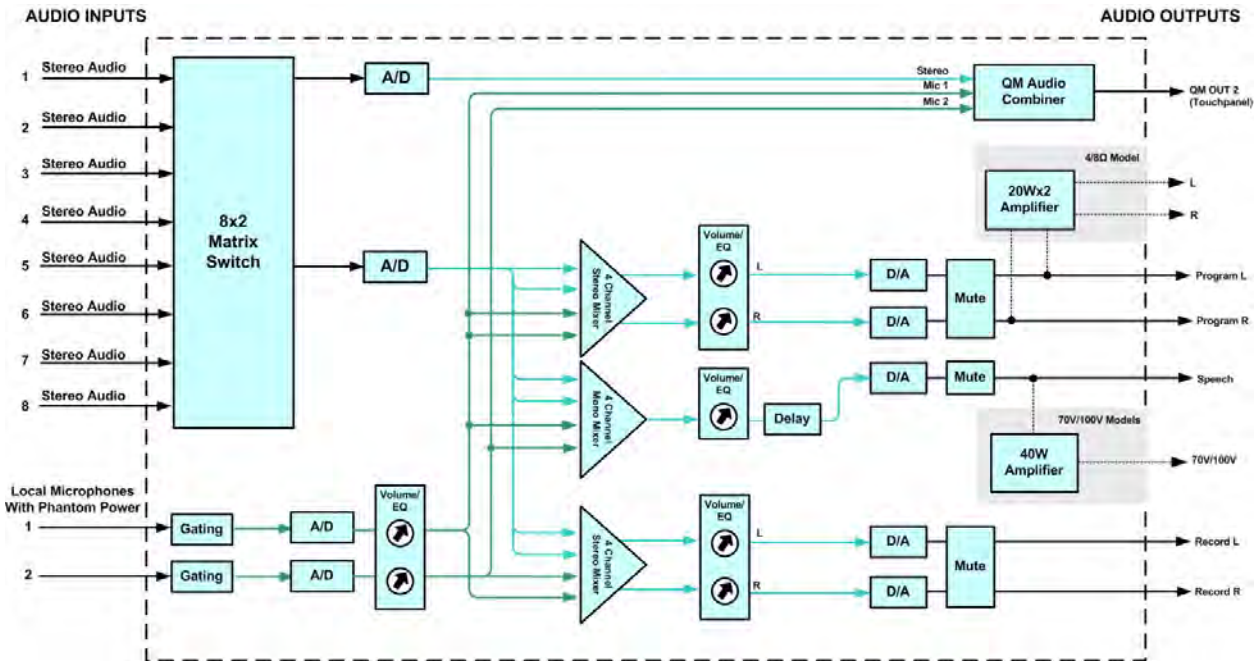
MPS-200 Connectors



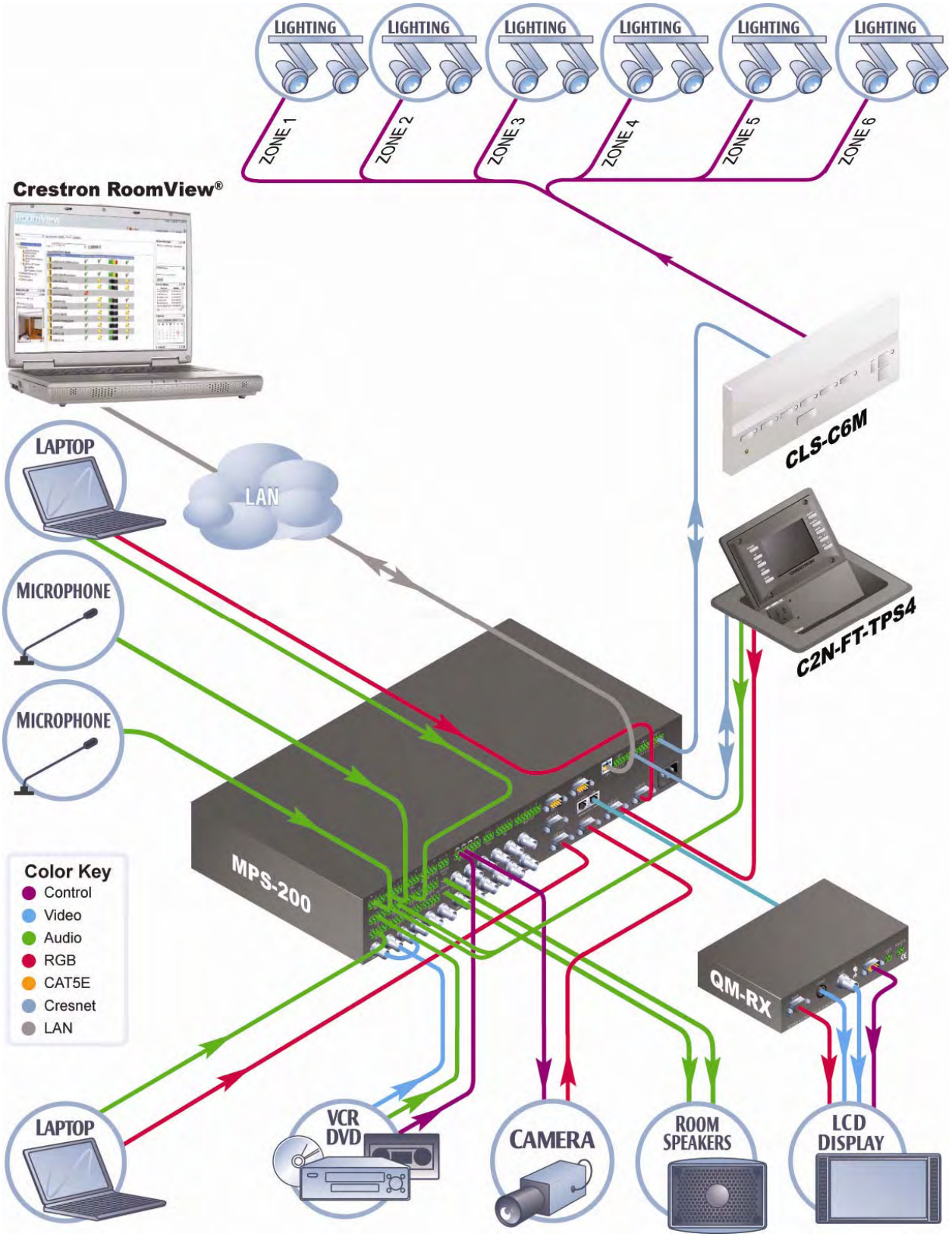
MPS-200 Video Block Diagram



MPS-200 Audio Block Diagram



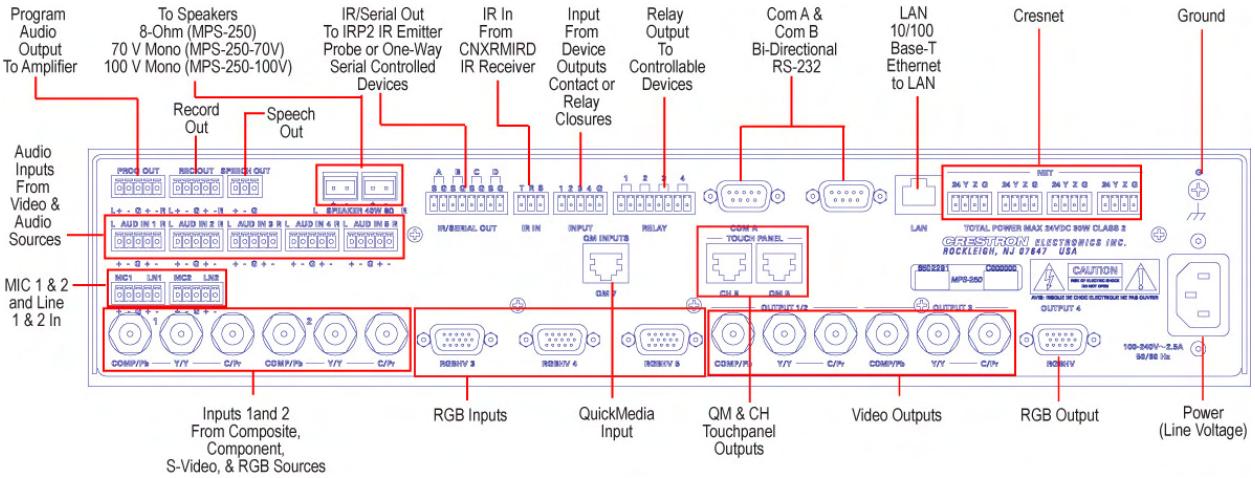
MPS-200 Application Diagram



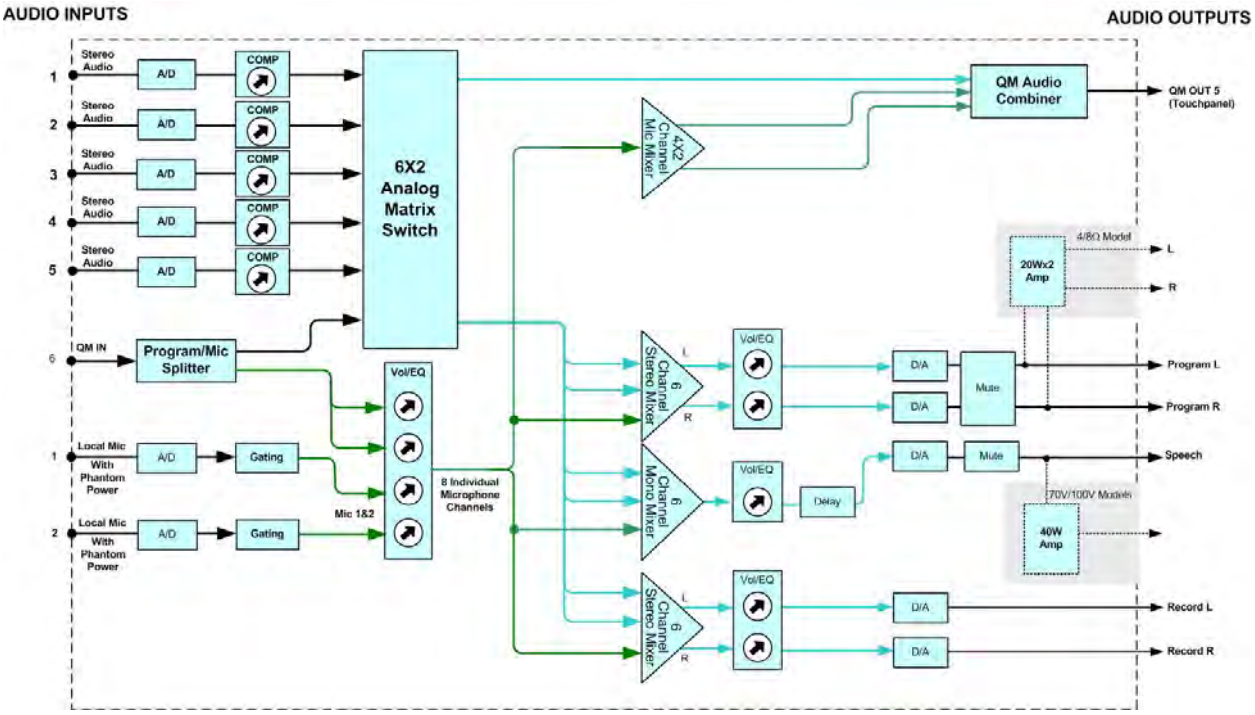
MPS-250

- System switcher, audio processor, and control system
- Out-of-the-box switching and audio control
- Two video/HDTV and three RGB/computer inputs
- Built-in input signal sensing | auto-switching capable
- Touchpanel QuickMedia® and CAT5 AV connectivity
- Five balanced stereo audio inputs and two gated microphone inputs
- Discrete program, speech, and record outputs
- 12-band parametric/graphic equalization and delay
- Built-in 40 watt amplifier — stereo, 70V, or 100V models
- 2-Series control engine
- e-Control®2 Web server
- 10/100 Ethernet
- RoomView® and SNMP support
- Two RS-232, four IR, four digital in, and four relay control ports
- Front panel setup and control and Backlit LCD display
- Keypad, touchpanel, and wireless control options
- Internal power supply
- 2-space rack-mountable

