

QM-MD5X1

5x1 QuickMedia® Distribution Center

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 3 BNC connectors are provided on the QM-MD5X1 to accept video inputs from two composite, S-Video, component, or HDTV sources. Two RGB 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 inputs, there is a single QuickMedia (QM) input port which receives RGB, video, program audio and mic signals from a FlipTop or Wall Plate transmitter over inexpensive CAT5e type cable* via Crestron's 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.

Independent 4-band speech-optimized graphic equalization is provided for each of two microphone signals brought in at the QM input. A 2X1 mic mixer combines the processed mic signals prior to feeding the QM output.

In addition to the QM Output, the QM-MD5X1 also provides 3 local audio outputs consisting of a stereo program channel and a mono speech channel. These balanced/unbalanced line-level outputs are designed to drive rack-mounted amplifiers like the **QM-AMP3X80**, 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, plus ten-band graphic equalization and 2-band parametric equalization. In addition, the speech output includes up to 40mS of delay adjustment for loudspeaker alignment. 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 Crestron's QM Tools software (part of Crestron Toolbox). 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.

To gain additional signal routing flexibility and expand input and output capacity, up to two QuickMedia Distribution Centers, Distribution Amplifiers, and Matrix Switchers 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-MD5X1. 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. 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. 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.

- > Versatile matrix switcher and audio processor
- > 2 video, S-Video, or component inputs
- > 2 RGB inputs | 1 RGB monitor pass-thru
- > 4 stereo audio inputs
- > 1 QuickMedia input | 1 QuickMedia output
- > Discrete stereo program and speech channels
- > Graphic and parametric equalization
- > Versatile input mixing and microphone EQ
- > Up to 40ms speech delay
- > Front panel controls | Single-space rack-mountable

SPECIFICATIONS

Video

Switcher: 5X1 crosspoint matrix; routes any of (2) multi-format video, (2) RGBHV, and (1) QM input to (1) QM output

Signal Types: RGB and composite, S-Video, or component video (does not transcode)

Video/HDTV Formats: NTSC or PAL, HDTV up to 1080i/1080p

RGB Formats: RGBHV, RGBS, or RGsB

Gain: 0dB (75 ohms terminated)

Maximum Resolution: 1920 x 1200 @ 60Hz (at unity gain) with maximum cable length of 450 feet and maximum compensation at receiver

Crosstalk: -60dB

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Audio

Features: 5X1 stereo crosspoint matrix, 2-channels mic EQ, 2X1 mic mixer, 3X3 speech/program matrix mixer, stereo volume/tone control and EQ on PROGRAM output, mono volume/tone control and EQ/delay on SPEECH output

A-D/D-A conversion: 24-bit, 48 kHz

Output Volume Range: -80dB to +20dB, 0.1dB steps

Mixer Volume Range: -80dB to 0dB, 0.1dB steps

Input Compensation: ±10dB, 0.1dB steps

Mic EQ Filter Gain: ±12dB, 0.1dB steps

Mic EQ Filter Center Frequencies: 160, 500, 1.2k, 3k Hz

Bass Gain Range: ±12dB @ 100Hz, 0.5dB steps

Treble Gain Range: ±12dB @ 10kHz, 0.5dB steps

Output Equalization: 10-band graphic + 2-band parametric

PEQ Filter Gain: ±12dB, 0.1 dB steps

PEQ Filter Bandwidth: 0.1 to 3.0 octaves, 0.1 octave steps

PEQ Filter Center Frequency: 25Hz to 20kHz, 0.5Hz steps

PEQ Filter Types: Low Pass, High Pass, Peaking Eq, Notch, Treble Shelf, Bass Shelf

GEQ Filter Gain: ±12dB, 0.1dB steps

GEQ Filter Center Frequencies: 31, 63, 125, 250, 500, 1k, 2k, 4k, 8k, 16k Hz

Speech Output Delay: 0 to 40 ms, 1ms steps

Frequency Response: 20Hz to 20kHz ±0.5dB

S/N Ratio: 90dB, 20Hz to 20kHz A-weighted

THD+N: 0.05%, 20Hz to 20kHz

Connectors

COMP/Pb, Y/Y, C/Pr 1 - 2 : (2) sets of (3) BNC female video inputs, each set configurable as:

