

S P E C I F I C A T I O N S



MediaMatrix® X-Frame™ 88

Description

The X-Frame™ 88 is a fully programmable, fully configurable, Digital Signal Processor (DSP) based audio processing and control system. It includes a core Digital Processing Unit (DPU), referred to as a Sound Engine; a Graphical User Interface (GUI); interface options; and control options.

The Sound Engine is a 24-bit parallel DPU and is fully configurable to allow the system designer unlimited versatility in system design. Preset signal flow or "standard" setups do not limit the X-Frame88. Thus, the X-Frame88 is superior to similar DSP products that have factory configurations. The intuitive software interface provides incredibly rich functionality for both signal flow configuration and user control.

The X-Frame 88's host-processor and non-volatile flash memory maintain the configuration and provide interface to the units front panel control and optional external control interfaces.

The X-Frame 88's programmable capability is enhanced by a full complement of audio devices available from the Win32-based Graphical User Interface (GUI). Almost any style of audio system can be designed and implemented using a "drag, drop, and wire" interface. The signal flow can be as simple as two channels of loud-speaker processing or as complex as a multi-zone paging system with multiple levels of priority, ducking, fire alarm override, scene-snapshot control and automatic level ramping. Audio processing devices available include, but are not limited to: automatic mixers, crossovers, AGC, gates, limiters, expanders, duckers, ambient sensing controllers, delay lines, meters, mixers, routers, test signal sources and equalizers of every variety. In addition, you can create your own devices for custom applications. These devices, once created, can then become a part of your device palate for repeated use.

Features

- Eight (8) balanced analog line inputs
- Eight (8) balanced analog line outputs
- 24-bit A/D and D/A converters
- User selectable sample rates of: 32 kHz, 44.1 kHz, and 48 kHz
- Sixteen (16) front panel LED meters; 8 input and 8 output
- Eight (8) user programmable front panel preset recall buttons
- Front panel output level trim knob configurable for 8 "virtual" knobs
- 24-bit parallel processing performed by four Motorola 56002 DSPs
- RS-232 connection for easy set-up and operation
- RS-485 connection for remote serial control functions
- Four control input ports (analog 0-10 VDC range available for external potentiometer)



Features (cont.)

- Fault History light and Fault Relay contacts (normally open, normally closed)
 - LCD readout
 - X-Ware 32-bit application software included
 - Universal power-supply
 - Expandable I/O using each MediaMatrix MM-8802
- Break-out-Box (BoB2) adds:
- Eight additional analog inputs
 - Eight additional analog outputs
 - Eight additional control input ports (0-10 VDC)
 - Eight TTL output ports (0 or 5 VDC)

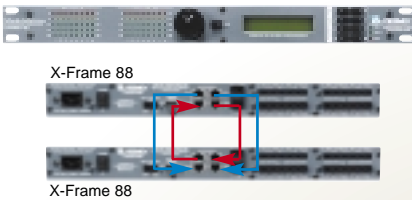
Applications

- Stadiums
- Auditoriums
- Arenas
- Civic Centers
- Performing arts centers
- Theaters
- Courts of law
- Houses of worship
- University campus buildings
- Theme parks
- Music clubs
- Hotel meeting rooms
- Conference centers
- Schools

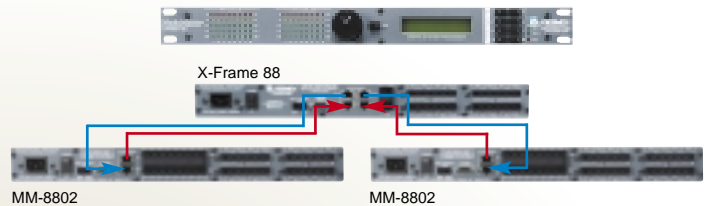
Applications (cont.)

- Cruise ships
- Critical listening/recording high end audio
- Teleconferencing
- Distance learning
- Large-scale paging systems
- Multi-purpose facilities
- Any facility requiring distribution of multiple line-level signals