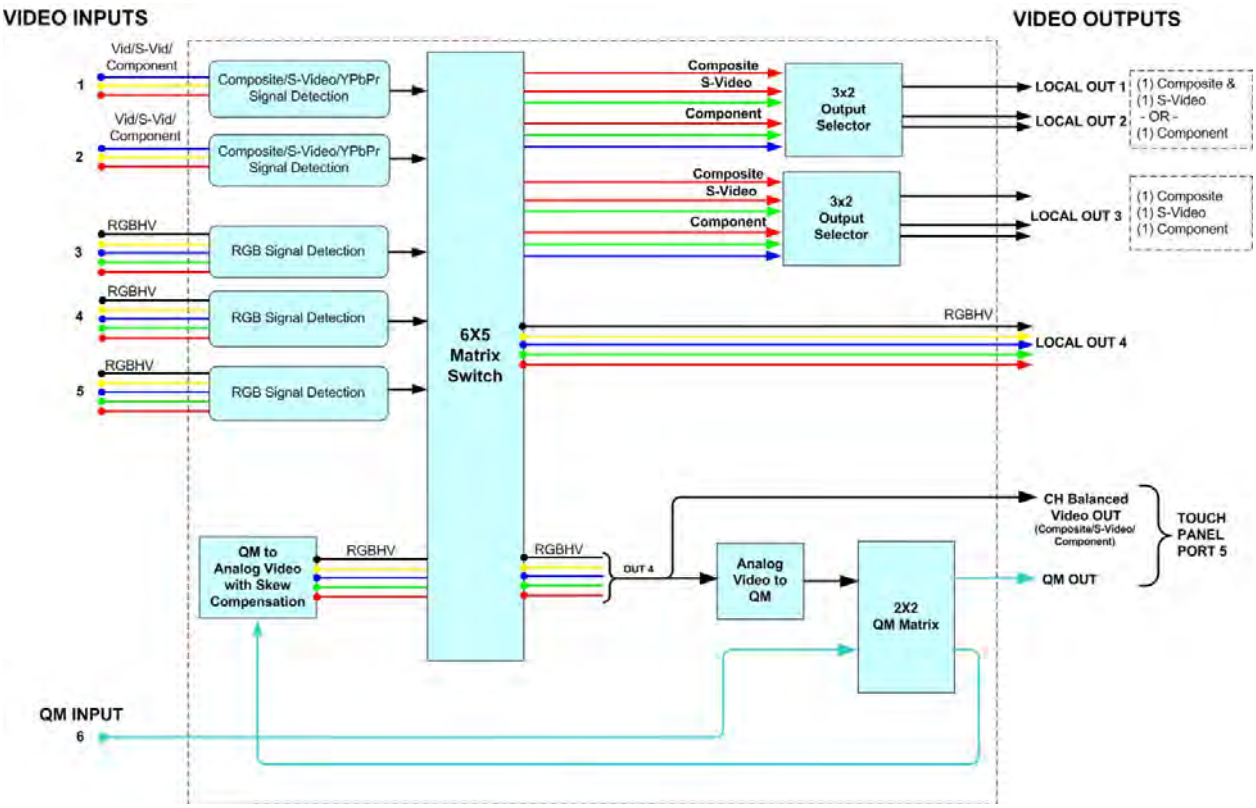
MPS-250 Connectors



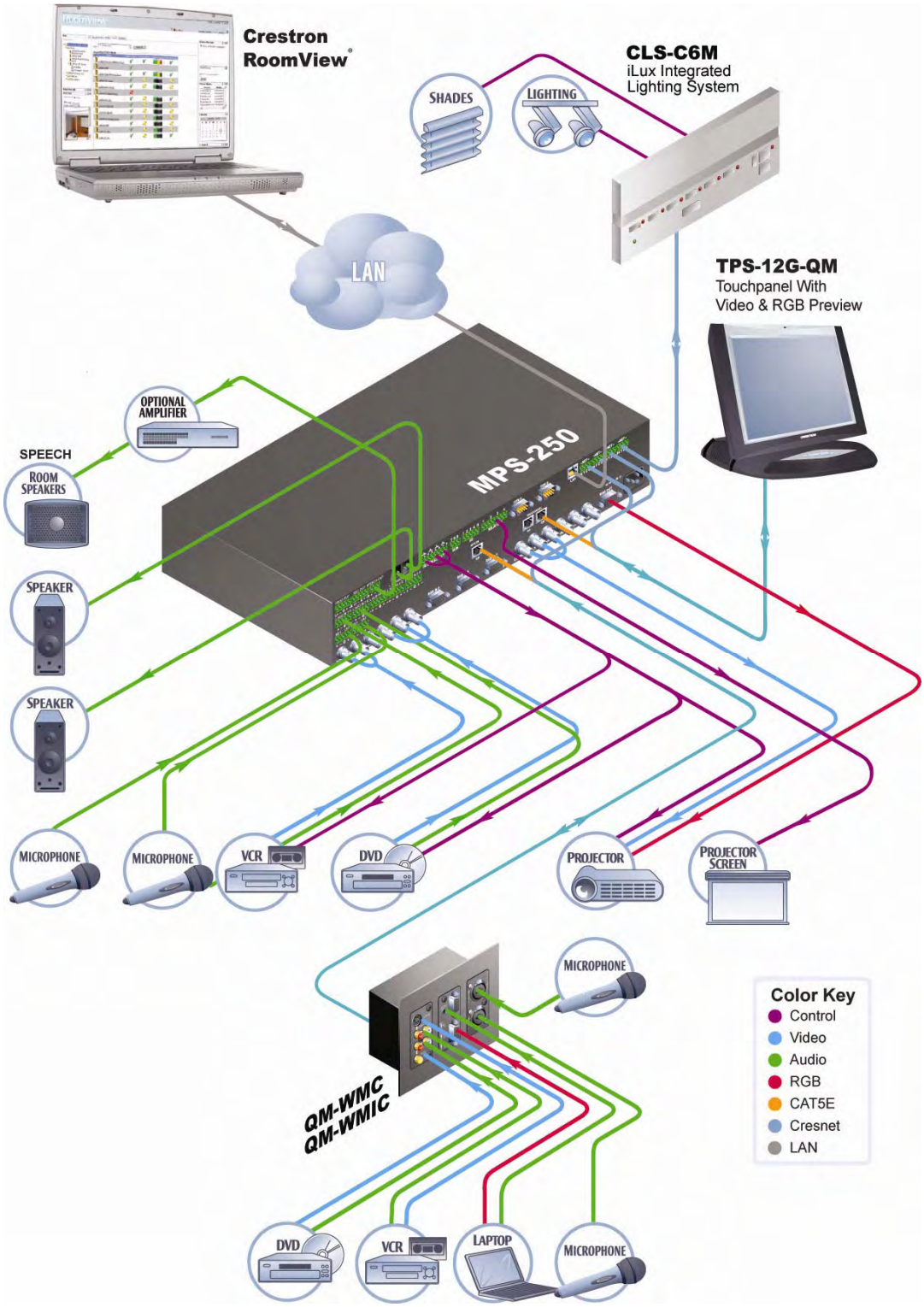
MPS-250 Audio Block Diagram



MPS-250 Video Block Diagram



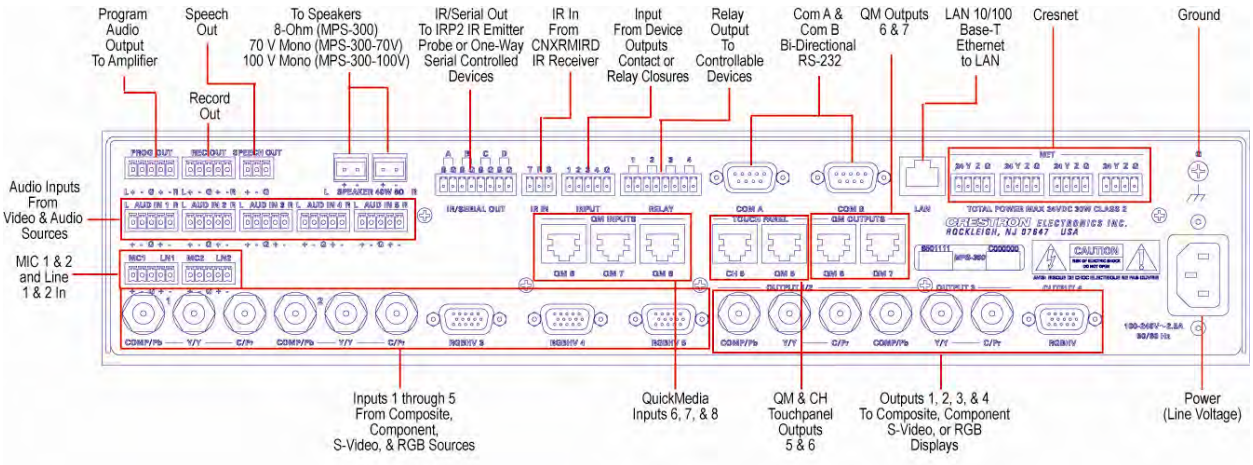
MPS-250 Application Diagram



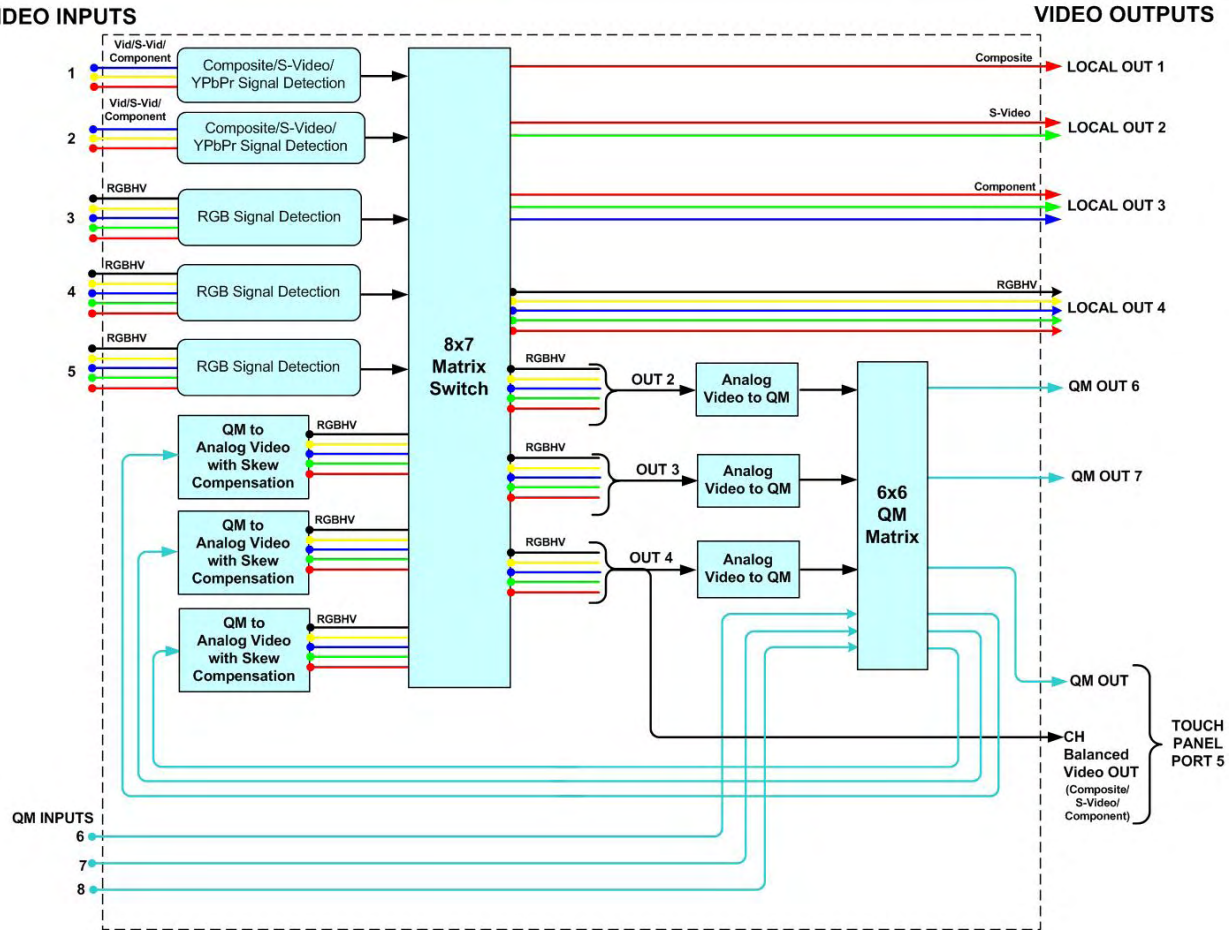
MPS-300

- System switcher, audio processor, and control system
- Out-of-the-box switching and audio control
- Two video/HDTV and three RGB/computer inputs
- Three QuickMedia® inputs with delay skew compensation
- Built-in input signal sensing | auto-switching capable
- Discrete composite, S-video, component, and RGB outputs
- Three QuickMedia and One Crestron Home® CAT5 AV outputs
- Five balanced stereo audio inputs and two gated microphone inputs
- Eight-channel microphone matrix mixing w/4-band EQ per channel
- Discrete program, speech, and record outputs
- 12-band parametric/graphic equalization and delay
- Built-in 40 watt amplifier — stereo, 70V, or 100V Models
- 2-Series control engine
- e-Control®2 Web server
- 10/100 Ethernet | RoomView® and SNMP support
- Two RS-232, four IR, four digital in, and four relay control ports
- Front panel setup and control with backlit LCD display
- Keypad, touchpanel, and wireless control options
- Internal power supply
- 2-space rack-mountable

