



MediaMatrix® MM™-760nt

Description

The MediaMatrix MM-760nt Mainframe is the workhorse of Peavey's digital signal processing product line. It is a software-based, integrated sound system design, control, and hardware platform that requires only microphones and their pre-amps, power amplifiers, and speakers to provide a complete and working system. The MM-760nt Mainframe is based on an open architecture that utilizes a modular computer mainframe including a power supply, a floppy disk drive, a CD-ROM drive, a system controller board, and up to four digital signal processing boards. Fully loaded, the system can provide all needed signal processing for 128 audio input lines and 128 audio output lines.

The MM-760nt CPU is Intel® Pentium® III-equivalent based or better, and the user's control and design interface GUI is Peavey's MWare™ 3.x running under Microsoft® Windows® 2000 Professional. The MediaMatrix MWare 3.x software provides the user/designer the ability to design, wire, operate, control, and troubleshoot a complete digital audio system in the software domain. The user/designer can create control panels and devices to provide solutions not possible on other DSP audio platforms.

The MM-760nt Mainframe accommo-

dates three types of DPU boards. Each of these DPU board types employs four Motorola® 56002 80 MHz DSP chips and provides signal processing for up to 32 digital audio inputs and up to 32 digital audio outputs. Due to extremely efficient code, an exceptional amount of processing can be accomplished while maintaining double-precision DSP filtering on each DPU board. The MM-DSP-RJ is the standard DPU board that interfaces to the Peavey MM-8802 Break-out-Boxes (BoBs). The MM-DSP-AES is the DPU board that interfaces to AES/EBU standard digital signal I/Os. The MM-DSP-CN interfaces to the Peavey CAB™ Series CobraNet™ bridges, which transport audio and control via an Ethernet network.

Features

- Up to 128 inputs and 128 outputs
- Slots for up to four DPU boards
- Over 600 software audio devices available in library
- Double-precision DSP filtering for accurate filter characteristics
- 19" rack-mount enclosure with slide rails: 7" (17.78 cm) H x 19" (48.26 cm) W x 24" (76.20 cm) D space required
- 400-Watt universal power supply
- Lockable front control panel
- Mouse and keyboard ports on front and

back panels

- Two switches for keyboard lock and front door lock
- 3.5", 10+ gigabyte hard disk drive
- 1.44 megabyte, 3.5" floppy disk drive
- 32X CD-ROM drive
- Rugged, American-made steel construction
- Filtered positive airflow chassis cooling
- True color PCI video with 4 megabytes of video RAM and selectable resolution from 640 x 480 to 1,600 x 1,200, plus refresh rates from 43 Hz to 200 Hz
- Network interface board included
- Passive backplane enables DPU board operation during CPU failure, and has a PIC/MG CPU slot for easy board swapping.

Applications:

- Stadiums
- Cruise ships
- Multi-purpose facilities
- Auditoriums
- Large-scale paging systems
- Schools
- Courts of law
- Airports
- University campus buildings
- Theme parks
- Performing arts centers
- Distance learning centers

- Hotel meeting room complexes
- Houses of worship
- Conference centers
- Teleconferencing systems
- Civic centers
- Theaters
- Arenas

DIGITAL ELECTRONICS SPECIFICATIONS

System Controller Board:

Pentium® III SBC (single board computer), or equivalent, or better

Processor: Pentium III 700 MHz, or equivalent, or better

Cache: 512 kilobytes or more

Memory: 128 megabyte or more PC-100 RAM

Drives:

- 3.5" 1.44 megabyte floppy disk drive
- 32X CD-ROM
- 10+ gigabyte hard disk drive

Video Port:

True color PCI video with 4 megabytes of video RAM and selectable resolution from 640 x 480 to 1,600 x 1,200, plus refresh rates from 43 Hz to 200 Hz. The system is shipped set for 800 x 600 at 75 Hz.