- (1) Component/HDTV (YPbPr or RGSB) video input, or
- (1) S-Video (Y/C) input, or
- (1) Composite input

Maximum Input Level: 1 Vp-p nominal (0.7 Vp-p for Pb/B and Pr/R);

Input Impedance: 75 ohms nominal;

Discrete video signal sensing on COMP/Pb and Y/Y

RGB 3 - 4 : (2) DB15HD female, RGBHV (VGA) inputs;

Format: RGBHV or RGBS;

RGB Input Level: 0.7 Vp-p maximum;

RGB Input Impedance: 75 ohms nominal;

Sync Input Level: 5 Vp-p maximum;

Sync Input Impedance: 1k ohms;

Video signal sensing on H-SYNC

RGB 4 OUTPUT: (1) DB15HD female;

Buffered RGBHV pass-thru from RGB 4 input

AUD 1 - 4 : (4) 3-pin 3.5mm detachable terminal blocks;

Unbalanced stereo line-level audio inputs;

Maximum Input Level: 2 Vrms;

Input Impedance: 10k ohms

SP AUDIO OUT: (1) 3-pin 3.5mm detachable terminal block;

Speech-channel balanced line-level audio output;

Output Impedance: 200 ohms balanced, 100 ohms unbalanced;

Maximum Output Level: 4 Vrms balanced, 2 Vrms unbalanced

PRG AUDIO OUT: (1) 5-pin 3.5mm detachable terminal block;

Stereo program-channel balanced line-level audio output;

Output Impedance: 200 ohms balanced, 100 ohms unbalanced;

Maximum Output Level: 4 Vrms balanced, 2 Vrms unbalanced

IN 5 : (1) 8-wire RJ45 female and (1) 4-pin 3.5mm detachable terminal block;

QuickMedia input port with Cresnet port;

Connects to Cresnet and QM output ports of any QuickMedia device via

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

Buttons & Indicators

PWR: (1) green LED, indicates 24 Volts DC power supplied from Cresnet control network

NET: (1) yellow LED, indicates communication with Cresnet system

AUDIO BREAK: (1) recessed pushbutton & red LED, enables audio breakaway in local mode, indicates audio breakaway in system mode

A: (1) pushbutton & red LED, selects audio routing in local mode when audio breakaway is enabled, selects audio routing view in system mode

V: (1) pushbutton & red LED, selects video routing in local mode when audio breakaway is enabled, selects video routing view in system mode

SYS: (1) pushbutton & red LED, activates Cresnet system control mode

LOCAL: (1) recessed pushbutton & red LED, activates local front panel control mode

ENTER: (1) pushbutton & red LED, implements routing set by IN and OUT buttons in local mode

IN 1 - 5 : (5) pushbuttons & red LEDs, select inputs to be routed in local mode, select routing view for a given input in system mode

OUT: (1) pushbutton & red LED, selects output destination in local mode, selects routing view for the output in system mode

SPEECH AUDIO OUT: (1) pushbutton & red LED, adjusts SPEECH channel audio volume

PGM AUDIO OUT: (1) pushbutton & red LED, adjusts PROGRAM channel audio volume

SETUP (rear): (1) miniature pushbutton & red LED, used for touch-settable ID (TSID)

Power Requirements

Cresnet Power Usage : 25 Watts (1.05 Amps @ 24 Volts DC)

Environmental

Temperature: 41° to 104°F (5° to 40°C)

Humidity: 10% to 90% RH (non-condensing)

Enclosure

Chassis: Steel, black matte powder coat finish, convection-cooled, vented top and sides

Faceplate: Extruded aluminum, black matte powder coat finish with polycarbonate label overlay

Mounting: Freestanding or 1U 19-inch rack-mountable (adhesive feet and rack ears included)

Dimensions

Height: 1.70 in (4.32 cm)

Width: 17.03 in (43.24 cm);

19.0 in (48.26 cm) with ears

Depth: 7.15 in (18.17 cm)

Weight

3.2 lb (1.5 kg)