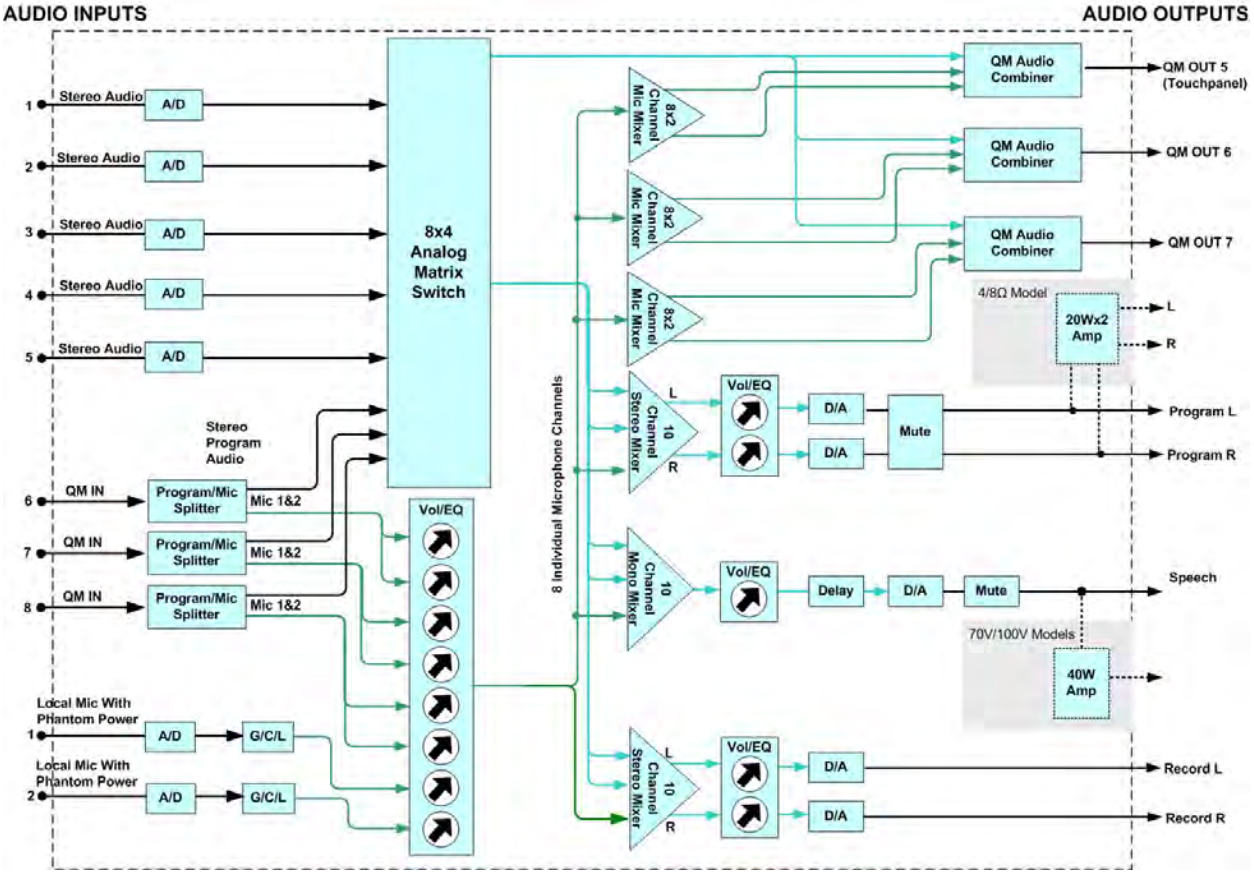
MPS-300 Connectors



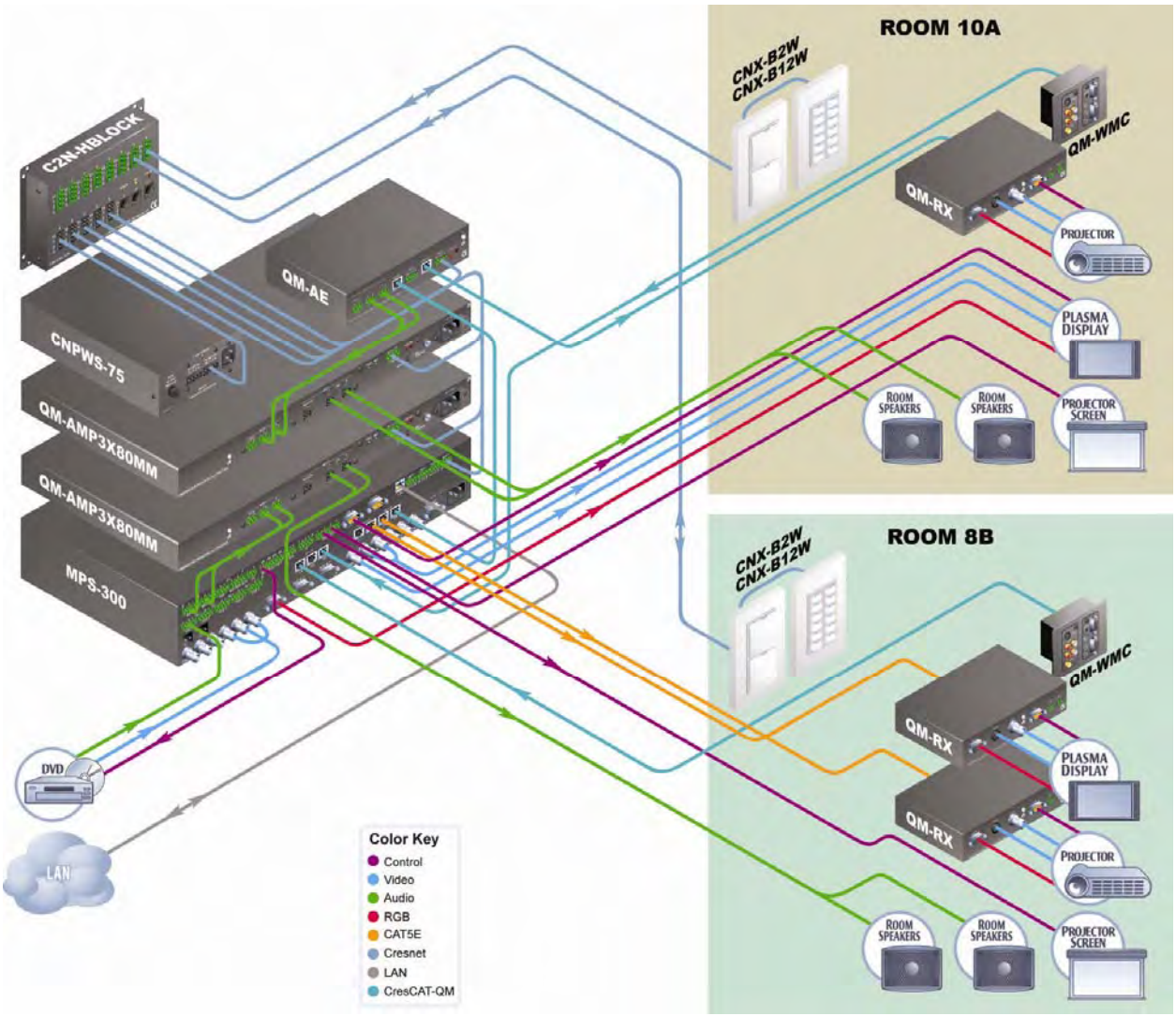
MPS-300 Video Block Diagram



MPS-300 Audio Block Diagram



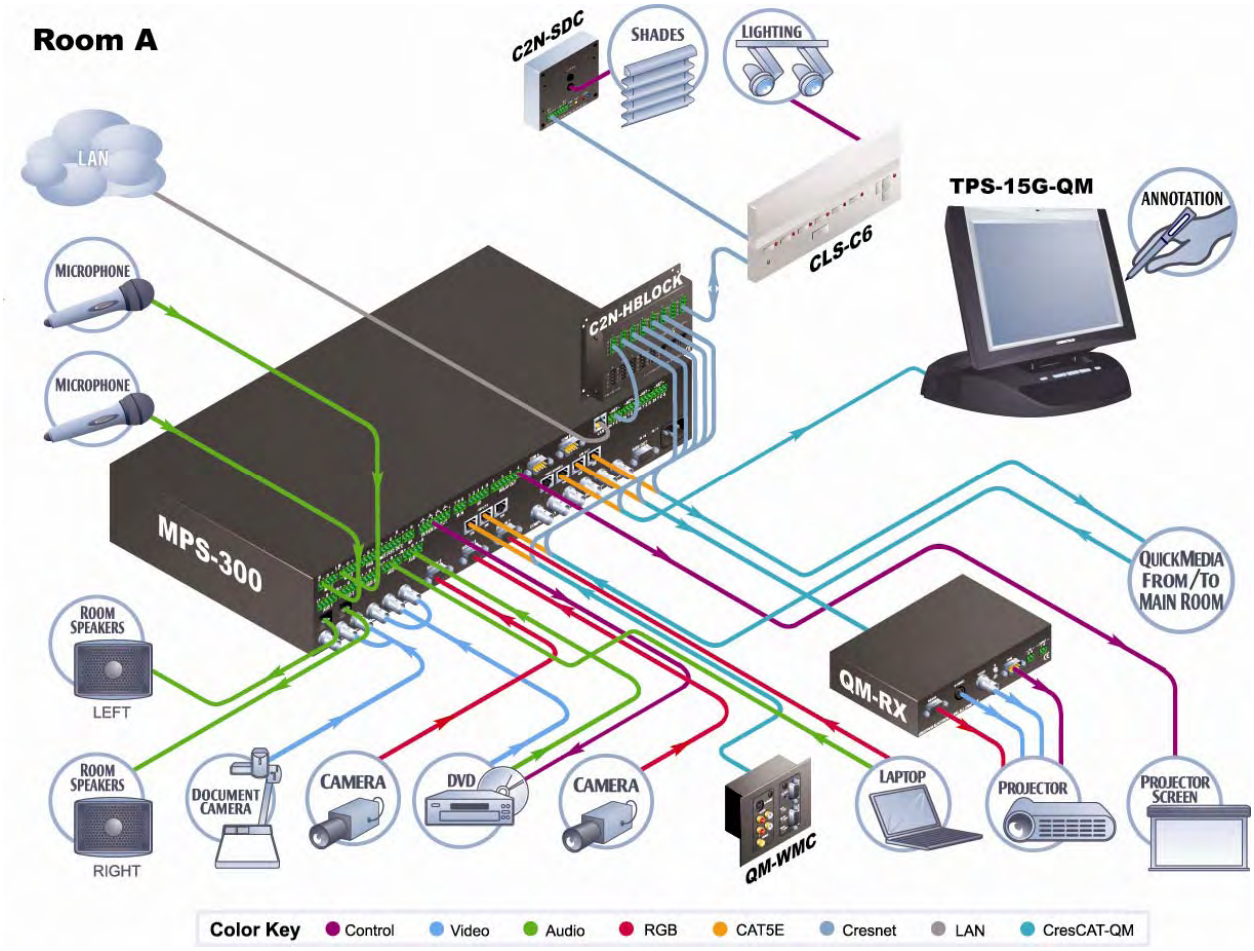
MPS-300 Application

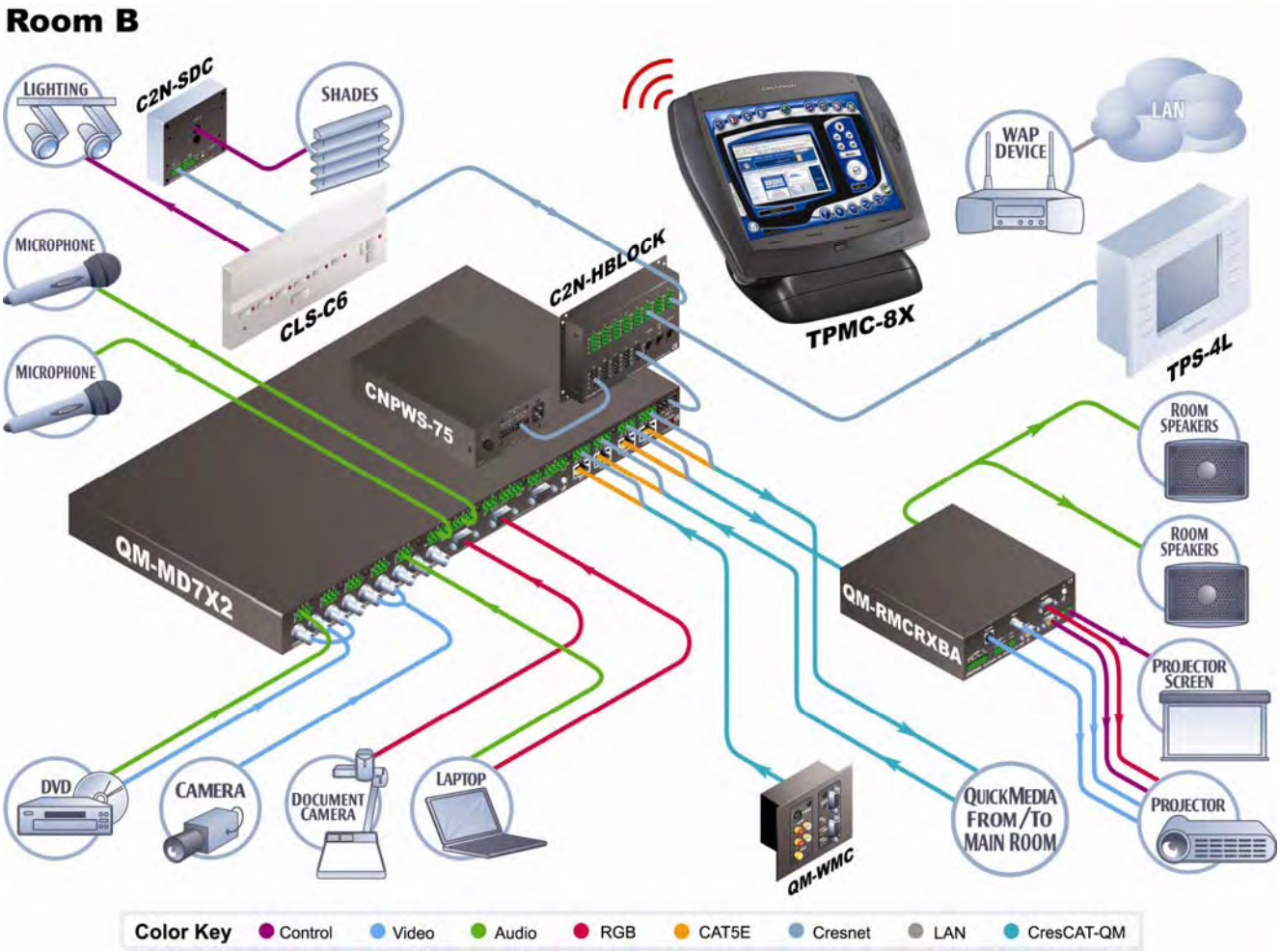


Large Scale Applications

Demanding, large scale applications with conventional AV wiring require the flexibility, scalability and power of traditional Crestron 2-Series control systems. Crestron processors are designed to handle the most complex programming and sophisticated functionality, integrating multiple subsystems and control interfaces with optimum speed, reliability and performance. Numerous Crestron touchpanels may be installed to provide customized, intuitive control in several locations throughout the room. Disparate systems such as AV, lighting, HVAC, shades/drapes and security can be seamlessly integrated and centrally controlled. Crestron e-Control® is built-in for real-time remote control via Ethernet communication. RoomView® software offers facility-wide remote help desk, system monitoring and asset management.

