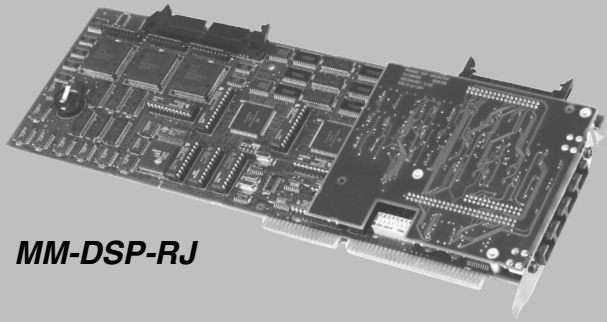
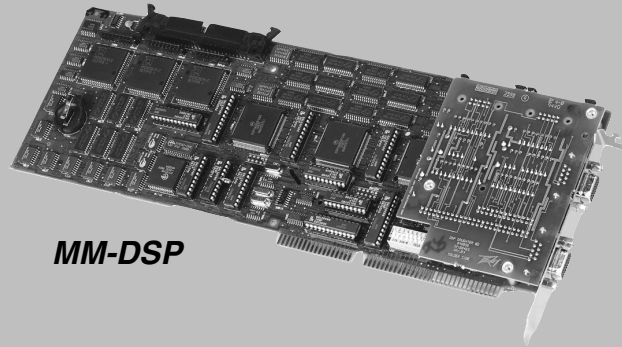


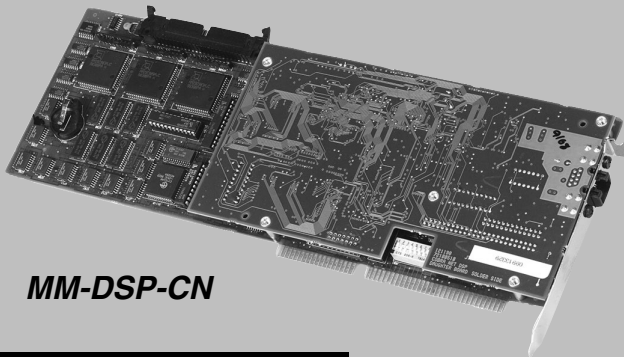
S P E C I F I C A T I O N S



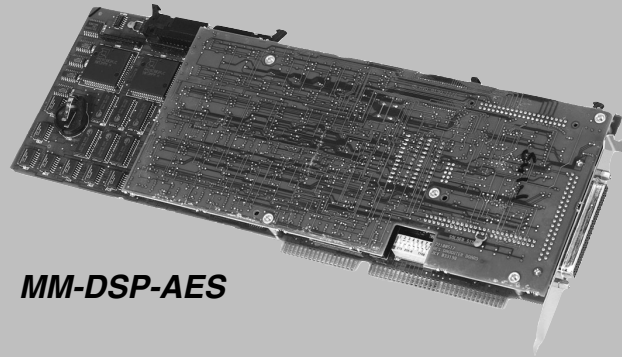
MM-DSP-RJ



MM-DSP



MM-DSP-CN



MM-DSP-AES

MediaMatrix® MM™-DSP Series DPU Boards

Description

The MediaMatrix® MM™-DSP Series DPU (Digital Processing Unit) boards are the heart of the MediaMatrix Mainframe DSP engine. Each DPU contains four Motorola® 56002 DSPs and is capable of greater than 100 MIPS (Million Instructions Per Second). The MM-DSP Series utilizes Peavey's exclusive V-Stack™ coding which doubles the processing efficiency and resulting capabilities of each DSP. Each board provides 32 input and 32 output audio channels and performs 24-bit processing. The MM-DSP Series uses double-precision filtering for superior accuracy of audio filtering frequency centers and filter skirts.

