Yamaha Professional Audio System Solutions. For the Sound the World Listens To.

DME64N/DME24N
DIGITAL MIXING ENGINES

Yamaha Professional Audio System Solutions. For the Sound the World Listens To.
Can your sound processor do this?

Ultimate sound quality. Flexible, yet, easy system design. Convenient user interface. Cost effectiveness. Today, increasingly sophisticated solutions are in demand for professional audio systems. Which means programmable digital signal processors play more important roles than ever. And the larger and more complex the application, the more DSP power, higher sound quality, better network compatibility and greater flexibility are required.

The DME64N and DME24N are Yamaha's answer to these demands. Just follow the arrow to the DSP configuration example on the right. The DME64N packs enough DSP muscle to run them all by itself, with Yamaha sound quality, of course. Say good-bye to the limitations of conventional professional audio systems, and say hello to sound systems with virtually boundless response capabilities.

Sound quality that’s turning the audio world on its ear

The DME64N and DME24N are descended from the technology that has made Yamaha the professional audio industry’s acknowledged mixing console guru. The result is sound quality you won’t find with any other product in its category. The kind that’ll stand up to professional recording equipment. The DME24N, for instance, features newly developed head amplifiers — for reproduction of even the most subtle nuances of sound at 96kHz/24 bit operation.

Processing power for any application — and then some

The DME64N and DME24N feature multiple Yamaha state-of-the-art DSP7 LSIs designed exclusively for sound applications and packed with high-octane processing capabilities. They’re the powerplants sound designers rely on to create those mammoth configurations requiring mind-boggling component arrays — and never worry once about running out of juice.

Just how much power, you say? The DME64N features power equivalent to the Yamaha DM1000 digital mixer. The DME24N, about half that. It’s the kind of power that brings new freedom to configuration creation, unprecedented flexibility to sound system design.

DME64N / DME24N
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64 I/O, 24 I/O Capacity
Four mini-YGDAI card slots for maximum 64 I/O capability with the DME64N. Eight built-in analog input/output terminals plus 1 mini-YGDAI Card slot for maximum 24 I/O capability with the DME24N.

Cascade & Network
Cascade capability of up to 8 DME64N units realizing expandability depending on application size. CobraNet™ compatible with optional MY16-C CobraNet card.
Unsurpassed sonic quality
By recognizing the endless demand for quality sound and clarity required in performing arts centers, houses of worship, theaters and live music clubs, the bottom line was to realize the excellent tone and sound quality of Yamaha’s state-of-the-art digital mixing consoles for DME64N and DME24N. For this reason, all of the know-how from Yamaha’s 30 years of experience in developing world class professional audio equipment has been applied to the circuit design.

Other than high performance 24-bit 96kHz digital processing capability, for example, this includes everything from power supply placement to grounding. Furthermore, DME24N is also equipped with a newly developed head amplifier that pursues “output by not spoiling the input sound”.

The extraordinary clarity and presence of the sound is perfect for a variety of programs such as live music performance, theater, speech and lectures, making DME64N and DME24N the ideal choice for venues of this type.

Powerful DSP allows easy system design with excellent adaptability for various applications and environments
For performing arts centers, houses of worship and theaters, the sound system required differs greatly depending on the facility size and objectives, and the types of performance they host. Thanks to the remarkable versatility of DME64N and DME24N, they are the perfect answers to the diverse demands of audio systems.

More than 175 components including Crossover, Delay, Dynamics, EQ, Filter and Matrix Mixer are built into DME64N and DME24N. By freely combining these components, configurations can be created for various applications. Another advantage is flexibility, with I/O capability of up to 64x64 (DME64N) and 24x24 (DME24N), and I/O of various analog and digital (AES/EBU, TASCAM, ADAT) formats using the mini-YGDAI cards. Also Up to 8 units of DME64N can be cascaded, providing free scalability for almost any size of sound system.

In addition, the powerful DSP allows creation of complex configurations that enable fine sound adjustments according to each venue or type of performance.

For example, the sound characteristics demanded for main speakers, monitor speakers, auxiliary speakers, front fills, and speakers for the lobby, dressing rooms, staff rooms and other locations, can be optimized individually. Up to now, such system designs and installations were time and cost consuming due to restrictions of other digital audio processing products. However, the overwhelming DSP power of DME makes the design and execution of complex systems a breeze.
Intermediate-sized churches and theaters with analog mixers

In this hybrid system, audio signals are transmitted in a conventional analog manner, from the PM5000 mixing console to the MY8-A8-D channel analog input card inside DME64N, and from the MY8-DA B-channel analog output card inside DME24N to the PCA power amplifiers. So the venue’s existing cables can be used. Amplifier monitoring and DME64N control are performed from the PC in the control room via Ethernet.

An example configuration for DME64N in such a system is shown on the right side of the system diagram. Using the powerful DSP component groups controlling speaker clusters, components controlling each speaker box and components controlling each speaker unit - the woofers and tweeters - are programmed. With this, ideal sound settings are provided for all speakers.

Small churches and theaters

This system excels in terms of space requirements, cost and performance by using a small MG32/14FX analog mixer in combination with one DME24N. Audio signals input to this mixer are output to the DME24N’s 8-channel analog input terminals.

After routing and speaker processing in the DME24N, audio is output to the amp room from this unit’s 8 standard analog outputs and additional MY8-DA B-channel DA card.