Three Room Example (Room A, Room B, and Main Room)




Room B
LIGHTING
C2N-SDC
SHADES
MICROPHONE
MICROPHONE
CLS-C6
C2N-HBLOCK
CNPWS-75
QM-MD7X2
TPMC-8X
WAP DEVICE
LAN
TPS-4L
ROOM SPEAKERS
ROOM SPEAKERS
QM-RMCRXBA
PROJECTOR SCREEN
PROJECTOR
QUICKMEDIA FROM/TO MAIN ROOM
QM-WMC
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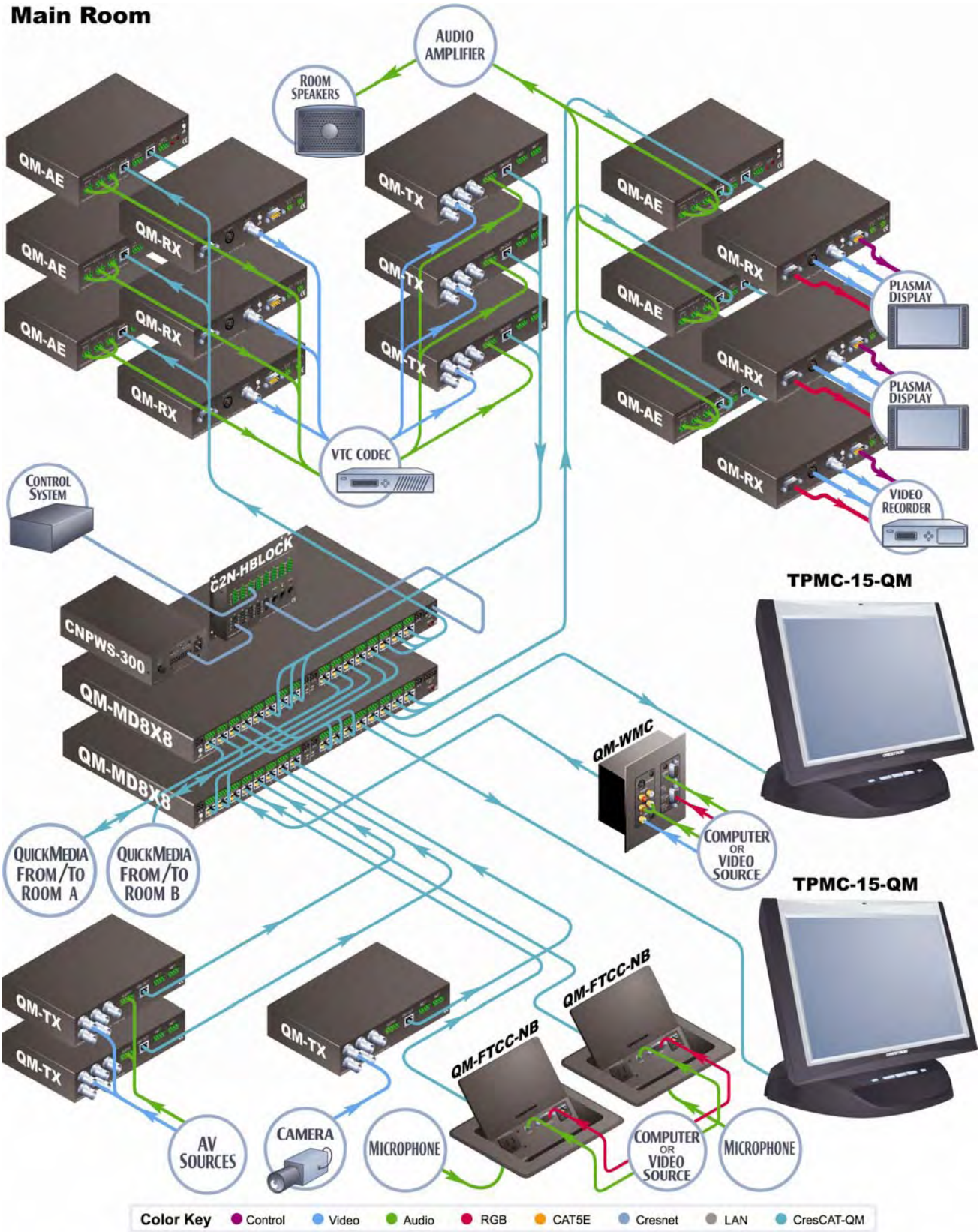
LAPTOP
Color Key
Control
Video
Audio
RGB
CAT5E
Cresnet
LAN
CresCAT-QM


Main Room
AUDIO AMPLIFIER
ROOM SPEAKERS
QM-AE
QM-RX
QM-TX
PLASMA DISPLAY
PLASMA DISPLAY
VIDEO RECORDER
VTC CODEC
CONTROL SYSTEM
C2N-HBLOCK
CNPWS-300
QM-MD8X8
QM-MD8X8
TPMC-15-QM
QM-WMC
COMPUTER OR VIDEO SOURCE
QUICKMEDIA FROM/TO ROOM A
QUICKMEDIA FROM/TO ROOM B
TPMC-15-QM
QM-FTCC-NB
QM-FTCC-NB
AV SOURCES
CAMERA
MICROPHONE
COMPUTER OR VIDEO SOURCE
MICROPHONE
Color Key
Control
Video
Audio
RGB
CAT5E
Cresnet
LAN
CresCAT-QM

Wideband RGB Matrix Switchers

Crestron wideband matrix switchers are designed to provide flexible signal routing of high resolution video and audio for the most demanding presentation environments. With extremely low crosstalk, 450MHz video bandwidth, professional balanced audio, and full Crestron control system integration, the CEN-RGBHV series satisfies the demanding video requirements of corporate boardrooms and training centers, university lecture halls, high tech houses of worship, command and control facilities, and live staging events.

Glitch-free Switching
Video-follow-sync switching ensures a glitch-free transition when selecting between non-synchronous sources. Blanking time is independently adjustable per output from zero to 10 seconds, allowing each display device time to lock to the new sync signal before displaying the video image whenever a new source is selected. A sync reference input is also provided to support vertical interval switching of genlocked sources.

Sync Detection
Video sync detection on each input measures the H and V sync rates of every RGB source and allows their values to be viewed on the front panel display, control system touchpanel, or RoomView® software.

Professional Stereo Audio Matrix
A stereo audio matrix is also included, supporting both balanced and unbalanced signals. Programmable input level compensation helps ensure compatibility with a wide range of pro and semi pro sources. Automatic blanking achieves a pop-free transition when switching between sources. Every output includes volume and mute control, providing multiple channels of real-time controllable audio signal distribution to feed multi-zone amplifiers, assistive listening, and recording equipment. Audio breakaway capability allows any audio input or output to be linked with its respective video channel, or switched independently.

Full-featured Front Panel
The CEN-RGBHV series are fully operable out-of-the-box for use as a stand-alone switcher. Featuring an informative LCD display and quick adjust knob, the front panel supports essential switcher operation without requiring a computer or control system. Advanced setup is available through Crestron Toolbox™ software. All signal routing and audio compensation settings are stored in non-volatile memory onboard the switcher.

Customizable label strips are provided on the front panel for clear designation of its inputs and outputs using Crestron Engraver software or standard 3/8" tape labels. Names may also be entered through software to appear on the LCD display during operation. For security, the front panel controls can be password protected or locked out.

Crestron System Integration
Via Cresnet® or high-speed Ethernet, Crestron switchers offer the ultimate in control system integration with every function accessible through SIMPL Windows or SystemBuilder™ without deciphering cryptic protocols. Up to 10 routing presets can be saved onboard the CEN-RGBHV for instant recall. Integration with any 2-Series control system also provides the gateway to Crestron RoomView Asset Management Software and e-Control®2 XPanel solutions for remote monitoring and control.

No RS-232 port needed! An enormous cost advantage!

Seven wideband matrix switchers are available: 8X4, 8X8, 12X4, 12X8, 16X16, 32X32V, and 32X32A.

CEN-RGBHV8X4

Features

- 8 x 4 high-bandwidth matrix switcher
- Low crosstalk and incredibly flat response
- 450MHz video bandwidth (-3dB)
- Professional balanced stereo audio
- Audio input level compensation
- Audio output volume and mute control
- Input sync detection with Genlock sync input
- Adjustable video and audio blanking
- Selectable input sync impedance
- Stand-alone operation with LCD-driven front control panel
- Cresnet® or high-speed Ethernet communications
- 3-space rack mount installation

CEN-RGBHV8X8

Features

- 8 x 8 high-bandwidth matrix switcher
- Low crosstalk and incredibly flat response
- 450MHz video bandwidth (-3dB)
- Professional balanced stereo audio
- Audio input level compensation
- Audio output volume and mute control
- Input sync detection with Genlock sync input
- Adjustable video and audio blanking
- Selectable input sync impedance
- Stand alone operation with LCD-driven front control panel
- Cresnet or high-speed Ethernet communications
- 3-space rack mount installation

CEN-RGBHV12X4

Features

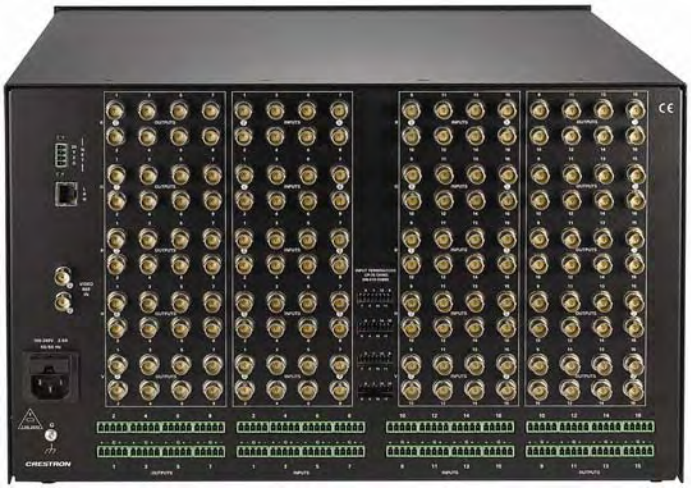
- 12 x 4 high-bandwidth matrix switcher
- Low crosstalk | Incredibly flat response
- 450MHz video bandwidth (-3dB)
- Professional balanced stereo audio
- Audio input level compensation
- Audio output volume and mute control
- Input sync detection with Genlock sync input
- Adjustable video and audio blanking
- Selectable input sync impedance
- Stand-alone operation with LCD-driven front control panel
- Cresnet® or high-speed Ethernet communications
- 3-space rack mount installation

CEN-RGBHV12X8

Features

- 12 x 8 high-bandwidth matrix switcher
- Low crosstalk | Incredibly flat response
- 450MHz video bandwidth (-3dB)
- Professional balanced stereo audio
- Audio input level compensation
- Audio output volume and mute control
- Input sync detection | Genlock sync input
- Adjustable video and audio blanking
- Selectable input sync impedance
- Stand-alone operation | LCD-driven front control panel
- Cresnet or high-speed Ethernet communications
- 3-space rack mount installation

CEN-RGBHV16X16



Features

- 16 x 16 high-bandwidth matrix switcher
- Low crosstalk and incredibly flat response
- 450MHz video bandwidth (-3dB)
- Professional balanced stereo audio
- Audio input level compensation
- Audio output volume and mute control
- Input sync detection | Genlock sync input
- Adjustable video and audio blanking
- Selectable input sync impedance
- Stand-alone operation | LCD-driven front control panel
- Cresnet® or high-speed Ethernet communications
- 6-space rack mount installation

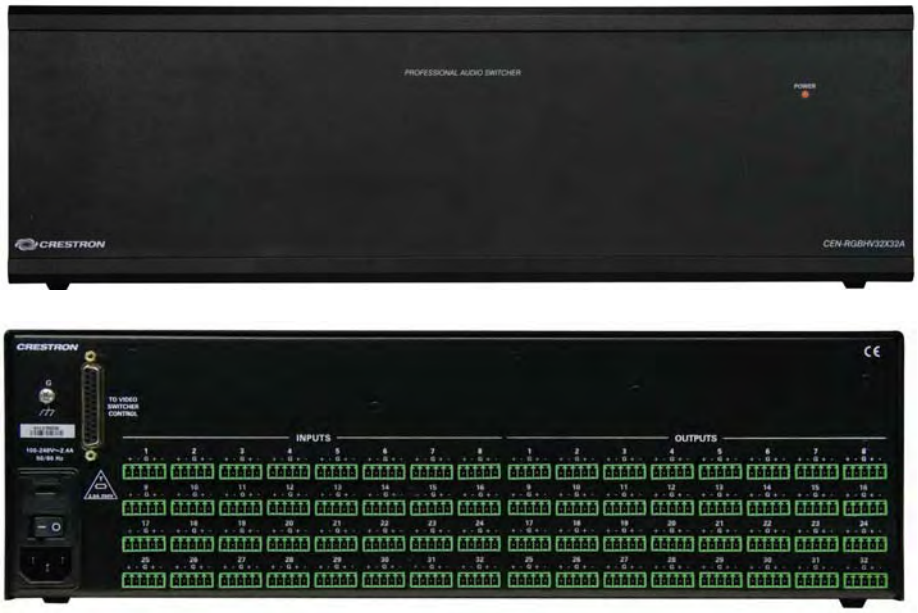
CEN-RGBHV32X32V

Features

- High-bandwidth 32x32 matrix switcher
- Low crosstalk and incredibly flat response
- 450MHz video bandwidth (-3dB)
- Input sync detection
- Genlock sync input
- Adjustable video blanking
- Selectable input sync impedance
- Stand alone operation and LCD front panel
- Cresnet® and Ethernet communications
- 9-space rack mount installation

NOTE: Video only, add the CEN-RGBHV32X32A for audio.