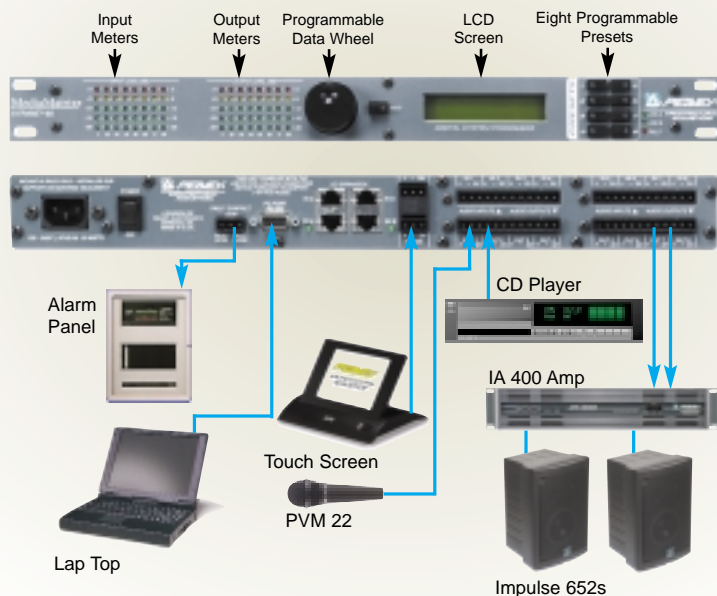
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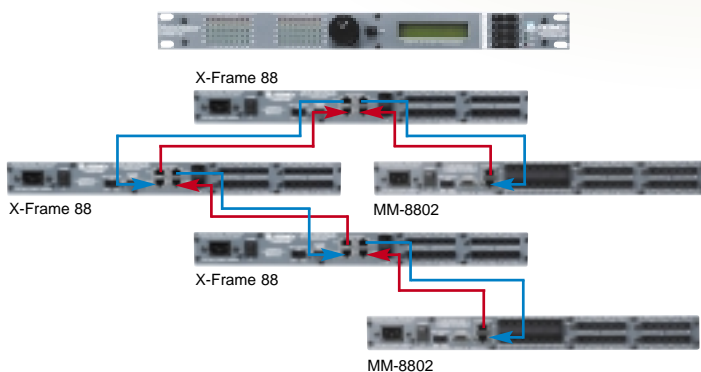
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8 X 8