Network Interface Port:

10/100BaseT fast Ethernet port with RJ-45 connector

Digital Audio Processing Boards:

Digital Audio I/O: 32 channels in / 32 channels out per DPU board for all DPU board types

Processors: Four Motorola® 56002 80 MHz DSP chips per board

Digital Audio Bussing: 256 inter-board channels (between DPU boards), 256 inter-cell channels (between DSP chips)

Backplane:

14-slot passive backplane with (4) PCI slots and (10) ISA slots, (PIC/MG CPU slot for easy board swapping)

SOFTWARE SPECIFICATIONS

Operating System:

Microsoft® Windows® 2000 Professional for system controller board. MWare™ 3.x for sound system design, control, and diagnostics (operates under Microsoft Windows 2000)

Virtual Audio Devices (In Software Environment Libraries):

- **AES** digital audio input and output ports and level controls

- **Automatic mixers** from 2 to 32 input channels with direct outputs and linking capability
- **Bitmaps** to incorporate a graphic into the system control interface
- **BoBs** (Break-out-Boxes) analog input and output ports and level controls, with control ports for virtually any system control parameter
- **Blocks:** a graphic object that contains a child window with a sub-system or sub-function, etc.
- **Bump panels:** a graphic object for a control area, label, message, etc.
- **CABs:** (CobraNet Audio BoBs) Ethernet audio input and output ports and level controls, with control ports for virtually any system control parameter
- **Comments:** a text entry area to type in any type of note or comment for explanation or clarification
- **Control modifiers** to limit the range of controls
- **Crossover networks:** 2-, 3-, and 4-way using Bessel, Butterworth, and Linkwitz-Riley filter functions in appropriate slope-rates from 6 dB to 48 dB per octave in 6 dB increments
- **Delay lines:** 5, 50, and 200 ms, plus 3D position calculating delays, from 1 to 16 outputs
- **Diagnostics** for the system (compiled-in)
- **Diagnostics** for the system (non-compiled)
- **Dip panels:** a graphic object for a control area, label, message, etc.
- **Dynamics:** **AGCs, compressors, duckers, expanders, GAP Ambient Level Sensors™, noise gates, and limiters**
- **Equalization filters:** **all-pass filters, band-pass filters, CD horn lift, graphic EQs, high-pass filters, low-pass filters, parametric filter sets, shelving filters, and tone controls**
- **Error indicators** for digital errors
- **Feedback Ferret™** acoustic feedback elimination technology
- **Hardware failure indicators**
- **Labels:** graphic areas to type in any type of label, banner, etc.
- **Level controls:** **attenuators** with and without trim control (limits); **cross-faders;** **distribution amplifiers** with 2 to 16 outputs; **multi-channel attenuator groups** from 2 to 16 channels; **On-Off switches;** **panning attenuators** from 2 to 5 channels; **ramps** with adjustable ramp level change, ramp time, and ramp rate
- **Logic controls:** **Boolean** with 2, 4, 8 or 16 inputs **RPN: base integer RPN, base logic RPN, base % RPN, control inverter,**

dual flip-flop, event counter, or flip-flop functions

- **Meters:** **LED** with tiny and large signal-presence or overload indication, **Peak** and **RMS** meters in 4 appearances with parameter controls
- **Mixers** from 2 to 64 inputs and from 1 to 16 outputs
- **Presets:** up to 255 system-wide with more possible
- **Program launchers** to launch other programs from within MWare 3.x
- **RoomLink™** room combiners, using either automixers, mixers, or mixers with delay, for 3 to 15 rooms
- **Routers:** from 1 to 32 inputs and from 1 to 32 outputs, with or without
- **Processor** preconfigurations for 4 Peavey speaker systems
- **Sub-presets:** up to 255 for individual child windows with more possible and schedulable with a built-in event timer
- **System mute:** to mute all outputs simultaneously
- **Test functions:** **DC-voltage generator, frequency-response probe, I/O probe, pink-noise generator, signal probe, sine-wave generator, and a white-noise generator**
- **Title blocks:** a graphic area to type in any type of title, etc.
- **Via** function to allow a signal to loop back up the signal chain without creating feedback oscillation
- **Wave file players** for 32, 44.1, and 48 kHz system sample rates at 100%, 50%, and 25% of that sample rate

Notes: (1) New devices may be created and stored by the user in these libraries.
(2) Any control parameters of any of the above devices may be controlled via the control ports on the BoB or CAB I/Os, and via third-party control software with a properly configured interface port.

GENERAL SPECIFICATIONS

Controls:

Front door lock
Keyboard lock
System power switch
Power LED
Power switch, Power and HDD LEDs
Chassis slide rails

Connectors:

Front panel: (1) AT keyboard connector and (1) PS2 mouse connector
Rear panel: (1) Euro-style AC cord connector, (1) DB-25 parallel connector, (1) PS2 keyboard connector, (1) PS2 mouse

connector(1) DB-15 video connector, (2) COM port DB-9 connectors (COM 1 and COM 2) and (1) RJ-45 10/100BaseT network port

Dimensions:

6.97" H x 19" W x 19.30" D
(17.70 cm H x 46.26 cm W x 49.02 cm D)
Note: a 24"-deep rack is required.

