

QM-MD7X2 7x2 QuickMedia™ Distribution Center



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 3 BNC connectors are provided on the QM-MD7X2 to accept video inputs from three composite, S-Video, component, or HDTV sources. Two RGB inputs are also included to accept high-resolution computer sources up to 1600 X 1200 pixels. Five stereo audio inputs accommodate unbalanced line-level signals from computers and program audio source.

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

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.

Additionally, 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. 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 mic 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.

Also 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-AMP3X80, 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.

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. All audio processing and mixing is performed in the digital domain, adjustable at setup using Crestron's Digital Media Tools (DMT) 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.

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 may be used to expand the input capacity of either QM-MD7X2 QM Input (or both). 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. 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-MD7X2 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. For security, the front panel controls can be locked out.

7x2 QuickMedia™ Distribution Center **QM-MD7X2**

SPECIFICATIONS

Connectors

Video In 1 - 3: (9) BNC female

(3) sets of (3) inputs, each set configurable as:

- (1) Component/HDTV (Y_PP_R or R_GB) video input, or
- (1) S-Video (Y/C) input and (1) Composite input

Input Impedance: 75 ohms

Maximum Input: 1V p-p for Y/G_S; 0.7V p-p for P_B/B and P_R/R

Discrete video sync detection on COMP/Y/G_S

RGB 4 - 5: (2) DB15HD female

(2) RGBHV (VGA) inputs

Input Impedance: 75 ohms (R/G/B)

Maximum Input Voltage: 0.7V p-p

Maximum H and V Sync: 5.0V p-p into 1k ohms

Video sync detection on H-SYNC

RGB 5 OUTPUT: (1) DB15HD female

Buffered RGBHV pass-thru from RGB 5 input

AUD 1 - 5: (5) 3-pin 3.5mm detachable terminal blocks

(5) Unbalanced stereo line-level audio inputs

Maximum input level: 2 Vrms

Input impedance: 10K ohms

MIC/LINE 1 - 2: (2) 5-pin 3.5mm detachable terminal blocks

(2) Balanced microphone/line inputs

Balanced mic input level: -60 to -20 dBV nominal

Balanced line input level: -28 to +12 dBV; 4 Vrms maximum

Unbalanced input level: -28 to +6 dBV; 2 Vrms maximum

Mic input impedance: 10k ohms, accepts balanced microphones 60 to 600 ohms

Line input impedance: 4k ohms (balanced), 2k ohms (unbalanced)

Phantom power: 10 mA (total) @ 48 Volts DC, software enabled

independently to either input

SP AUDIO OUT 1 - 2: (2) 3-pin 3.5mm detachable terminal blocks

(2) Speech-channel balanced line-level outputs

Maximum output: 4Vrms balanced, 2Vrms unbalanced (per channel)

Output impedance: 200 ohms balanced, 100 ohms unbalanced

PRG AUDIO OUT 1 - 2: (2) 5-pin 3.5mm detachable terminal blocks

(2) Stereo program-channel balanced line-level outputs

Maximum output: 4Vrms balanced, 2Vrms unbalanced (per channel)

Output impedance: 200 ohms balanced, 100 ohms unbalanced

IN 6 - 7: (2) 8-wire RJ45 female and (2) 4-pin 3.5mm detachable terminal blocks

(2) QuickMedia input ports with Cresnet ports

Connect via CAT5e/6* to QM output ports of other QuickMedia devices

OUT 1 - 2: (2) 8-wire RJ45 female and (2) 4-pin 3.5mm detachable terminal blocks

(2) QuickMedia output ports with Cresnet ports

Connect via CAT5e/6* to QM input ports of another QuickMedia devices

NET: (1) 4-pin 5mm detachable terminal block

Cresnet slave port

Connects to Cresnet control network

LED Indicators

PWR: Indicates 24 VDC power from Cresnet control network

NET: Indicates communication with Cresnet system

Buttons with LEDs

AUDIO BREAK: (Local mode) enables audio breakaway; (system mode) LED indicates audio breakaway is enabled

A: (Local mode) selects audio routing when audio breakaway is enabled; (system mode) selects audio routing view

V: (Local mode) selects video routing when audio breakaway is enabled; (system mode) selects video routing view

SYS: Activates system mode (routing controlled via Cresnet)

LOCAL: Activates local mode (routing controlled via front panel)

ENTER: (Local mode) implements routing set by IN & OUT buttons

IN 1 - 8: (Local mode) selects input to be routed; (system mode) selects routing view for a given input

OUT 1 - 2: (Local mode) selects output destination(s); (system mode) selects routing view for a given output

SPEECH AUDIO OUT 1 - 2: Adjusts speech channel volume

PGM AUDIO OUT 1 - 2: Adjusts stereo program channel volume

SETUP: (rear) Used for touch-settable ID (TSID)

7X2 Video/RGB Matrix

Routes any of (3) composite, S-Video, or component/HDTV,

(2) RGBHV, and (2) QM inputs to either of (2) QM outputs

Gain: 0dB

Crosstalk: -60dB

7X2 Stereo Matrix Switcher, 2(+2)X2 Gated Mic Mixer, and (2) 3-Channel Signal Processors

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

Output volume range: -80dB to +20dB, 0.1dB steps plus mute

Mixer volume range: -80dB to 0dB, 0.1dB steps

Input compensation: ±10dB, 0.1dB steps

Mic level indicators (via software): 20dB below clipping (Norm), 6dB below clipping (Overload)

Mic input gain: 0 to 100 % (0 to 40 dB) plus mute

Gate level (threshold): 0 to 100 %

Attack: 0 to 100 mS

Decay (release): 0 to 5000 mS

Microphone input EQ: 4-band GEQ per input, ±12dB, 0.1 dB steps

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; Selectable 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: 90dB, 20Hz to 20kHz A-weighted

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

> continued

QM-MD7X2 7x2 QuickMedia™ Distribution Center (continued)

Power Requirements

Cresnet Power Usage: 30 Watts (1.25 Amps @ 24 Volts DC)

Environmental

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

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

Enclosure

Black metal, 1U 19" rack mountable (rack ears included)

Dimensions

Height: 1.7 in (4.32 cm)

Width: 19.0 in (48.26 cm) with ears; 17.03 in (43.24 cm) without ears

Depth: 7.15 in (18.17 cm)

Weight

4.2 lbs (1.9 kg)

** CAT5e/CAT6 cable must have a delay skew of less than 15nS per 100m for use with the QuickMedia transport; purchase CresCAT-QM for the most cost-effective cabling solution; maximum aggregate cable length is 300 feet from QM transmitter to QM receiver; a maximum of two QM distribution centers may be inserted inline.*



faircom media GmbH • Biggestr.43 • D-57462 Olpe
Tel.: +49 (0) 2761 8396 0 • Fax: +49 (0) 2761 8396 70
info@faircom-media.de • www.faircom-media.de