There are four models in the MM-DSP Series. The first is the MM-DSP for processing standard analog audio sources using up to four MM-8802 BoBs (Break-out-Boxes with 8 inputs A/D, 8 outputs D/A) or the legacy MM-8800 Series BoBs. The second is the MM-DSP-RJ which includes processing for up to four MM-8802 BoBs. The third is the MM-DSP-AES for processing 32-channels-in by 32-

channels-out of AES/EBU standard digital audio (16 channels each of dual AES3 signals). This is done via the optional MediaMatrix 16XT AES/EBU transformer-isolating interface box. The fourth is the MM-DSP-CN for processing audio ported to or from a CobraNet® Ethernet network. This is accomplished using the CAB™ Series CobraNet® Audio Bridges, available separately. The CAB™ Series products provide a bridge between analog audio and a standard 100BaseT Ethernet network utilizing the CobraNet® protocol.

The MM-DSP and MM-DSP-RJ models utilize a software-selectable feature that matches the sample-rate of the MM-8802 Series BoB to that of the DPU card to which it is attached. Sample rates of 32, 44.1, or 48 kHz can be chosen. The MM-DSP-AES also has a software-selectable sample-rate. It supports 32, 44.1, and 48 kHz sampled AES/EBU standard digital audio and includes functionality to choose between internal or external sync sources. The MM-DSP-CN operates only at a 48 kHz sampling rate.

Features

- 4 Motorola 56002 DSPs on each DPU board
- 24-bit processing
- 32 digital audio input channels and 32 digital audio output channels

- ISA bus edge connectors enable easy mixing and matching of DPU boards for custom system configurations
- Software-selectable sample-rates for the MM-DSP, MM-DSP-RJ and MM-DSP-AES DPU boards.
- Greater than 100 MIPS (Million Instructions Per Second) calculating speed
- Double-precision DSP filtering for accurate filter characteristics
- Exclusive V-Stack coding doubles processing efficiency

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

SPECIFICATIONS

Digital Audio Channel Capacity:

Up to 32 input channels and 32 output channels per DPU board

DSP Complement:

4 Motorola 56002 DSPs per DPU

Processing Resolution:

24-bit processing

Sampling Rates:

MM-DSP, MM-DSP-RJ: Software-selectable, either 32, 44.1, or 48 kHz

MM-DSP-AES: Software-selectable at 32, 44.1, or 48 kHz, internal or external sync

MM-DSP-CN: 48 kHz only

Speed of Calculations:

MM-DSP: 128 MIPS

MM-DSP-RJ: 128 MIPS

MM-DSP-AES: 136 MIPS

MM-DSP-CN: 168 MIPS

Digital Audio Bussing:

256 inter-board channels (between DPU boards)

256 inter-cell channels (between DSPs)

Software Coding:

Exclusive V-Stack coding provides twice the normal code efficiency

Filtering Algorithms:

Calculated using double-precision mathematics for more accurate audio filter frequency centers and slope-rates

Connectors:

MM-DSP: (2) DB-9 female-pinned connectors on board attachment bracket, (2) DB-9 female-pinned connectors on a separate, ribbon-cabled attachment bracket

MM-DSP-RJ: (4) RJ-45 female connectors on board attachment bracket, (4) RJ-45 female connectors on a separate, ribbon-cable attachment bracket

MM-DSP-AES: (1) DB-37 female-pinned connector on board attachment bracket (1) DB-37 female-pinned connector on a separate, ribbon-cabled attachment bracket

MM-DSP-CN: (1) RJ-45 female connector on board attachment bracket

Net Weight:

Approximately 1 lb. (0.45 kg), all models

Power & Heat:

25 Watts, 85 BTU/Hr

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

MM-DSP:

The MediaMatrix MM-DSP DPU board shall provide digital audio signal processing for the MediaMatrix Mainframes and Miniframes. It shall interface to the MM-8802 Break-out-Box and/or the legacy MM-8800 Series Break-out-Box, both of which provide audio-to-digital and digital-to-audio conversion of sound system signals. It shall employ (4) Motorola 56002 DSPs for 24-bit processing of 32 digital audio input channels and 32 digital audio output channels. The DPU board shall perform 128 MIPS (Million Instructions Per Second). The MM-DSP DPU board shall operate at one of (3) software-selectable sampling rates: 32 kHz, 44.1 kHz, or 48 kHz. It shall employ double-precision filter calculations for more accurate audio filter frequency centers and slope-rates. V-Stack coding shall be employed in the programming code to double the code's efficiency. During CPU failure, the MM-DSP DPU board shall continue to operate without interruption. DSP processing of lesser capabilities shall not be acceptable. The DPU board shall be the MediaMatrix MM-DSP.

MM-DSP-RJ:

The MediaMatrix MM-DSP-RJ DPU board shall provide digital audio signal processing for the MediaMatrix Mainframes and Miniframes. It shall interface to the MM-8802 Break-out-Box which provides audio-to-digital and digital-to-audio conversion of sound system signals. It shall employ (4) Motorola 56002 DSPs for 24-bit processing of 32 digital audio input channels and 32 digital audio output channels. The DPU board shall perform 128 MIPS (Million Instructions Per Second). The MM-DSP-RJ DPU board shall operate at one of (3) software-selectable sampling rates: 32 kHz, 44.1 kHz, or 48 kHz. It shall employ double-precision filter calculations for more accurate audio filter frequency centers and slope-rates. V-Stack coding shall be employed in the programming code to double the code's efficiency. During CPU failure, the MM-DSP-RJ DPU board shall continue to operate without interruption. DSP processing of lesser capabilities shall not be acceptable. The DPU board shall be the MediaMatrix MM-DSP-RJ.

MM-DSP-AES:

The MediaMatrix MM-DSP-AES DPU board shall provide AES/EBU-standards-compliant digital audio signal processing for the MediaMatrix Mainframes. It shall interface to the optional 16XT break-out box which provides transformer-isolation and breakout terminations for AES/EBU digital audio devices. It shall employ (4) Motorola 56002 DSPs for 24-bit processing of 16 AES3 digital audio input and output channels. (total audio channels of 32 in and 32 out). The DPU board shall perform 136 MIPS (Million Instructions Per Second). and shall sample AES3 digital audio input sources at 32, 44.1, or 48 kHz. Internal sample rate converters shall allow user selectable system sampling rates of 32, 44.1, or 48 kHz to be compiled independent of source sample frequency. It shall employ double-precision filter calculations for more accurate audio filter frequency centers and slope-rates. V-Stack coding shall be employed in the programming to double the code's efficiency. During CPU failure, the MM-DSP-AES DPU board shall continue to operate without interruption. DSP processing of lesser capabilities shall not be acceptable. The DPU board shall be the MediaMatrix MM-DSP-AES.

MM-DSP-CN:

The MediaMatrix MM-DSP-CN DPU board shall provide CobraNet® digital audio signal processing for the MediaMatrix Mainframes. It shall interface to the CAB Series CobraNet Break-out-Boxes which port real-time audio on to and off of a standard 100BaseT Ethernet network. It shall employ (4) Motorola 56002 DSPs for 24-bit processing of 32 digital audio input channels and 32 digital audio output channels. The DPU board shall perform 168 MIPS (Million Instructions Per Second). The MM-DSP-CN DPU board shall operate at a 48 kHz audio-sampling rate. It shall employ double-precision filter calculations for more accurate audio filter frequency centers and slope-rates. V-Stack coding shall be employed in the programming code to double the code's efficiency. During CPU failure, the MM-DSP-CN DPU board shall continue to operate without interruption. DSP processing of lesser capabilities shall not be acceptable. The DPU board shall be the MediaMatrix MM-DSP-CN.

Note: Motorola® is a registered trademark of Motorola, Inc. CobraNet™ is a trademark of Peak Audio, Inc.

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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