Net Weight w/o DPU cards:

41 lbs. (18.63 kg)

AC Power:

400-Watt universal power supply with Power Factor Correction, UL, CSA, and CE listed

Voltage: 100 to 120/200 to 240 VAC +/-10%, auto-selecting depending on source voltage

Frequency: 50 to 60 Hz +/-5%

Maximum Power Consumption and Heat Generation:

920 Watts, 3128 BTU/Hr. at 115 VAC fully loaded
1150 Watts, 3910 BTU/Hr. at 230 VAC fully loaded

Maximum In-rush Current:

80A at 115 VAC, 40A at 230 VAC, 25° C cold start

Finish:

Grey powder-coat painted steel

Accessories:

- Detachable AC cord
- Rack slides
- Keys for front door, keyboard, and mouse
- Microsoft® Windows® 2000 Professional CD
- Pentium® III, or equivalent, or better
- Drivers for the 100BaseT fast Ethernet and PCI video ports

Product Agency Compliance Listings:

UL, CUL, CE, and FCC part 15, A

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The MediaMatrix® MM™-760nt Mainframe signal processor shall be a software-based, integrated sound system design, control, and hardware platform that requires only microphones, microphone preamps, power amplifiers, and speakers to provide a complete and working system. It shall be based on an open architecture that utilizes a modular computer mainframe including a power supply, a

floppy disk drive, a CD-ROM drive, a system controller board, and up to four digital signal processing boards. The MM-760nt Mainframe system shall provide all needed signal processing for up to 128 audio input lines and 128 audio output lines. Systems of lesser capacity shall not be acceptable.

The MM-760nt Mainframe system's CPU shall be Intel® Pentium III-based, or equivalent, or better and the user's control and design interface GUI shall be Peavey's MWare™ 3.x running under Microsoft Windows 2000 Professional. The MM-760nt Mainframe system's software must provide the ability to design, wire, operate, control, and troubleshoot a complete digital audio system in the software domain. It shall allow the creation of custom control panels and devices to provide unique solutions not possible on other DSP audio platforms. Additionally, it shall allow third-party control of virtually any adjustable parameter in the system design. Systems not providing the above capabilities and not operating under Microsoft Windows 2000's robust and stable operating system shall not be acceptable.

The MM-760nt Mainframe shall accommodate three types of DPU boards: digital audio boards accommodating A/D and D/A converted signals, AES/EBU standard digital audio signal boards; and digital audio boards for CobraNet™ bridges to Ethernet networked audio paths. Each of these DPU board types shall provide signal processing for 32 digital audio inputs and 32 digital audio outputs. Systems not accommodating various digital audio DPU boards shall not be acceptable.

The MM-760nt Mainframe system shall have a CPU that is an Intel Pentium III, 700 MHz with 512 kB of cache and 128 MB of RAM or equivalent, or better. It shall have a 1.44 MB FDD, a 32X CD-ROM drive, and a 10/100BaseT fast Ethernet interface port. Video shall be true color PCI video with 4 MB of video RAM and selectable resolution from 640 x 480 to 1,600 x 1,200, plus refresh rates from 43 Hz to 200 Hz. The MM-760nt Mainframe shall have a hard drive with a capacity of 10 GB or greater. It shall also have a passive backplane that enables the digital audio to function during CPU failure and a PIC/MG CPU slot for easy board swapping. The backplane shall have (4) PCI slots and (10) ISA slots to enable maximum flexibility in system configuration. Systems of lesser CPU and video capabilities, or lacking the above drives or passive backplane and its flexibility, shall not be acceptable.

The MM-760nt Mainframe shall accommodate up to (4) audio DPU boards. Each board shall provide digital audio signal processing for 32 input channels and 32 output channels. A 256-channel digital audio bus shall allow processing resources to be shared between DPU boards and DSP chips. Systems using hardware restricted digital audio paths shall not be acceptable.

The MM-760nt Mainframe system shall operate under the Microsoft Windows 2000 operating system for stable operation and increased network access security. The sound system design, control and diagnostics software shall be Peavey MWare 3.x, which allows the creation of custom control panels and devices to provide unique solutions not possible on other DSP audio platforms.