Distributed Processing

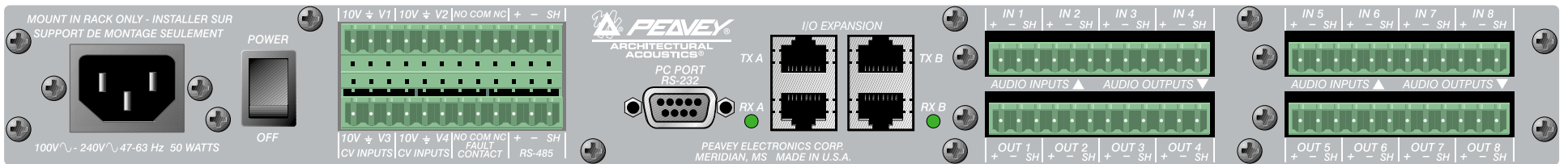


X-Frame™ 88 Front Panel View

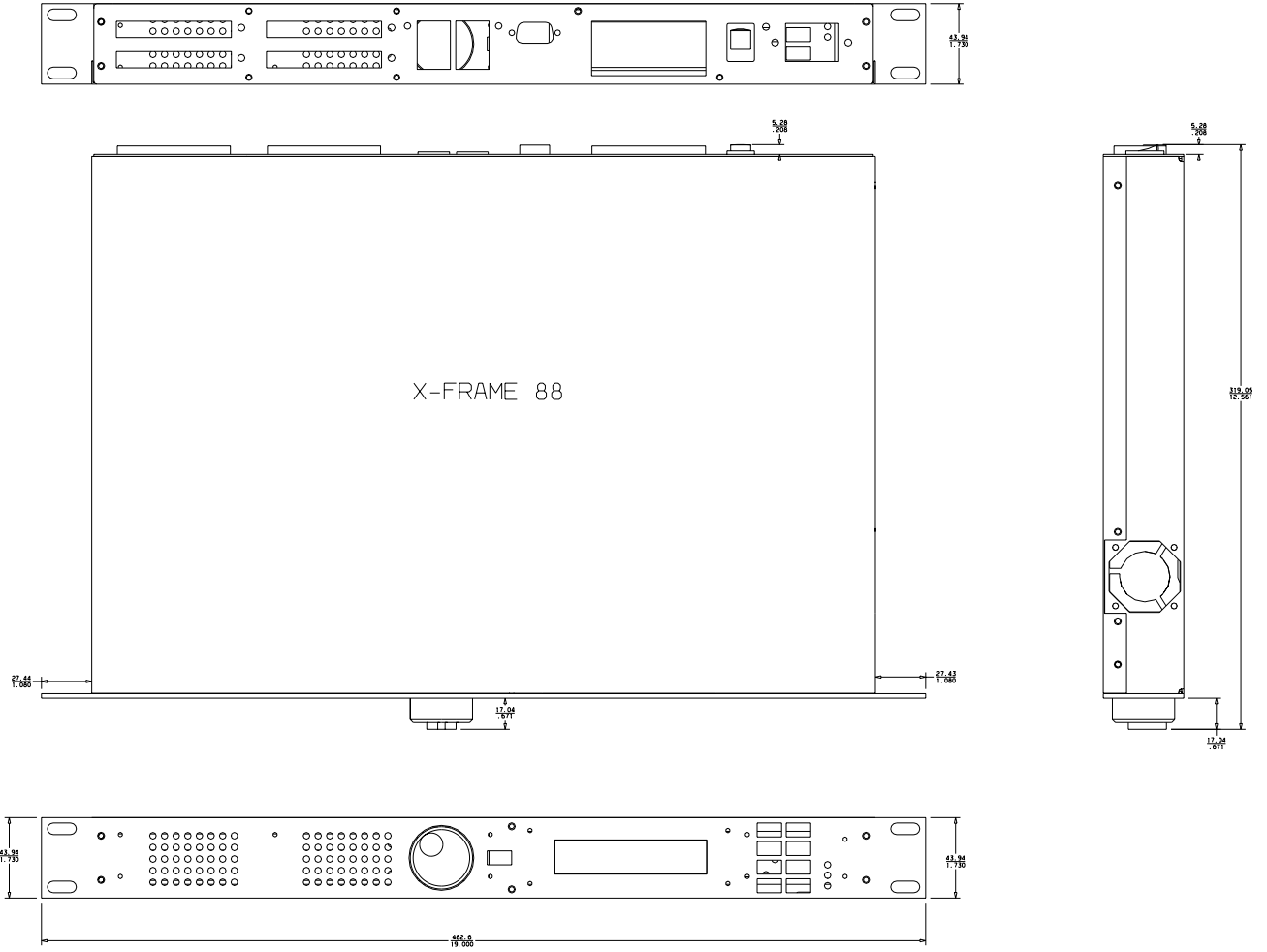


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X-Frame™ 88 Back Panel View



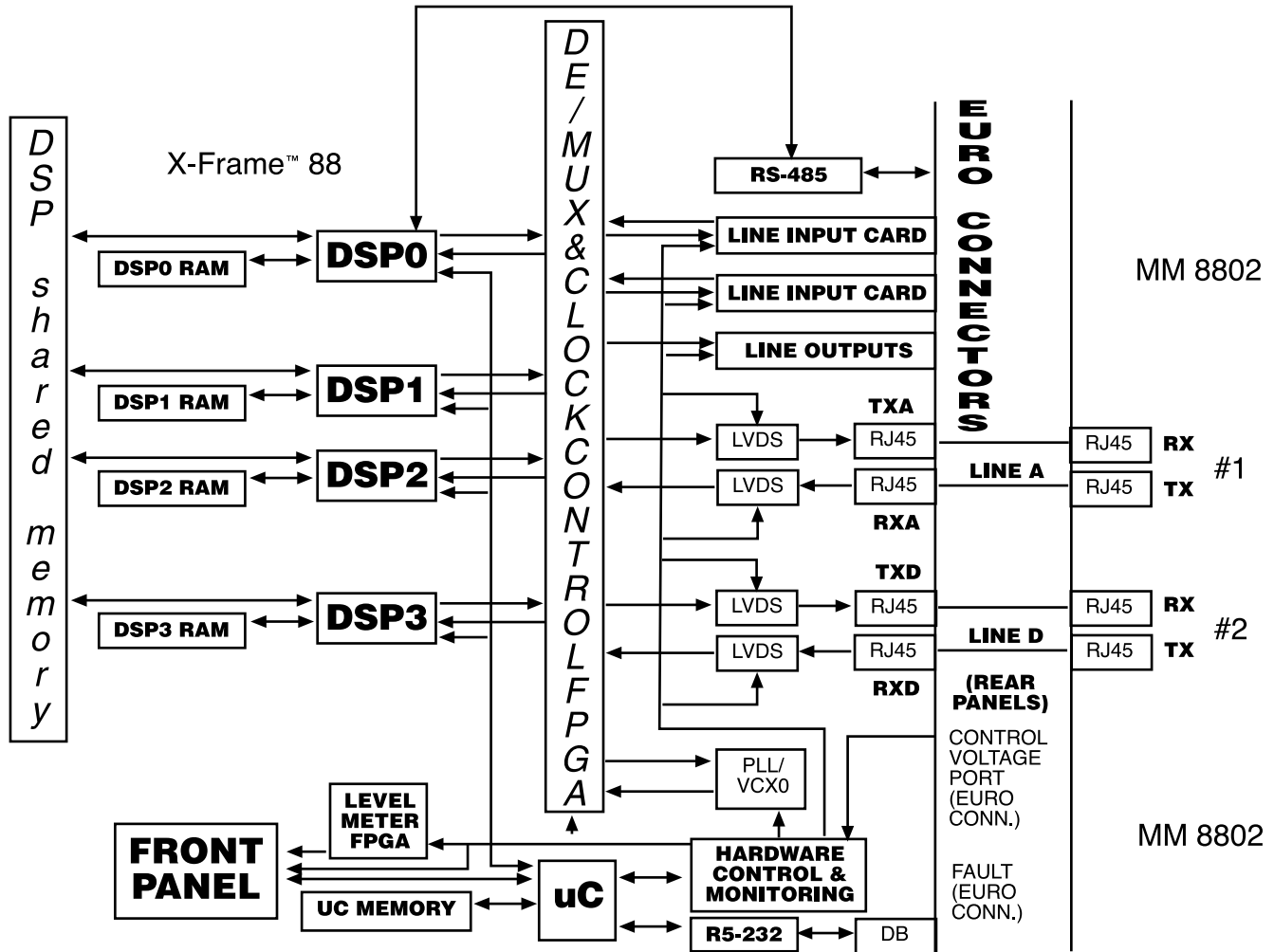
X-Frame™ 88 Mechanical Drawing



X-Frame™ 88 Performance Specifications

SPECIFICATIONS	X-FRAME™88	COMMENTS
AUDIO SPECIFICATIONS		
AUDIO CHANNELS	8 inputs/8 outputs	Line-level signals only Expandable to 24 in/24 out with two MM-8802's
LED METERING	8 peak-reading input LED ladders, 8 peak-reading output LED ladders	Each input meter monitors the ADC output for that channel. Each output meter monitors the DAC input for that channel. Top-most LED indicates level 1 dB below clipping
ANALOG GAIN RANGE	-97.5 dB to +30.5 dB	0.5 dB steps
INPUT FULL-SCALE SETTINGS	+30 dBu, +24 dBu, +18 dBu, +12 dBu	Software selectable
INPUT IMPEDANCE	9.5k	Electronically balanced
OUTPUT FULL SCALE SETTINGS	+24 dBu, +18 dBu, +12 dBu, 6 dBu	Software selectable
OUTPUT IMPEDANCE	102	Electronically balanced
MINIMUM LOAD IMPEDANCE	600	
FREQUENCY RESPONSE	20 Hz to 20 kHz	± 0.5 dBr referenced at 1 kHz
TOTAL HARMONIC DISTORTION (+ NOISE)	0.006 %	20 Hz to 20 kHz, 22 kHz BW filter +4 dBu signal with 20 dB headroom
DYNAMIC RANGE	107 dB	20 Hz to 20 kHz BW filter
CMRR	55 dB	Averaged across various gain settings
CROSSTALK	90 dB	20 Hz to 20 kHz
DIGITAL SPECIFICATIONS		
SAMPLING RATES	32 kHz, 44.1 kHz, & 48 kHz	Software selectable Analog-to-Digital and Digital-to-Analog
QUANTIZATION	24-bit	256x over-sampled Delta-sigma Analog-to-Digital and Digital-to-Analog
