

### 5x1 QuickMedia™ Distribution Center **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 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 1600 X 1200 pixels. Four stereo audio inputs accommodate unbalanced line-level signals from computers and program audio sources.

In addition to the local video, RGB, and audio 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 or CAT6 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 the 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, and a versatile 12-band parametric/graphic equalizer. 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 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 or QM-MD4X2 may be used to expand the input capacity of the QM-MD5X1's QM Input. 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-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. For security, the front panel controls can be locked out.

## SPECIFICATIONS

### Connectors

**Video In 1 - 2:** (6) BNC female

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

(1) Component/HDTV (Y<sub>B</sub>P<sub>R</sub> or R<sub>G</sub>B) 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<sub>S</sub>; 0.7V p-p for P<sub>B</sub>/B and P<sub>R</sub>/R

Discrete video sync detection on COMP/Y/G<sub>S</sub>

**RGB 3 - 4:** (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 4 OUTPUT:** (1) DB15HD female

Buffered RGBHV pass-thru from RGB 4 input

> continued

### QM-MD5X1 5x1 QuickMedia™ Distribution Center (continued)

**AUD 1 - 4:** (4) 3-pin 3.5mm detachable terminal blocks  
(4) 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  
Maximum output: 4Vrms balanced, 2Vrms unbalanced (per channel)  
Output impedance: 200 ohms balanced, 100 ohms unbalanced

**PRG AUDIO OUT:** (1) 5-pin 3.5mm detachable terminal block  
Stereo program-channel balanced line-level audio output  
Maximum output: 4Vrms balanced, 2Vrms unbalanced (per channel)  
Output impedance: 200 ohms balanced, 100 ohms unbalanced

**IN 5:** (1) 8-wire RJ45 female and (1) 4-pin 3.5mm detachable terminal block  
QuickMedia input port with Cresnet port  
Connects via CAT5e/6\* to QM output port of another QuickMedia device

**OUT:** (1) 8-wire RJ45 female and (1) 4-pin 3.5mm detachable terminal block  
QuickMedia output port with Cresnet port  
Connects via CAT5e/6\* to QM input port of another QuickMedia device

**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 - 5:** (Local mode) selects input to be routed; (system mode) selects routing view for a given input  
**OUT:** (Local mode) selects output destination; (system mode) selects routing view for the output  
**SPEECH AUDIO OUT:** Adjusts speech channel volume  
**PGM AUDIO OUT:** Adjusts stereo program channel volume  
**SETUP:** (rear) Used for touch-settable ID (TSID)

#### 5X1 Video/RGB Matrix

Routes any of (2) composite, S-Video, or component/HDTV; (2) RGBHV; and (1) QM input to the QM output  
**Gain:** 0dB  
**Crosstalk:** -60dB

#### 5X1 Stereo Matrix Switcher and 3-Channel Signal Processor

**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  
**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

#### 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

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

3.2 lbs (1.5 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.*