Crestron QM-RMCRX-BA

Room Media Controller and QuickMedia™ Receiver

QM Inside

MediaManager

Crestron's MediaManager is a comprehensive family of affordable products fusing high-performance AV signal distribution, device control, and facility-wide system management. MediaManager simplifies the art of ProAV system design and installation with complete hardware, software, and low-cost wiring solutions.

The QM-RMCRX-BA combines a 2-Series Ethernet control system with a QuickMedia receiver, digital audio processor, and stereo amplifier to provide a cost-effective solution for AV signal routing and control as part of a complete MediaManager AV presentation system.

QuickMedia™ Transport—Crestron's ingenious QuickMedia transport routes all audio, video, and RGB computer signals over a single inexpensive CAT5e or CAT6 cable*. Computer resolutions up to 1600 X 1200 pixels at 60Hz are supported over cable runs up to 328 feet. Stereo audio and microphone signals are transmitted digitally with high-performance 24-bit resolution.

QuickMedia Receiver—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.

High-Res Computer and Video—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. Software-controllable compensation maximizes image quality over long cable runs.

High-Performance Audio—In addition to video and RGB, the QuickMedia transport carries four channels of 24-bit digital audio comprising a stereo program signal and two discrete microphone signals. Within the QM-RMCRX-BA, each of the two incoming microphone signals is processed by its own 4-band speech-optimized graphic equalizer. Versatile 4X3 mixing allows the mic signals and stereo program signal to be precisely adjusted and routed any or three audio output channels. The three channels are ordinarily configured to support discrete stereo program and mono speech outputs, although any mix of signals is possible.

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.

Professional Digital Audio Processing—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.

With such extensive audio features, the QM-RMCRX-BA effectively eliminates the need for expensive outboard processors to tailor the system's audio performance to the acoustical environment. Many parameters are controllable in real-time from a keypad or touchpanel, and numerous presets can be saved for instant recall to reconfigure settings for changing room conditions or varying source material.

Display Control Interface—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. Two relay ports are also included for control of a projection screen or lift. In addition, the four digital input ports can accept the direct connection of room occupancy sensors and power sensors for enhanced automation and monitoring.

2-Series Ethernet Control System—At the heart of the QM-RMCRX-BA is the powerful 2-Series control engine, which 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. Best of all, complete MediaManager systems are easy to design, program and adjust from start to finish using Crestron SystemBuilder™ software.

- *> 2-Series Ethernet Control System and QuickMedia Receiver*
- *> Built-in Web Server Supports e-Control 2 and RoomView*
- *> RS-232, IR, Digital In and Relay Control Ports*
- *> Composite, S-Video and RGBHV Outputs*
- *> Onboard Audio Mixing, Equalization, and Delay Processing*
- *> 3 Balanced Audio Line Outputs and Built-in 20W Stereo Amplifier*
- *> NEW! 22 nS Delay Skew Compensation and Self-Peaking Audio*
- *> Easy Configuration and Setup Using SystemBuilder Software*

SPECIFICATIONS

Processor

CPU: 32-bit Motorola ColdFire® Microprocessor

Memory

4MB Flash, 32MB SDRAM, 256KB NVRAM

Operating System

Real-time, preemptive, multitasking kernel, multi-threaded, FAT32 file system with long names; supports SIMPL™ Windows® and SIMPL+®

Ethernet

10/100BaseT, static IP or DHCP/DNS, SSL, autonegotiating, full/half duplex TCP/IP, UDP/IP, SMTP, SNMP, built-in Web server and e-mail client; supports Crestron e-Control 2 XPanel and RoomView applications

Video

Gain: 0dB (75 ohm termination)
Bandwidth: >100MHz (-3dB) at unity gain

RGB

Gain: 0dB (75 ohm termination)
Maximum Resolution: 1600 x 1200 @ 60Hz (at unity gain) with cable length of 100 meters and maximum compensation
EDTV/HDTV Formats: Supports up to 720p and 1080i
Bandwidth Compensation (Peak): Digital control, 10-bit D/A
Low Frequency Compensation (Boost): Digital control, 10-bit D/A

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Propagation Delay Compensation (Skew): Digitally controlled delay line, 4-bit, 0 to 22 ns (independently for R, G, and B)

Audio

Features: 4X3 Audio Matrix Mixer, 3-Channel Signal Processor, Auto Compensation with Self-Peaking
D-A Conversion: Burr Brown 24-bit, 48 kHz
Output Volume Range: -80dB to +20dB, 0.1dB steps plus mute
Input Volume Range: -80dB to 0dB, 0.1dB steps
Input Compensation: ±10dB
Microphone Input EQ: 4-band GEQ per input, ±12dB, 0.1 dB steps from DMT; ±10dB, 0.1 dB steps from SIMPL
Speech Output Delay: 0 to 40 mS
Bass/Treble Gain Range: ±15dB, 0.5dB steps from SIMPL
Output Equalization Modes: 10-band graphic plus 2-band parametric; 5-band graphic plus 7-band parametric; speech optimized 5-band graphic plus 7-band parametric; 3-band graphic plus 9-band parametric; or 12-band parametric
PEQ Filter Gain: ±12dB, 0.01 dB steps from DMT
PEQ Filter Bandwidth: .02 to 2.0 octaves (1.0 to 3.0 for shelving) from DMT
PEQ Filter Center Frequency: 25Hz to 19.9kHz from DMT
PEQ Filter Types: low pass, high pass, EQ filter (peaking/notching), bass shelf, and treble shelf
GEQ Filter Gain: ±12dB, 0.1dB steps from DMT; ±10dB, 0.1dB steps from SIMPL
Frequency Response: 20Hz to 20kHz ±0.5dB
S/N Ratio: 94dB (line), 90dB (speaker) 20Hz to 20kHz A-weighted
THD+N: 0.02% (line), 0.7% (speaker) 20Hz to 20kHz