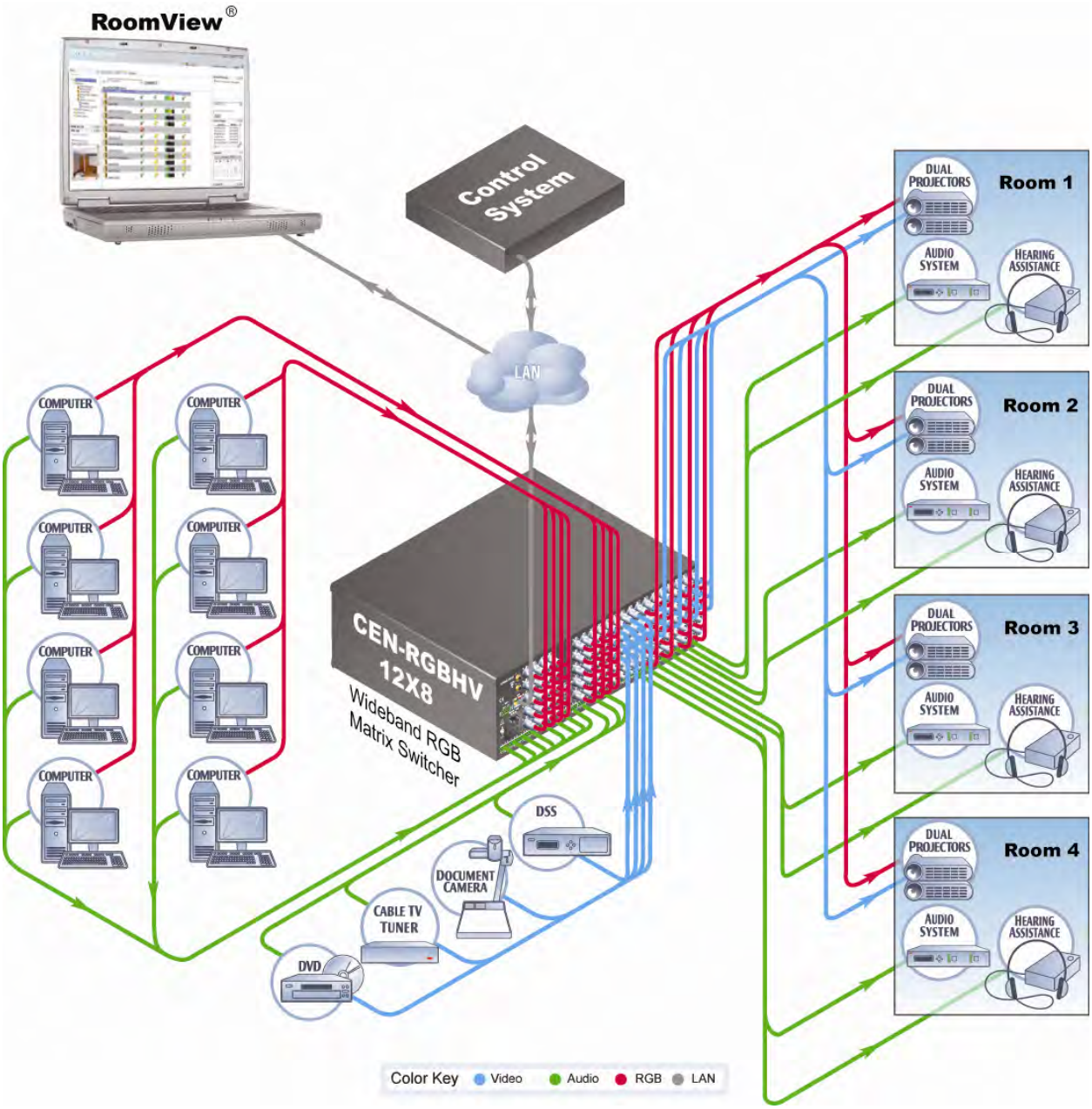
CEN-RGBHV32X32A



Features

- 32x32 stereo audio matrix switcher
- Professional balanced stereo audio
- Audio input level compensation
- Audio output volume and mute control
- Adjustable audio blanking
- DB25 link to CEN-RGBHV32X32V
- 3-space rack mount installation

CEN-RGBHV12X8 Example Application



DigitalMedia™

The only true HDMI distribution solution

Now is the time to transition from analog to digital and not look back. To give you the design tools to move forward with confidence, Crestron developed a comprehensive guide that steps through the digital systems design process and clarifies new technologies such as content protection, HDCP keys and resolution management. No generic switch, cable, or transceiver can address these issues.

Crestron DigitalMedia distributes uncompressed digital audio and video signals over a choice of CAT5e/6-based copper wiring or duplex multimode fiber cable. A full selection of switcher input cards, wall plate transmitters, and room solution boxes provide extensive connectivity throughout the installation, supporting a complete range of analog and digital signal types. DigitalMedia intelligently manages all the different signals and devices, matching each source's output to the capabilities of the selected display(s) without scaling or compression. Every signal is preserved in its native video resolution and audio format, ensuring a pure, lossless signal path.

DigitalMedia handles more than just audio and video. Integrated Gigabit Ethernet, device control (IR, RS-232) and USB mouse and keyboard distribution allow computers, media servers, and video game consoles to be installed out of sight (and accessed from anywhere in the installation). With no additional wiring, built-in Crestron control is also available for controlling displays and other room devices. DigitalMedia:

- Distributes uncompressed digital audio and video over CAT5e/6 or fiber
- Supports HDMI 1.3a with Deep Color and 7.1 channel HD lossless audio
- Supports video resolutions up to 1920x1200 or 1080p/60
- Allows full 1080p/60 up to 400 feet using CAT5e or CAT6 cable
- Supports 50/125 and 62.5/125 multimode fiber for distances up to 1000m (3280 ft).

From the introduction that covers the management of multiple data streams to detailed information on designing and installing a DigitalMedia system, the DigitalMedia Design Guide is the ultimate "how-to." Refer to the latest version of Doc #4789, available on www.crestron.com.

Uninterruptible Power Supply

CEN-UPS1250

An integral part of any Crestron control solution includes the CEN-UPS1250, a 1250 watt, 120 volt uninterruptible power supply and power conditioner. Engineered by APC® specifically for Crestron, it was designed to protect Crestron control systems, media servers, video displays and other devices. The CEN-UPS1250 employs pure sine wave battery backup to maintain continuous operation of critical components whenever power is disrupted. Remote monitoring and control through the award-winning Crestron RoomView® software and full 2-Series control system integration deliver a comprehensive power management and protection solution.

Pure Sine Wave Battery Backup

Any unexpected shutdown due to the sudden loss of power will certainly disrupt workflow and stop a presentation dead in its tracks. It can also cause the loss of precious data and system settings and damage hard drives and other vulnerable components. The CEN-UPS1250 constantly monitors the incoming power line and instantly transfers power to battery backup in the event of such a power loss, ensuring the connected components continue to operate unhampered. It may also be configured to transfer to battery in the case of an over or under voltage condition or if excessive line noise or distortion is detected, ensuring optimum performance of sensitive video and audio equipment during momentary power glitches.

When running on battery backup, the CEN-UPS1250 can power a rack full of equipment for several minutes without interruption. In the event of a prolonged power outage, a properly managed shutdown of the equipment can be performed automatically. Configurable load-shedding allows only certain components to be shut down, preserving battery fuel and extending runtime for more vital components. The CEN-UPS1250 will also ensure a smooth changeover from primary power to a backup generator.

Managed Power Control

The CEN-UPS1250 provides twelve 120V power outlets organized in four banks. Each of the four banks of outlets is independently switchable, with fully managed power-up and shutdown available at the press of a single button or control system command. Up to 10 seconds of delay adjustment on banks 3 and 4 enables customized sequential switching capability. Sequential switching ensures that all the components of a complete system are powered up and down in proper order, avoiding dangerous transients that can damage delicate components and trip the main circuit breaker. Components such as video projectors and media servers that require systematic shutdown and restart can be managed seamlessly through integration with a control system.

Automatic Voltage Regulation

Keeping the voltage within a safe operating range helps prevent equipment malfunctions and can even improve audio and video performance. Using automatic voltage regulation, the CEN-UPS1250 can correct for many high and low voltage fluctuations without having to switch to battery operation, preserving battery fuel for more serious situations.

Surge Protection
The CEN-UPS1250 provides thorough protection against surges, spikes, and lightning. In addition to power line protection on all 12 outlets, there is also built-in surge protection for two separate coax lines and one telephone line, delivering a complete solution for protecting TVs, cable and satellite receivers, modems, and conferencing devices.

Noise Filtering
Built-in EMI and RFI noise filtering eliminates the electromagnetic and radio frequency interference that can negatively impact sound and video quality. Each of the four outlet banks provides filtering protection specialized for a specific type of device: DIGITAL, DISPLAY, ANALOG, and HI-CURRENT. Each bank is electrically isolated to prevent any noise present on one bank from reaching the devices connected to any other bank.

Environmental Monitoring
Using the external probe included, ambient temperature and relative humidity levels can be measured and recorded, and even reported to the control system or central help desk. Using this feature, safe operating limits can be specified for all of the equipment within a room or rack so that whenever the limits are exceeded, the user is notified, climate control is adjusted, and if necessary the equipment can be powered down safely.

RoomView® and Control System Integration
Monitoring and operation of the CEN-UPS1250 extends beyond its front panel, providing direct communication with Crestron RoomView Remote Asset Management Software as well as with Ethernet-enabled 2-Series control systems. The CEN-UPS1250 notifies RoomView whenever it switches to battery backup, and warns if the battery is low or overloaded. It also reports which outlet banks are on, as well as the line voltage, output voltage, frequency, voltage regulation status, system load, internal temperature, ambient temperature and humidity, and battery condition. Centralized monitoring and logging via RoomView provides an invaluable resource for quickly resolving power line problems and maintaining batteries.

Built-in Logging
In addition to RoomView, the CEN-UPS1250 also supports onboard data and event logging. Data can be set to log every 10 seconds to 18 minutes with sufficient memory for at least 30 days of history, recording the load, battery condition, line voltage, outlet on/off status, and environmental conditions. Instantaneous events such as switching to battery, low battery warnings, and self-tests are also logged.

Rack-mountable
A heavy duty rack mount hardware kit is provided to mount the unit into any EIA standard 4-post 19" equipment rack up to 28" deep. The feet on the bottom of the unit can be unscrewed and removed to save space when the unit is rack-mounted.

Automation and Lighting Integration

Crestron is your first choice for lighting control, whether as a stand-alone system or part of a complete integration solution. Crestron offers the broadest line of products and technology in the industry, providing the perfect solution for any project - commercial or residential, large or small, new construction or retrofit. Crestron offers a full line of switches, dimmers, cabinets, and sensors, including the iLux™ multi-zone lighting control system and the infiNET™ wireless mesh network dimmers that seamlessly integrate with remote management and automation systems.

Crestron solutions offer significant energy savings by providing daylight harvesting and automating lights, drapes, thermostats and sprinklers/fountains based on daylight, time, motion, occupancy, temperature, humidity and other conditions. By integrating the disparate environmental systems, efficiencies are increased exponentially and may contribute toward LEED Certification. Using RoomView® remote management software, AV components, lights and thermostats may be monitored and controlled remotely from any computer.

Crestron provides the only complete integration solution in the industry, controlling lighting, shades, HVAC, AV and security from Crestron touchpanels, keypads and wireless interfaces.

Seamless integration, ultimate flexibility, infinite expandability - Crestron is the perfect solution for all your lighting and control projects.

iLux™

More than just lighting control, iLux is an integrated control system. With a built-in Crestron processor and front panel pushbuttons, iLux is designed to operate as a stand-alone lighting and shade control system, or as part of a completely integrated automation solution. Keypads connect directly to iLux for local control in every room, and iLux communicates directly with Crestron 2-Series controllers, integrating HVAC, AV, security and more. No other multi-zone lighting and shade controller offers the seamless integration, flexibility and expandability of iLux.

As a stand-alone system or part of a complete integration solution, Crestron is your first choice for lighting control.

iLux is perfect for residential and commercial applications such as auditoriums, corporate boardrooms and hotel ballrooms. iLux controls six lighting circuits and six groups of shades, and supports an assortment of local devices including keypads, shades and drape controllers and integrated motion detectors. Up to nine iLux units can be daisy-chained, expanding systems up to 54 lighting circuits and 54 shades groups. iLux also seamlessly integrates with complete Crestron automation solutions

Heating/Cooling and Humidity Thermostats

Crestron offers three versions of versatile thermostats designed for one and two stage control of forced air, radiant, and heat pump HVAC systems.

The CHV-THSTAT is a heating and cooling thermostat with integrated humidistat.

The CHV-TSTAT is a heating and cooling thermostat. Relative humidity capability can be added through an external remote humidity sensor (sold separately).

The CHV-TSTATRF is a wireless networked thermostat featuring infiNET wireless technology. The CHV-TSTATRF is designed to be installed easily in place of a conventional type thermostat without requiring additional control network wiring.

Although functional as a standalone thermostat, Crestron thermostats deliver greatly enhanced functionality as part of a complete Crestron automation system. Available in white, black, or almond, the stylish wall mount design is a complement to any décor.

The large backlit LCD display, navigable using four simple pushbuttons, provides easy access to indoor and outdoor temperature and humidity readings, setpoint adjustments, system mode and fan status indicators, and setup menus. Climate control features include separate heating, cooling, and humidity setpoints with optional automatic changeover between heating and cooling modes. Adjustable anticipators prevent overshooting the set temperature, and continuous fan operation can be selected when needed for increased circulation.

Multiple Crestron thermostats may be networked via Cresnet® to any 2-Series control system, enabling global temperature and humidity adjustment from any thermostat. Automation functions such as lighting, motorized blinds, or lawn sprinklers can be accessed through two custom remote function pages, and customized text messages can be sent to the LCD display to provide maintenance reminders and other alerts.

Its connection to the control system also enables full control and scheduling from touchpanels and computers, and supports extensive flexibility for integration with other devices and systems. In the event that communication with the control system is disrupted for any reason, the thermostats remain operable to control the HVAC system.

Optional remote temperature and humidity sensors can be connected for enhanced flexibility and optimized performance. Climate can be regulated according to an average of multiple sensors, or the built-in sensors can be disabled entirely to allow the thermostat to be installed out of view. Outdoor climate can also be monitored, enabling outdoor low-temperature compensation to prevent condensation on windows during cold weather. The CHV-THSTAT and CHV-TSTAT accept up to four remote temperature sensors, two remote temp/humidity sensors, or a combination of one temp/humidity and two temperature sensors.

Motion Detectors and Occupancy Sensors

GLS-ODT & GLS-OIR

Green Light Occupancy Sensors

Crestron Green Light™ sensors deliver a powerful and cost-effective solution for reducing energy costs and enhancing the functionality of lighting and environmental systems. Crestron offers ceiling and wall mount occupancy sensors for areas up to 2500 square feet.

Advanced self-adaptive motion sensing using a combination of ultrasonic and passive infrared technologies affords extreme reliability for control of lighting, climate control and other devices in the room. A built-in photocell can be set to override the occupancy sensor if the ambient light level is above a set threshold, preventing lights from turning on when there is sufficient daylight in the room.