The virtual audio devices available for sound system creation shall include the following:

- **Automatic mixers** from 2 to 32 input channels with direct outputs and linking
- **AES** digital audio input and output ports and level controls capability
- **Bitmaps** to incorporate a graphic into the system control interface
- **BoBs** (Break-out-Boxes) analog input and output ports and level controls, with control ports for virtually any system control parameter
- **Blocks:** a graphic object that contains a child window with a sub-system or sub-function, etc.
- **Bump panels:** a graphic object for a control area, label, message, etc.
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- duckers, expanders, **GAP Ambient Level Sensors™**, noise gates, and limiters
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- **Meters:** **LED** with tiny and large signal-presence or overload indication
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- **System mute** to mute all outputs simultaneously
- **Test functions:** **DC-voltage generator, frequency-response probe, I/O probe, pink-noise generator, signal probe, sine-wave generator,** and a **white-noise generator**
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Notes: (1) New devices may be created and stored by the user in these libraries.
 (2) Any control parameters of any of the above devices may be controlled via the control ports on the BoB or CAB I/Os, and via third-party control software with a properly configured interface port.

Other software packages not offering the stability, security or flexibility of this operating system and these design/control/diagnostics packages shall not be acceptable.

The MM-760nt Mainframe system shall have the following front-panel controls and connectors: Front door and keyboard locks, system power switch; power and HDD LEDs; AT keyboard and PS2 mouse connectors. On the rear panel it shall have a Euro-style AC cord connector, a DB-25 parallel connector, a PS2 keyboard connector, a PS2 mouse connector a DB-15 video connector, an RJ-45 connector for networking and two COM port DB-9 connectors for COM 1 and COM 2.

The MM-760nt Mainframe shall have a 400-Watt universal power supply, UL, CSA, and CE listed. It shall operate on AC

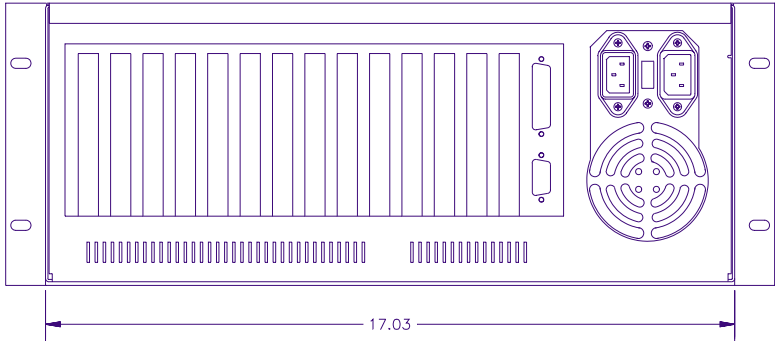
power at either 50 or 60 Hz +/- 5%, from 100 to 120 VAC or 200 to 240 VAC +/-10% with Power Factor Correction depending on the source voltage. The power supply shall consume no more than 920 Watts and produce no more than 3128 BTU/Hr. at 115 VAC fully loaded, or consume no more than 1150 Watts and produce no more than 3910 BTU/Hr. at 230 VAC fully loaded. It shall draw a maximum in-rush current of no more than 80A at 115 VAC and no more than 40 A at 230 VAC.

The MM-760nt Mainframe shall be 6.97" (17.70 cm) high by 19" (46.26 cm) wide by 19.03" (49.02 cm) deep and require a 24"-deep rack. It shall weigh 41 lbs. (18.63 kg). Its front shall be finished in grey powder-coat painted steel. It shall be supplied with the following accessories: a detachable AC cord, rack slides, keys for the front door and keyboard lock, Microsoft Windows 2000 Professional CD, Pentium III SBC, or equivalent, or better and drivers for the 10/100BaseT fast Ethernet board and PCI video board.