Connectors – Front Panel

QM: (1) 8-wire RJ45 female, QuickMedia input port
Connects to QM output port of another QuickMedia device via CresCAT-QM or CAT5e/6*

NET: (2) 4-pin 3.5mm detachable terminal blocks
(2) Cresnet ports (paralleled), Master/Slave selectable

24VDC: (1) 2mm barrel DC power jack, 24 Volt DC power input (power supply included)
Passes through to NET ports to power additional Cresnet devices

LAN: (1) 8-wire RJ45 with 2 LED indicators, 10/100BaseT Ethernet port
Green LED indicates link status, Yellow LED indicates Ethernet activity

SPEAKER L – R: (2) 2-pin 5mm detachable terminal blocks, speaker-level audio outputs
Output Power: 10 Watts per channel at 4 or 8 ohms

Connectors – Rear Panel

S-VIDEO: 4-pin mini DIN female, Y/C S-Video output
Nominal Output Voltage: 1.0 VP-P (luma), 0.7 VP-P (chroma)
Output Impedance: 75 ohms

VIDEO: BNC female, composite video output
Nominal Output Voltage: 1.0 VP-P
Output Impedance: 75 ohms

RGBHV: DB15HD female, RGB(VGA)/Component video output
Formats: RGBHV, RGBS, RGSB, YPBPR
Output Impedance: 75 ohms (R/PR, G/Y, and B/PB), 100 ohms (H and V)
Output Voltage: 1 VP-P (R/PR, G/Y, and B/PB), 5 VP-P (H and V)

G: 6-32 screw, chassis ground lug

AUDIO: (1) 9-pin 3.5mm detachable terminal block, (3) balanced line-level audio outputs
Maximum Output per Channel: 4VRMS (balanced), 2VRMS (unbalanced)
Output Impedance: 200 ohms (balanced), 100 ohms (unbalanced)

INPUT: (1) 5-pin 3.5mm detachable terminal block comprising (4) digital input ports
Rated for 0-24V DC, referenced to GND
Input Impedance: 2k ohms pulled up to 5V DC
Logic Threshold: 2.5V DC nominal

IR: (1) 2-pin 3.5mm detachable terminal block, IR/Serial port
IR output up to 1.2 MHz; 1-way serial TTL/RS-232 (0-5V) up to 9600 baud

COM A – B: (2) DB9 male, bidirectional RS-232 ports
Up to 115.2k baud, hardware and software handshaking support
Com port B also serves as the computer console port

RELAY OUTPUT 1 – 2: (2) 2-pin 3.5mm detachable terminal blocks
(2) Normally open, isolated relays
Rated 2A, 50V AC/DC, MOV arc suppression across contacts

LED Indicators

QM LINK: Indicates presence of a digital audio signal to signify a valid QM connection
NET: (yellow) Indicates communication with Cresnet system
COM A, COM B: (red x2) Indicate activity on COM ports
IR: (red) Indicates activity on IR port
INPUT: (red) Indicates activity on any input port
PWR: (green) Indicates 24 Volts DC is connected to either 24VDC or NET connectors
ACT: (yellow) indicates Ethernet activity

Buttons

HW-R: Hardware reset (reboots the control system)
SW-R: Software reset (restarts the SIMPL program)

Power Requirements

QM-RMCRX-BA: 38 Watts (1.6 Amps @ 24 Volts DC) via Cresnet or 24VDC connector
External Power Supply (PW-2420RU): 110-125V AC @ 60Hz or 220-240V AC @ 50Hz
Available Cresnet Power: 12 Watts when powered by PW-2420RU (included)

Environmental

Temperature: 41° to 104°F (5° to 40°C)
Humidity: 10% to 90% RH (non-condensing)

Enclosure

Black metal; freestanding, surface-mount using brackets provided, or pole-mount using optional pole mount kit (sold separately)

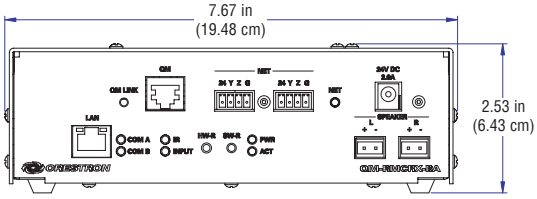
Dimensions

Height: 2.53 in (6.43 cm)
Width: 7.67 in (19.48 cm)
Depth: 6.04 in (15.34 cm)

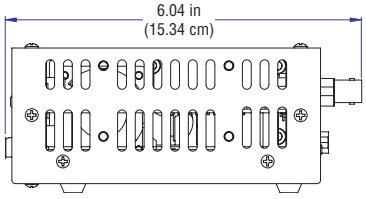
Weight

1.7 lbs (0.77 kg)

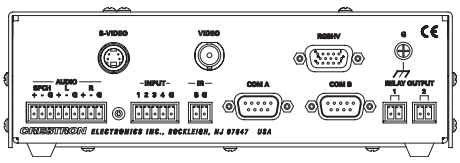
** For QuickMedia wiring use CresCAT-QM or quality CAT5e/CAT6 cable; the maximum aggregate cable length and delay skew between any QM transmitter (origination point) and QM receiver (endpoint) is 328 ft (100m) and 22 nS; a maximum of two QM midpoint devices may be inserted in a given QM signal path (exceptions apply, refer to each respective product manual for full detail).*



Front View



Right Side View


Rear View

AVAILABLE ACCESSORIES

MK-QM-RMCRX
Pole Mount Kit

CNSP-XX
Custom Serial Interface Cable

IRP2
IR Probe

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Specifications subject to change without notice. Doc.6182A 07/05