Sensors are easily connected to the lighting control processor via the Cresnet® control network using a GLS-SIM Sensor Integration Module. Alternately, they may be connected directly via a digital input port. Please refer to the product specification sheet for complete information.

GLS-LOL & GLS-LCL

Green Light Photocell Light Sensors

Crestron Photocell Light Sensors are designed for daylight harvesting applications to control the balance of natural and artificial lighting in an indoor space. By harnessing natural daylight from windows and skylights, electrical lighting can be turned off or dimmed, reducing energy usage while maintaining a consistent light level for a more efficient and comfortable work space. Outdoor lighting may also be turn off and on automatically using a photocell light sensor. Please refer to the product specification sheet for complete information.

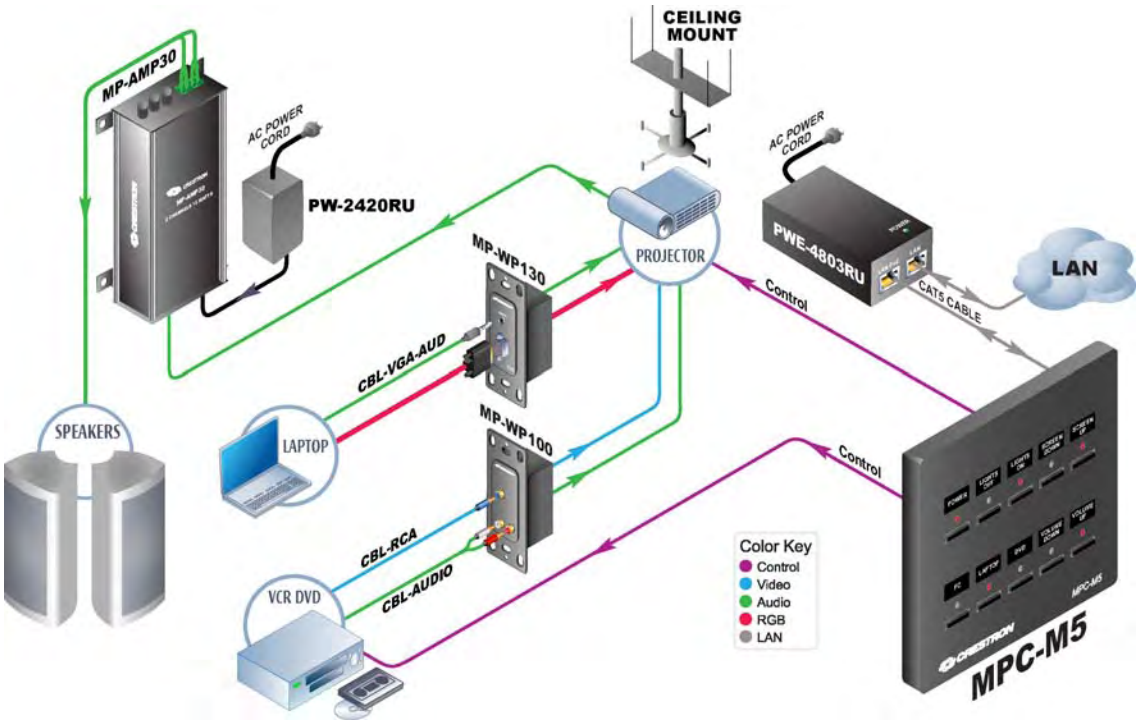
Crestron QuickPacks

Complete Classroom AV System Packages

Crestron QP Systems provide a low cost, simplified, design and acquirement method that saves both time and money. QP Systems include AV switching, audio amplifier and speakers, system control, source connectivity, mounting hardware, and cabling for a complete classroom AV solution. Just add the video projector, projection screen, and AV sources to complete the installation. Refer to the Crestron website for the latest information, availability, and pricing.

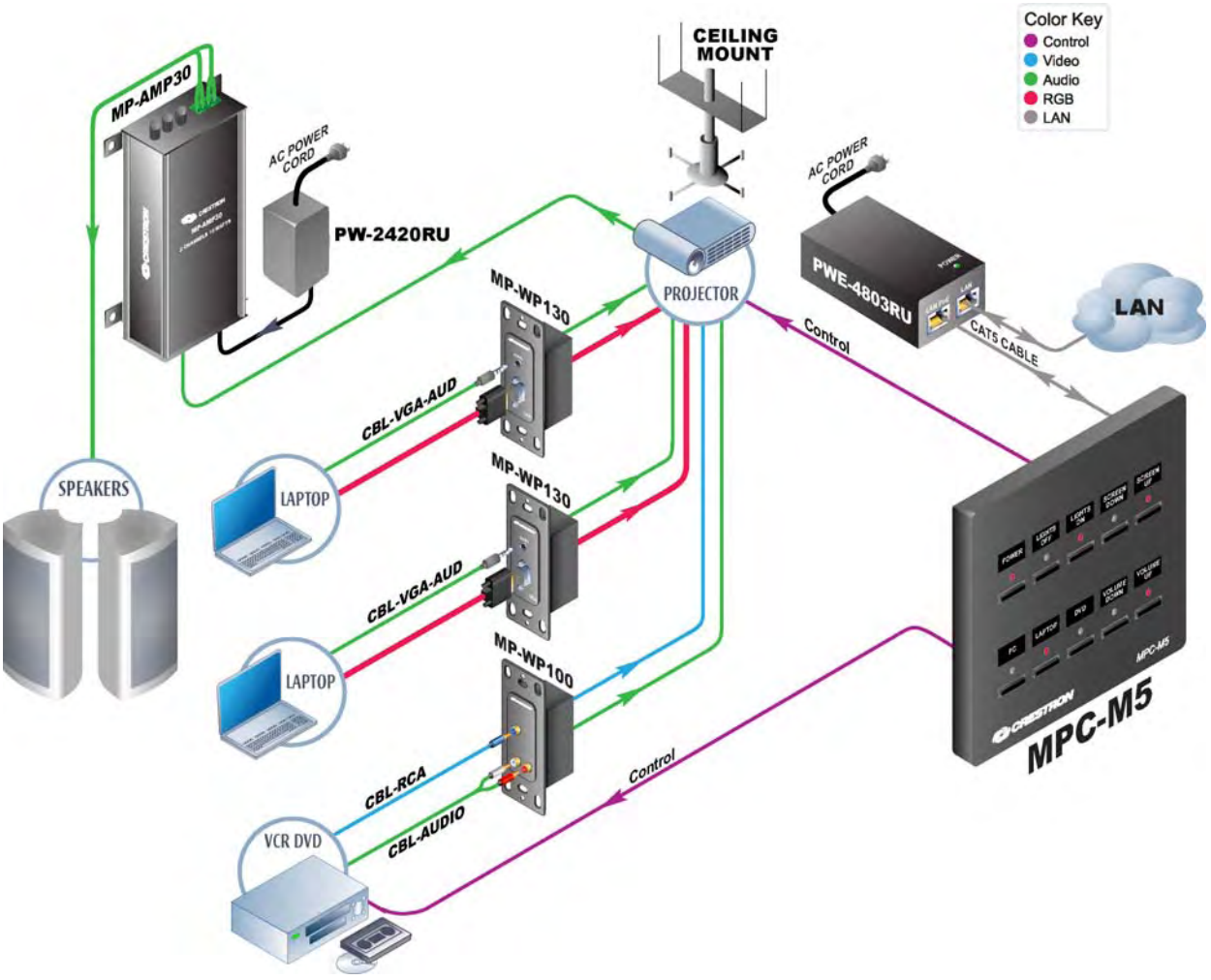
QP-200

Quantity	Model	Description
1	MPC-M5-B-T	Media Presentation Controller, Black, 10 button, 1 RS-232, 1 IR, 2 input, 2 Relay, Ethernet only
1	MP-AMP30	15X2 Power Amplifier (includes PW-2420RU Power Supply)
1	PWE-4803RU	PoE Injector, Universal 100-250VAC
1	MP-WP130-B	Media Presentation Wall Plate, Black, DB15HD Computer with Mini-TRS Stereo Audio
1	MP-WP100-B	Media Presentation Wall Plate, Black, RCA Composite Video with RCA Stereo Audio
1	MNT-FCP100	Projector False Ceiling Mount
1	MNT-P150-06	Pipe, 6 in
1	MNT-UPM100	Universal Projector Mount
1	High Performance Surface Mount Loudspeaker, Pair	
Includes: Complete Audio, Video, Control cabling, and connectors		



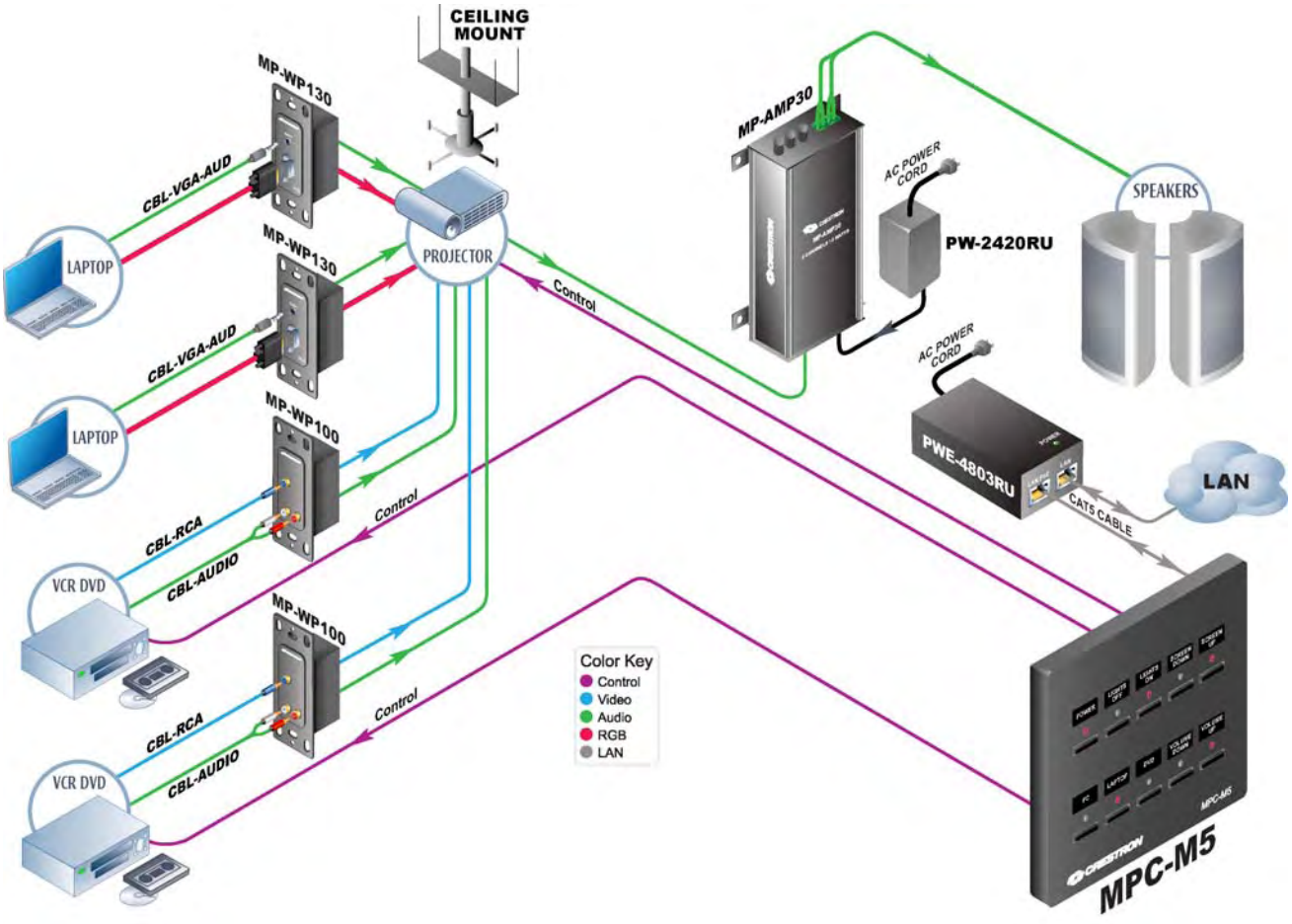
QP-300

Quantity	Model	Description
1	MPC-M5-B-T	Media Presentation Controller, Black, 10 button, 1 RS-232, 1 IR, 2 input, 2 Relay, Ethernet only
1	MP-AMP30	15X2 Power Amplifier (includes PW-2420RU Power Supply)
1	PWE-4803RU	PoE Injector, Universal 100-250VAC
2	MP-WP130-B	Media Presentation Wall Plate, Black, DB15HD Computer with Mini-TRS Stereo Audio
1	MP-WP100-B	Media Presentation Wall Plate, Black, RCA Composite Video with RCA Stereo Audio
1	MNT-FCP100	Projector False Ceiling Mount
1	MNT-P150-06	Pipe, 6 in
1	MNT-UPM100	Universal Projector Mount
1	High Performance Surface Mount Loudspeaker, Pair	
Includes: Complete Audio, Video, Control cabling, and connectors		