** For QuickMedia wiring use CresCAT-QM, CresCAT-IM, or quality CAT5e/ CAT6 cable with a delay skew of ≤15nS per 100m; the maximum aggregate cable length and delay skew between any QM transmitter (origination point) and QM receiver (endpoint) is 450 ft (137 m) 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.*

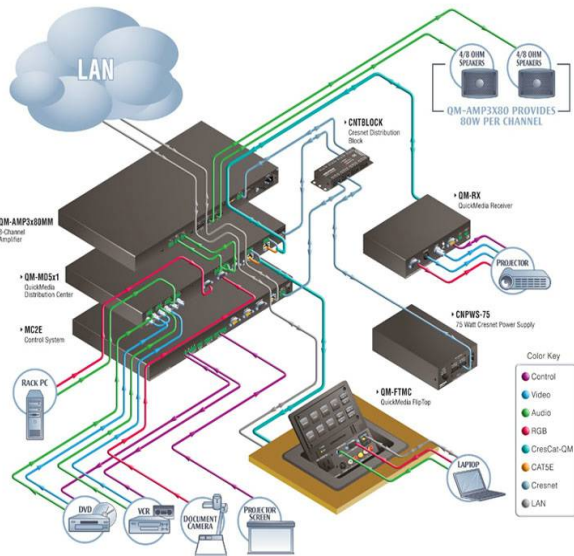
Available Models

QM-MD5X1 [6500470]: 5x1 QuickMedia Distribution Center [Limited Supply]

QuickMedia System #6

QM-MD5X15x1 QuickMedia® Distribution Center

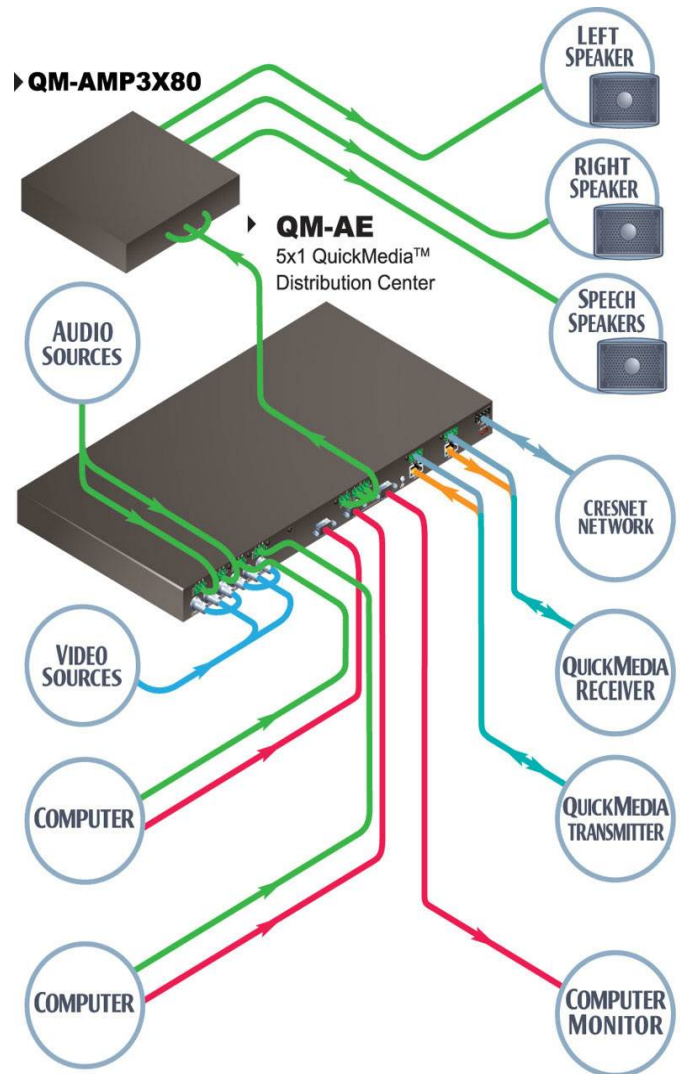
QuickMedia Centralized Equipment



Centralized Equipment QM Solution



Typical QM-MD5x1 Application



Color Key		
Control	Video	Audio
CAT5E	Cresnet	LAN
RGB	CresCAT	

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