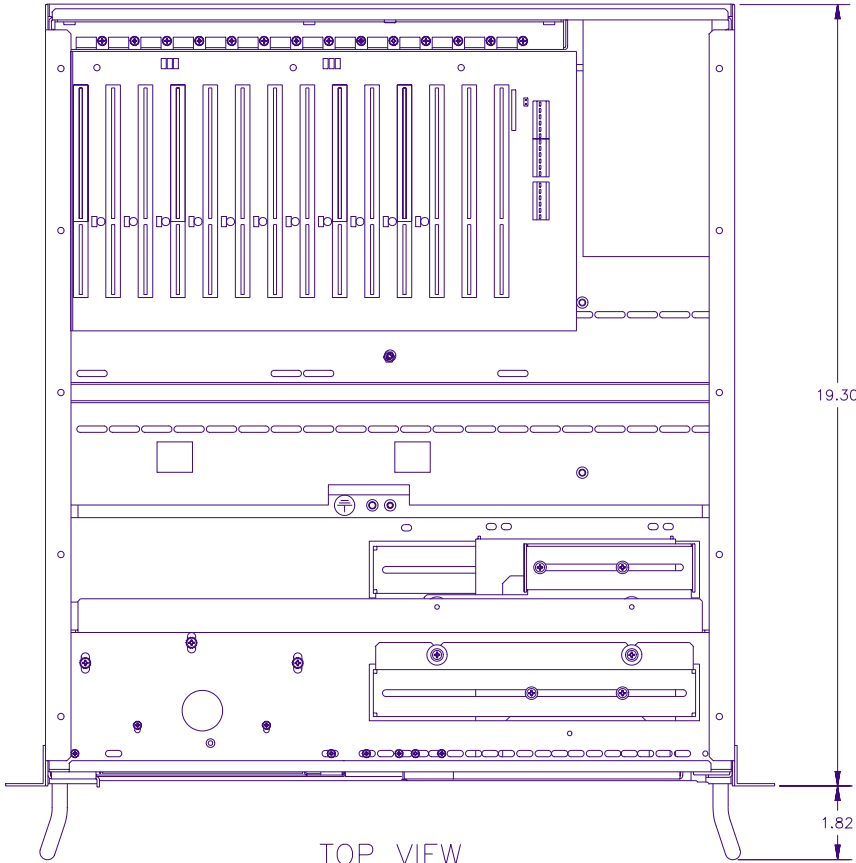
The MM-760nt Mainframe shall be in compliance with the standards of and listed by UL, CUL, CE, and FCC part 15, A. The mainframe system shall be the Peavey MediaMatrix MM-760nt.

Note: Microsoft® Windows® 2000 is a registered trademark of Microsoft Corporation, and Motorola® is a registered trademark of Motorola®, Inc. Pentium® is a registered trademark of Intel. CobraNet™ is a trademark of Peak Audio, Inc.

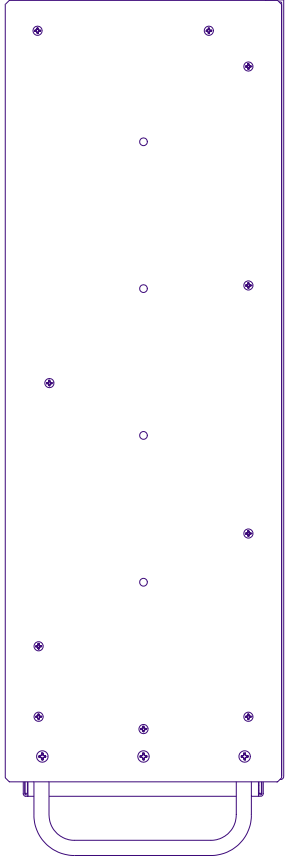
MM™ -760nt
Mechanical Drawing



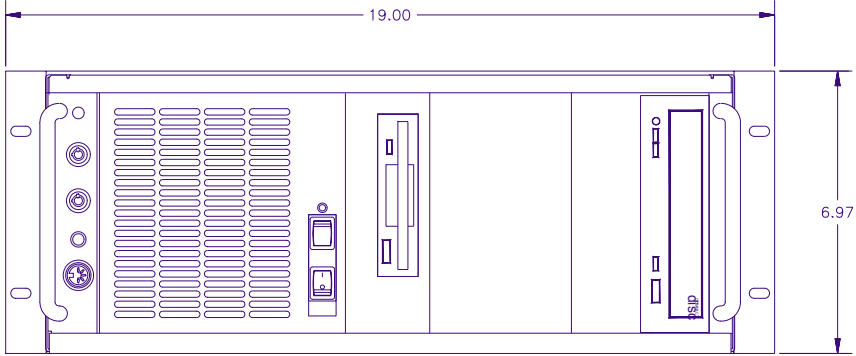
REAR VIEW



TOP VIEW



SIDE VIEW



FRONT VIEW

1 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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