QP-400

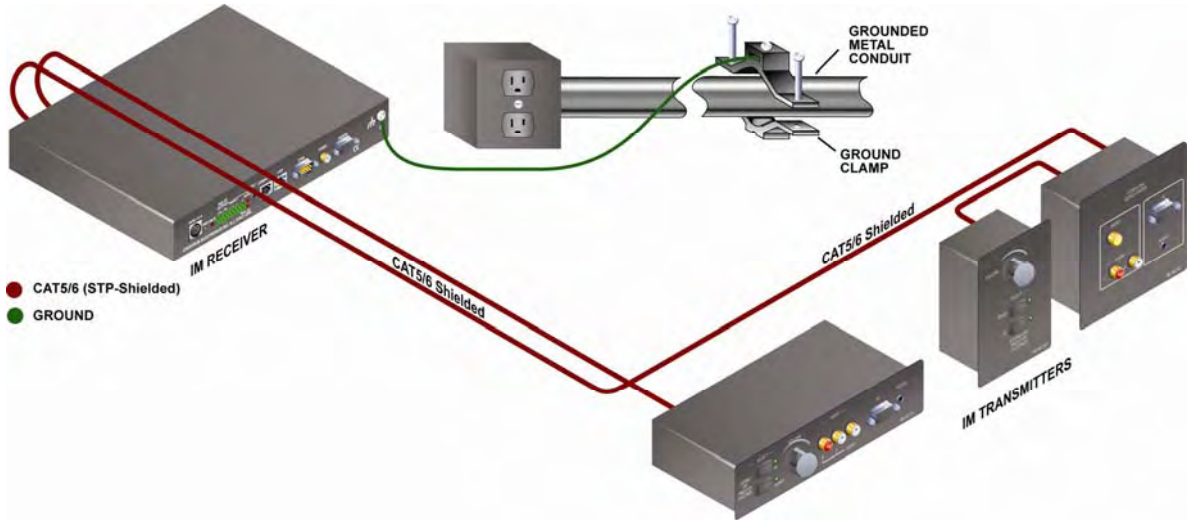
Quantity	Model	Description
1	MPC-M5-B-T	Media Presentation Controller, Black, 10 button, 1 RS-232, 1 IR, 2 input, 2 Relay, Ethernet only
1	MP-AMP30	15X2 Power Amplifier (includes PW-2420RU Power Supply)
1	PWE-4803RU	PoE Injector, Universal 100-250VAC
2	MP-WP130-B	Media Presentation Wall Plate, Black, DB15HD Computer with Mini-TRS Stereo Audio
2	MP-WP100-B	Media Presentation Wall Plate, Black, RCA Composite Video with RCA Stereo Audio
1	MNT-FCP100	Projector False Ceiling Mount
1	MNT-P150-06	Pipe, 6 in
1	MNT-UPM100	Universal Projector Mount
1	High Performance Surface Mount Loudspeaker, Pair	
Includes: Complete Audio, Video, Control cabling, and connectors		



Appendix A: IMedia Grounding Methods

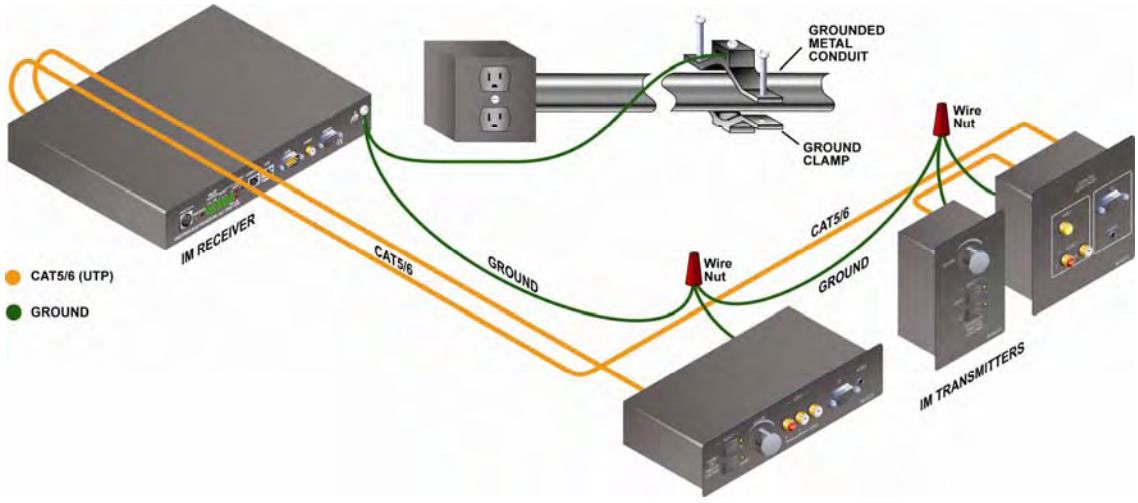
IMedia Grounding Method 1

1. Attach IM receiver ground screw to either grounded metal conduit or appropriate earth ground.
2. Attach the transmitter to the receiver using shielded CAT5 with shielded RJ-45connectors.
3. The transmitter ground wire can either be left loose or optimally connected to grounded metal conduit or appropriate earth ground.
4. If using a transmitter with separate interface and control wall plates, such as the IM-WCCV-S-M, connect the control plate to the interface plate via shielded CAT5 with shielded RJ-45 connectors.



IMedia Grounding Method 2

1. Attach IM receiver grounding screw to either grounded metal conduit or appropriate earth ground.
2. Attach the transmitter ground wire back to the receiver's grounding lug via18 AWG (or thicker) green electrical grounding cable.
3. If possible, also attach the transmitter ground wire to grounded metal conduit or appropriate earth ground.
4. If using a transmitter with separate interface and control wall plates, such as the IM-WCCV-S-M, in addition to steps 2 and 3, connect the control plate ground wire to the interface ground wire.



Appendix B: Crestron Cable

Cresnet Cable

CRESNET-NP

Cresnet control cable — Non-Plenum Jacket

Data Pair: 22 AWG x2 stranded bare copper
Colors: Blue/white. Aluminum/Polyester shield (100% coverage); 24 AWG stranded tinned copper drain

Power Pair: 18 AWG x2 stranded bare copper
Colors: Red/black

Available Models/Quantities:

Jacket Color: Teal with Yellow stripe

CRESNET-NP-TL-B250 250 ft box
CRESNET-NP-TL-B500 500 ft box
CRESNET-NP-TL-SP500 500 ft spool
CRESNET-NP-TL-SP1000 1000 ft spool

Jacket Color: Black with Yellow stripe

CRESNET-NP-BK-B500 500 ft box

Jacket Color: Yellow with Black stripe

CRESNET-NP-YL-B500 500 ft box

Jacket Color: Orange with Black stripe

CRESNET-NP-OR-B500 500 ft box

CRESNET-P

Cresnet control cable — Plenum Jacket

Data Pair: 22 AWG x2 stranded bare copper
Colors: Blue/white. Aluminum/Polyester shield (100% coverage); 24 AWG stranded tinned copper drain

Power Pair: 18 AWG x2 stranded bare copper
Colors: Red/black

Available Models/Quantities:

Jacket Color: Teal with Yellow stripe

CRESNET-P-TL-SP500 500 ft spool
CRESNET-P-TL-SP1000 1000 ft spool

Jacket Color: Black with Yellow stripe

CRESNET-P-BK-SP500 500 ft spool

Jacket Color: Orange with Black stripe

CRESNET-P-OR-SP500 500 ft spool

Cresnet High Power Cable

CRESNET-HP-NP-T

Cresnet high-power control cable — Non-Plenum Jacket

Data Pair: 22 AWG x2 stranded bare copper
Colors: Blue/white. Aluminum/Polyester shield (100% coverage); 24 AWG stranded tinned copper drain

Power Pair: 12 AWG x2 stranded bare copper
Colors: Red/black

Available Models/Quantities:

Jacket Color: Teal with Brown stripe

CRESNET-HP-NP-TL-SP500 500 ft spool
CRESNET-HP-NP-TL-SP1000 1000 ft

Cresnet Control Cable for CLW-series Wall Box Dimmers and Switches

CRESNET-DM-NP

Cresnet dimmer control cable — Non-Plenum Jacket

Conductors: 22 AWG x2 stranded bare copper
Colors: Blue/white. Aluminum/Polyester shield (100% coverage); 24 AWG stranded tinned copper drain

Available Models/Quantities:

Jacket Color: Teal with Purple stripe

CRESNET-DM-NP-SP500 500 ft spool

CAT5e with a Cresnet Control Cable

CRESCAT-NP

One CAT5e plus Cresnet — Non-Plenum Jacket

Available Models/Quantities:

Jacket Color: Teal with Red stripe

CRESCAT-NP-SP500 500 ft spool

CRESCAT-D-NP

Two CAT5e plus Cresnet — Non-Plenum Jacket

Available Models/Quantities:

Jacket Color: Teal with Black stripe

CRESCAT-D-NP-SP500 500 ft spool

CRESCAT-D-HP-NP

Two Cat5e plus Cresnet high power — Non-Plenum Jacket

Available Models/Quantities:

Jacket Color: Teal with Green stripe

CRESCAT-D-HP-NP-TL-SP500 500 ft spool

CRESCAT-Q-NP

Four CAT5e plus Cresnet — Non-Plenum Jacket

Available Models/Quantities:

Jacket Color: Teal with White stripe

CRESCAT-Q-NP-SP500 500 ft spool

CRESCAT-DC-NP

Two CAT5e and Two RG6 plus Cresnet — Non-Plenum Jacket

Available Models/Quantities:

Jacket Color: Teal with Orange stripe

CRESCAT-DC-NP-SP500 500 ft spool

DigitalMedia™ Cable

DM-CBL-NP

High-bandwidth/low-crosstalk shielded Four-twisted pair, plus CAT5e and DMNet — Non-Plenum Jacket

Available Models/Quantities:

Jacket Color: Blue with Red stripe

DM-CBL-NP-SP500 500 ft spool

DM-CBL-P

High-bandwidth/low-crosstalk shielded Four-twisted pair, plus CAT5e and DMNet — Plenum Jacket

Available Models/Quantities:

Jacket Color: Blue with Yellow stripe

DM-CBL-P-SP500 500 ft spool

Note: You lose 10 feet of DM CAT length for every patch point insertion, this also includes when using an MP-WP185.

V-Cable Triamese Cables

V-CBL-T

Crestron® V-Cable Triamese Cables provide clean, flexible connectivity for our DM CAT-based V-Panel touchpanel displays (V12 and V15). Available in black or white and in 3, 6, 9, and 15 feet lengths, V-Cables provide an unobtrusive solution for connecting the touchpanel to a wall plate or running across a desk top. Their durable yet flexible construction allows V-Cables to fit neatly inside the base of a tilt model V-Panel, or dress cleanly behind a VESA-mounted V-Panel.

The V12 and V15 model V-Panels are each furnished with one 3 ft V-Cable included, while V12-TILT and V15-TILT models include one 15 ft V-Cable each. Other lengths may be purchased for use with any V-Panel that features DM CAT type connections.

V-Cables may also be used with a Crestron DigitalMedia™ system wherever a short, flexible interface cable is required, such as between a DM CAT transmitter and MP-WP185 wall plate.

NOTE: No more than two V-Cables should be used in a given DM signal path.

CresFiber™

CRESFIBER-NP

Multimode fiber optic cable 4-strand 50/125 breakout — Non-Plenum Jacket

Available Models/Quantities:

Jacket Color: Aqua

CRESFIBER-NP-SP500 500 ft spool
CRESFIBER-NP-SP1000 1000 ft spool

CRESFIBER-P

Multimode fiber optic cable 4-strand 50/125 breakout —Plenum Jacket

Available Models/Quantities:

Jacket Color: Aqua

CRESFIBER-P-SP500 500 ft spool
CRESFIBER-P-SP1000 1000 ft spool

QuickMedia® Cable

CRESCAT-QM-NP

Low-skew CAT5e plus Cresnet for QuickMedia applications — Non-Plenum Jacket

Available Models/Quantities:

Jacket Color: Teal with Yellow stripe

CRESCAT-QM-NP-SP500 500 ft spool

CRESCAT-QM-P

Low-skew CAT5e plus Cresnet for QuickMedia applications — Plenum Jacket

Available Models/Quantities:

Jacket Color: Teal with Yellow stripe

CRESCAT-QM-P-SP500 500 ft spool

CRESCAT-IM-P-DRN

Low-skew CAT5e for iMedia (with drain wire) — Plenum Jacket

Available Models/Quantities:

Jacket Color: Blue with White stripe

CRESCAT-IM-P-DRN-SP500 500 ft spool
CRESCAT-IM-P-DRN-SP1000 1000 ft

Appendix C: Crestron Certified Interface Cables

CBL-HD Crestron® Certified HDMI™ Interface Cable

High-quality, high-speed HDMI digital AV interface cables for connecting high-definition multimedia devices, such as DVD and Blu-ray Disc™ players, cable and satellite HDTV receivers, high-def video displays and projectors, surround sound processors, game consoles, and multimedia computers.

- High-speed Category 2 HDMI cable
- Supports 1080p60 HDTV with 16-bit color depth
- Handles computer resolutions up to WQXGA
- Supports SACD, DVD-Audio, Dolby® TrueHD, and DTS-HD Master Audio™
- 24k gold-plated 19-pin Type A connectors
- High-flex CL3-rated jacket
- Crestron® guaranteed end-to-end system performance
- RoHS compliant
- Available in 1.5, 3, 6, 12, 20, and 30 ft lengths

CBL-DVI Crestron® Certified DVI Interface Cable

High-quality DVI digital video interface cables for connecting high-definition multimedia components, digital video processors, computers, monitors and displays.

- Dual Link DVI-D high-resolution video cable
- Supports DVI digital and RGBHV analog signals
- Handles 1080p60 HDTV and computer resolutions up to WQXGA
- 24k gold-plated 24-pin DVI-D connectors
- High-flex CL3-rated jacket
- Crestron® guaranteed end-to-end system performance
- RoHS compliant
- Available in 1.5, 3, 6, 12, 20, and 30 ft lengths

CBL-HD-DVI Crestron® Certified HDMI™ to DVI Interface Cable

High-quality digital AV cables for connecting high-definition multimedia equipment, and converting between DVI and HDMI signal formats. Enable connecting an HDMI DVD player, Blu-ray Disc™ player, or HDTV receiver to a DVI display, video processor, or anything with a DVI input. Also allows connecting computers and other DVI sources to an HDMI display, switcher, or any other video device with an HDMI input.

- High-quality HDMI to DVI cable
- Converts HDMI to DVI, or DVI to HDMI
- Supports 1080p60 HDTV and WUXGA computer resolutions
- 24k gold-plated HDMI Type A and DVI-D connectors
- High-flex CL3-rated jacket
- Crestron® guaranteed end-to-end system performance
- RoHS compliant
- Available in 1.5, 3, 6, 12, 20, and 30 ft lengths

CBL-DP-HD Crestron® Certified DisplayPort to HDMI™ Interface Cable

High-quality digital AV cables for connecting high-definition multimedia equipment, and converting from VESA DisplayPort (Multimode) to HDMI format. Enables connecting the DisplayPort Multimode output of a computer or other source directly to an HDMI display, switcher, processor, or anything with an HDMI input.