DIGITAL PROCESSING	24-bit DSP's 56-bit accumulators	
MASTER CPU CLOCK SPEED	12.288 MHz	
DSP CYCLES	80 MHz	
CONTROL SPECIFICATIONS		
RS-485	3-conductor half-duplex	1 port with 2 multi-drop connections
GENERAL SPECIFICATIONS		
DIMENSIONS	19" (48.26 cm) W x 13.25" (33.66 cm) D x 1.75" (4.45 cm) H	without connectors
NET WEIGHT	12.0 lbs. (5.43 kg)	
AC POWER INPUT VOLTAGE RANGE	100 Vac to 240 Vac	47 Hz to 63 Hz Universal Power Supply
POWER CONSUMPTION	31.5 W	True power, based on the product of the actual current flow & line voltage and then averaged
AC LINE CURRENT	456 mA (rms)	
POWER DISSIPATION	107.5 BTU (27 kcal)	
FINISH	Grey powder coat painted steel	
INCLUDED ACCESSORIES	One detachable IEC AC line cord, 24 three-position modular connectors	16 of the connectors are for I/O, 4 are for control voltage inputs, 2 are for RS-485, and 2 are for Euro-fault.
PRODUCT AGENCY COMPLIANCE LISTINGS	UL, CUL,CE, and FCC part 15, Class A	Pending
<p>Notes:</p> <ol style="list-style-type: none"> 1. All specifications are typical for any channel(s). 2. All measurements are made from analog input to analog output. Therefore, typical performance reflects both input and output analog circuit behavior. 3. All specifications are for an AC line input of 120 Volts rms. 4. All output measurements are made using 600 balanced loads at +24 dBu full scale unless otherwise noted. 5. All input measurements are made using a 40 balanced source impedance at +24 dBu full scale unless otherwise noted. 6. All measurements are made with gain/attenuation set for unity unless otherwise noted. 		