- DisplayPort to HDMI cable
- Connects a DisplayPort Multimode source to an HDMI sink device
- No other dongles or adapters required!
- High-flex CL3-rated jacket
- Crestron® guaranteed end-to-end system performance
- RoHS compliant
- Available in 1.5, 3, 6, 12, 20, and 30 ft lengths

CBL-VGA Crestron® Certified Computer VGA Interface Cable

High-quality RGB and VGA computer display cables for connecting high-resolution computers, video processors, monitors and displays.

- High-bandwidth computer VGA cable
- Supports computer resolutions up to WUXGA
- High-density 15-pin connectors
- High-flex CL3-rated jacket
- Crestron® guaranteed end-to-end system performance
- RoHS compliant
- Available in 1.5, 3, 6, 12, 25, 50, and 75 ft lengths

CBL-VGA-AUD Crestron® Certified Computer VGA Interface Cable w/Mini-TRS Audio

High-quality RGB and VGA computer display cables for connecting high-resolution computers, video processors, monitors and displays.

- High-bandwidth computer VGA cable w/audio
- Integrated mini-TRS stereo audio cable
- Supports computer resolutions up to WUXGA
- High-density 15-pin connectors
- High-flex CL3-rated jacket
- Crestron® guaranteed end-to-end system performance
- RoHS compliant
- Available in 3, 6, 12, 25, 50, and 75 ft lengths

CBL-AUDIO Crestron® Certified Mini-TRS Stereo Audio Interface Cable

High-quality audio interface cables for connecting analog audio devices, such as computers and personal media players.

- High-quality, low-loss stereo audio cable
- High-end 24k gold-plated 1/8" mini-TRS connectors
- High-flex CL3-rated jacket
- Crestron® guaranteed end-to-end system performance
- RoHS compliant
- Available in 1.5, 3, 6, and 12 ft lengths

CBL-RCA Crestron® Certified RCA Composite Video Interface Cable

High-quality video cables for connecting analog video devices, such as DVD players, VCRs, and cameras.

- High-quality, low-loss composite video cable
- High-end 24k gold-plated RCA connectors
- High-flex CL3-rated jacket
- Crestron® guaranteed end-to-end system performance
- RoHS compliant
- Available in 1.5, 3, 6, and 12 ft lengths

CBL-RCA3 Crestron® Certified RCA Component Video Interface Cable

High-quality video interface cables for connecting analog video devices, such as DVD players, cable and satellite HDTV receivers, video displays and projectors, and game consoles.

- High-definition component video cable
- Supports analog 1080p HDTV
- High-end 24k gold-plated RCA connectors
- High-flex CL3-rated jacket
- Crestron® guaranteed end-to-end system performance
- RoHS compliant
- Available in 1.5, 3, 6, and 12 ft lengths

CBL-RCA2 Crestron® Certified RCA Stereo Audio Interface Cable

High-quality audio interface cables for connecting analog audio devices, such as power amplifiers, surround sound processors, multi-room audio distribution systems, CD and DVD players, and VCRs.

- High-quality, low-loss stereo audio cable
- High-end 24k gold-plated RCA connectors
- High-flex CL3-rated jacket
- Crestron® guaranteed end-to-end system performance
- RoHS compliant
- Available in 1.5, 3, 6, and 12 ft lengths

CBL-XLR Crestron® Certified XLR Balanced Audio Interface Cable

High-quality balanced audio interface cables for connecting analog audio devices, such as power amplifiers, audio processors, powered subwoofers, and microphones.

- Professional-quality, low-loss balanced audio cable
- High-end 24k gold-plated 3-pin XLR connectors
- High-flex CL3-rated jacket
- Crestron® guaranteed end-to-end system performance
- RoHS compliant
- Available in 1.5, 3, 6, and 12 ft lengths

CBL-SPDIF Crestron® Certified RCA Coaxial Digital Audio Interface Cable

High-quality coaxial digital audio cables for connecting SPDIF digital audio equipment, such as surround sound processors, CD and DVD players, cable and satellite HDTV receivers, and multimedia computers.

- High-quality, low-loss digital audio cable
- High-end 24k gold-plated RCA connectors
- High-flex CL3-rated jacket
- Crestron® guaranteed end-to-end system performance
- RoHS compliant
- Available in 3, 6, and 12 ft lengths

CBL-OPTICAL Crestron® Certified Optical Digital Audio Interface Cable

High-quality optical digital audio cables for connecting digital audio equipment, such as surround sound processors, CD and DVD players, cable and satellite HDTV receivers, and multimedia computers.

- High-quality TOSLINK® / EIAJ optical digital audio cable
- CL3-rated jacket for in-wall installation
- Crestron® guaranteed end-to-end system performance
- RoHS compliant
- Available in 3, 6, and 12 ft lengths

CRESFIBER-DUAL-SC-P CresFiber™ Duplex Fiber Optic Cable Assembly, 50/125, SC, Plenum

Professional-quality multimode fiber optic cables, pre-terminated for use with Crestron DigitalMedia™ products.

- Crestron® certified pre-terminated SC fiber optic cables
- Dual-strand composite construction
- For use with DigitalMedia™ systems
- Rugged plenum-rated jacket
- Available in 1.5, 3, 6, 12, 20, 30, 60, 100, 200, and 300 feet lengths
- Armored models over 30 feet are more durable than CAT5

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

Professional-quality multimode fiber optic cables, pre-terminated for use with Crestron HDMI™ over Fiber products.

- Crestron® certified pre-terminated SC fiber optic cables
- For use with Crestron® HDMI™ over Fiber Transmitters and Receivers
- Rugged plenum-rated jacket
- Available in 1.5, 3, 6, 12, 20, 30, 60, 100, 200, and 300 feet lengths
- Armored models over 30 feet are more durable than CAT5

CRESFIBER-SINGLE-SC-CLEAR-NP CresFiber™ Clear Simplex Fiber Optic Cable Assembly, 50/125, SC, Non-Plenum

Crestron CresFiber™ Clear cables are pre-terminated multimode fiber optic cables, designed to provide an inivisible wiring solution without drilling holes or fishing through walls. CresFiber Clear is transparent and measures less than 1mm in diameter, so it installs cleanly along moulding and in corners without being seen.

A single piece of CresFiber Clear can be used with Crestron "HDMI™ over Fiber" transmitters and receivers, while two pieces can be used for Crestron DigitalMedia products. It is available in 10 different lengths from 1.5 to 300 feet, preterminated on each end with SC type connectors.

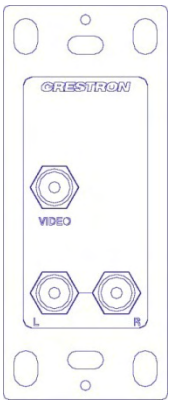
Appendix D: Media Presentation Wall Plates

Media Presentation Wall Plates (available in black and white) complete the total Crestron package, ensuring end-to-end Crestron quality for every installation. A range of wall plates is offered to support all types of analog and digital video, audio, and control signals. These single-gang wall plates fit off-the-shelf decorative wall plates and are gang-able for custom wall, lectern and rack mount applications.

MP-WP100

RCA composite video with RCA stereo audio

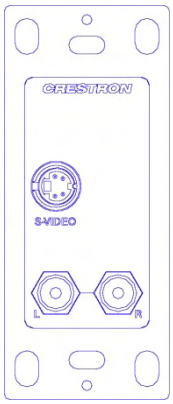
Three gold-plated RCA connectors color-coded and labeled for composite video and stereo audio. Bulkhead type feed-thru connectors are used, providing female RCA connections at the rear.



MP-WP110

Mini-Din S-video with RCA stereo audio

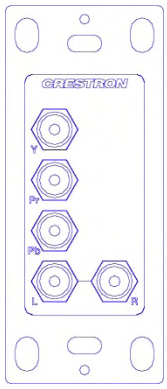
One gold-plated 4-pin mini-Din connector and two gold-plated RCA connectors color-coded and labeled for S-video and stereo audio. Bulkhead type feed-thru connectors are used, providing female mini-Din and RCA connections at the rear.



MP-WP120

RCA Component Video with RCA Stereo Audio

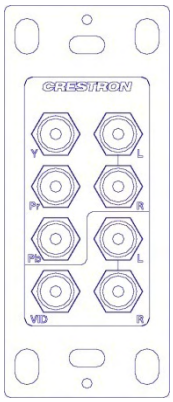
Five gold-plated RCA connectors color-coded and labeled for component video and stereo audio. Bulkhead type feed-thru connectors are used, providing female RCA connections at the rear.



MP-WP125

RCA Component & Composite Video with two RCA Stereo Audio jacks

Eight gold-plated RCA connectors color-coded and labeled for separate component and composite video and stereo audio. Bulkhead type feed-thru connectors are used, providing female RCA connections at the rear.



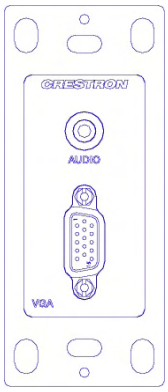
MP-WP130 & MP-WP131

DB15HD Computer VGA w/Mini-TRS Stereo Audio Bulkhead

One female DB15HD connector (i.e., HD-15, DE-15) and one 1/8" mini-TRS connector, labeled for computer VGA and stereo audio.

MP-WP130: A bulkhead type feed-thru connector is used, providing a female DB15HD connection at the rear. Audio wiring is connected via a 3-pin terminal block.

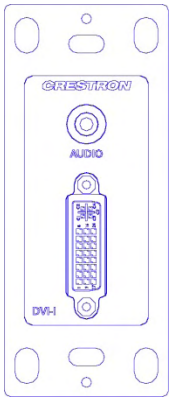
MP-WP131: A 12" breakout cable assembly at the rear provides five BNC connections. Audio wiring is connected via a 3-pin terminal block.



MP-WP140

Media Presentation Wall Plate - DVI-I w/Mini-TRS Stereo Audio

One Dual Link DVI-I connector and one 1/8" mini-TRS connector, labeled for DVI and stereo audio. A bulkhead type feed-thru connector is used, providing a female DVI-I connection at the rear. Audio wiring is connected via a 3-pin terminal block.



MP-WP150

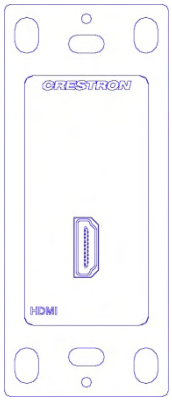
Media Presentation Wall Plate - HDMI™ w/Mini-TRS Stereo Audio

One Type A HDMI connector and one 1/8" mini-TRS connector, labeled for HDMI and stereo audio. A bulkhead type feed-thru connector is used, providing a female HDMI connection at the rear. Audio wiring is connected via a 3-pin terminal block.

MP-WP152

Media Presentation Wall Plate - HDMI™

One Type A HDMI connector. A bulkhead type feed-thru connector is used, providing a female HDMI connection at the rear.



MP-WP160

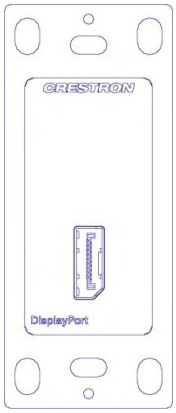
Media Presentation Wall Plate - DisplayPort w/Mini-TRS Stereo Audio

One DisplayPort connector and one 1/8" mini-TRS connector, labeled for DisplayPort and stereo audio. A bulkhead type feed-thru connector is used, providing a female DisplayPort connection at the rear. Audio wiring is connected via a 3-pin terminal block.

MP-WP162

Media Presentation Wall Plate - DisplayPort

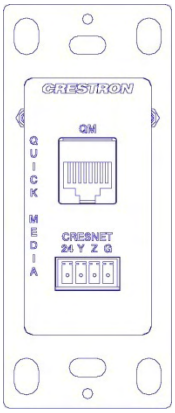
One DisplayPort connector. A bulkhead type feed-thru connector is used, providing a female DisplayPort connection at the rear.



MP-WP180

Media Presentation Wall Plate - Crestron QuickMedia™ w/Cresnet®

One female 8-pin RJ-45 connector, and one 4-pin 3.5mm detachable terminal block, labeled for QuickMedia™ and Cresnet®, respectively. Bulkhead type connectors are used, providing a female RJ-45 and detachable terminal block connections at the rear.

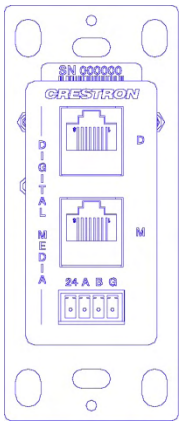


MP-WP185

Media Presentation Wall Plate - Crestron DigitalMedia™ CAT w/DMNet

Two female 8-pin RJ-45 connectors, and one 4-pin 3.5mm detachable terminal block, labeled for DigitalMedia™. Bulkhead type connectors are used, providing female RJ-45 and detachable terminal block connections at the rear.

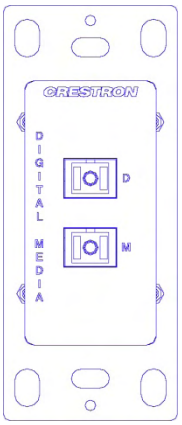
Note: You lose 10 feet of DM CAT length for every patch point insertion, this also includes when using an MP-WP185.



MP-WP186

Media Presentation Wall Plate - Crestron DigitalMedia™ Fiber

Two female SC type optical fiber connectors, labeled for DigitalMedia. Bulkhead type feed-thru connectors are used, providing female SC connections at the rear.

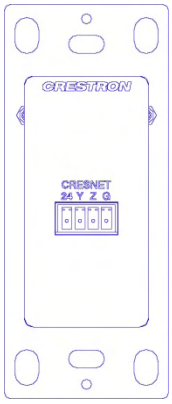


MP-WP190

Media Presentation Wall Plate - Cresnet®

One 4-pin 3.5mm detachable terminal block, labeled for Cresnet control.

A paralleled terminal block connection is provided at the rear.



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