X-Frame™ 88 Block Diagram



Architectural and Engineering Specifications

The Peavey Architectural Acoustics X-Frame 88 shall provide eight balanced analog line inputs and eight balanced analog line outputs. It shall employ 24-bit A/D converters and 24-bit D/A converters utilizing software selectable sampling rates of either 32 kHz, 44.1 kHz, or 48 kHz.

It shall have a frequency response of ± 0.5 dB or better from 20 Hz to 20 kHz. Its total harmonic distortion shall be no more than 0.01% from 20 Hz to 20 kHz with a +4 dBu input signal and a +4 dBu output signal, both with 20 dB of headroom. It shall have a dynamic range of not less than 106 dB A-weighted/104 dB unweighted. Input common mode rejection ratio (CMRR) shall be greater than 42 dB at any gain setting. The maximum input level without clipping shall be +30 dBu while maintaining the specified CMRR. The maximum output level shall be +24 dBu with a load of 600 Ω or greater while still meeting the frequency response specification. The unit's gain shall be adjustable from -97.5 dB to +30.5 dB in 0.5 dB steps. The balanced input impedance shall be 9.3 k Ω or higher. The bal-

anced output impedance shall be 102.2 ohms and designed to drive 600 ohm loads or greater while maintaining the specified frequency response.

Front-panel LED and LCD indicators shall display the following status conditions: active pre-sets, software version, view file name, data wheel function, control function value and range, internal cabinet temperature, fault indication, link indication, and power presence. It shall have eight peak-reading headroom LED meters to monitor the analog level present at the output of the A/D converters, with the top-most red LED indicating 1 dB below A/D clipping. It shall have eight peak-reading headroom LED meters to monitor the analog level present at the input of the D/A converters, with the top-most red LED indicating 1 dB below D/A clipping

Rear panel features shall include a detachable AC power cord, an AC power switch, an AC power receptacle, and a panel fuse holder. It shall employ detachable, Euro-style, bare-wire capturing, screw-terminal connectors for ease of hook-up and trou-

ble-shooting. These connectors shall be used for all line-level, control voltage input, fault annunciation, and RS-485 connections. The unit shall use two standard eight-conductor RJ-45 I/O jacks for connection to the optional MM-8802 Break-out-Boxes (BoB).

Its dimensions shall be 19 inches (48.26 cm) wide, 13.25 inches (33.66 cm) deep, and 1 3/4 inches (4.45 cm) high without feet or connectors installed. Its net weight shall be 12.0 pounds (5.43 kg); and its 1 rack-unit (1 3/4"), steel chassis shall be finished in gray powder coat.

It shall operate with a line voltage between 100 and 270 Volts rms and at a line frequency between 47 and 63 Hertz. It shall consume no more than 33 Watts of power and draw no more than 550 milli-amps rms of continuous current (120 Volts rms AC line). Maximum inrush current at turn-on shall be no more than 32 Amps peak with an AC line input of 120 Volts rms. It shall be UL, CUL, CE listed and comply with FCC part 15, Class A. The unit shall be the Peavey Architectural Acoustics model X-Frame 88.

3 + 2 YEAR LIMITED WARRANTY

NOTE: For details, refer to the warranty statement. Copies of this statement may be obtained by contacting Peavey Electronics Corporation
P.O. Box 2898, Meridian, Mississippi 39301-2898

Features and specifications subject to change without notice.



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