In addition to routing and speaker processing, the DME24N can operate as an effects unit using SPX effect components*. As shown in the diagram, a percentage of the DME’S output can be returned to the mixer to achieve a standard send/return effect configuration.

* Planned with future version upgrade.
Audio networking capability with MY16-C CobraNet card

Long-distance audio signal transmission is the principal problem encountered in designing audio systems for stadiums, arenas, amphitheaters and other large venues. The problem manifests itself in signal loss and the time- and labour-intensive task of cable installation.

The combination of Yamaha DMIs and CobraNet™ represents the most effective solution for this type of installation. Using NHB32C, a 32 I/O CobraNet Audio interface, up to 64 channels of digital audio can be transmitted on a CAT5 cable, while installing an MY16-C card inside DME64N or DME24N will allow the sending and receiving of 16 audio signals using CobraNet.

Systems comprising of DME64N or DME24N, MY16-C and other CobraNet™-compatible Yamaha products provide simple, low-cost wiring and flexible audio routing between various distant locations.

CobraNet™

CobraNet™ is a real-time audio & control data transmission system utilizing 100 Base-T Ethernet technology. CobraNet™ allows digital data to be carried up to 200m* (two 100m* cables via switch) by common CAT5 / 100Base-TX cabling, and up to 2 kilometers* by optic fiber (for optical data): it is fast, with a constant 1.33 ms, 2.66 ms, or 5.33 ms latency*. It is reliable, thanks to the built-in redundant system; and with the standard cabling and connections, it is remarkably easy-to-use and inexpensive.

*1. Length may be shorter depending on the line condition and other related factors.
*2. MY16-C CobraNet card is compatible with 1.33ms, 2.66ms and 5.33ms latency. NHB32-C Network Hub/Bridge and ACU16-C Amp Control Unit are currently compatible w/ 5.33ms latency.

Different sound system setups for different events

An important characteristic of sports venues is that playing fields, stage and spectator seating areas change according to the type of event hosted. Which, once again, make the DME64N and DME24N ideally suited to the job description.

Both units feature pattern control capable of storing up to 999 different scenes*, which contain both parameter values and DSP configurations in the internal memory. With this, different audio settings (for example, speaker alignment) which depend on the seating, playing field or stage pattern, can be stored and recalled instantly.

Pattern control can be achieved with DMIs front panel, a remotely located PC (running DME Designer), or even from the ICP1 Intelligent Control Panel.

*Number of scene memories differs depending on the data size of configurations.
DME Integration with PM5D Digital Audio Mixing Consoles

You have only to look at the popularity of Yamaha's PM Series mixing consoles at international live performance venues to recognize their status as the industry's star performers. Now, meet the PM5D, the latest model in this highly acclaimed line-up. This next-generation digital console delivers truly awesome live mixing capabilities — compliments of 64 inputs, 28 buses and 8 matrixes — with the advantages of reduced size and weight.

Users can cascade a DME64N with a PM5D to unleash an even more formidable arsenal of mixing power — integrating DME64N as an expansion of PM5D's output matrix (max 40x64) and as a speaker processing unit.

Innovation of Usability

Parameters of DME64N can be controlled directly from the PM5D to realize seamless and efficient operation during live performances. DME-N control from PM5D can be made via the cascade connectors or via MY16-C.

Furthermore, AD8HR (8 channel head amplifier and AD converter) can be remote controlled from PM55D, providing high resolution 96kHz/24-bit inputs with gain increments of 1dB.

When building a CobraNet system equipped with NHB32C Network Hub and Bridge, ACU16C Amp Control Unit and PC-N Power Amplifiers, it is possible to control DME-N and the AD8HRs, and to monitor all the amplifiers from a single FOH position. Such innovative operations in live applications can at last be realized!

DME64N & DME24N parameters controllable from PM5D

- Scene recall/store
- Cross over
- Delay
- Output fader (on/off, cue included)
- GEQ
- Matrix on/off, level
- PEC

Example: DME64N configuration.

This is an example of a configuration being executed by DME in the system shown on the right.

You can monitor the audio being processed and designate arbitrary listening points with an integrated Probe function. With a headphone connector on its front panel, the work efficiency while creating configurations on DME64N is increased dramatically.

System 5

Live mixing

A DME-N signals from the high-accuracy AD converter AD8HR installed on the stage is fed to the PM5D at FOH via NHB32C. 32 I/O CobraNet Audio Interface. After the output signals from PM5D at FOH are routed and speaker-processed by the cascaded DME64N, they are again fed through CobraNet to the PC-N amplifier via ACU16C Amplifier Control Unit.

At the same time, the other set of AES/EBU signals output in parallel from AD8HR on the stage is sent to PM5D at the monitor position and sent in the same manner from the cascaded DME64N to the PC-N amplifier. AD8HR head amplifier on stage can be remote controlled from PM5D at FOH, and amplifier monitoring can be performed (via NHB32C) on the PC at the FOH position.*

By connecting a wireless tablet PC running DME Designer at the monitor position to DME64N, control (EQ, etc.) of the monitor speakers can be made away from the monitor mixing console while checking the actual sound in front of the speakers.

* OH Remote and Amp Monitor cannot both be performed at the same time.
Versatile Room Space Combination

The ability to partition and combine spaces according to the demands of the events they host is a must for ballroom facilities. Yamaha’s DME64N and DME24N provide admirably simple and convenient solutions for space pattern switching.

DMEs are capable of storing up to 999* scene memories. Each scene is structured by data of each component programmed and its configuration. In other words, changing a scene allows you to change the configuration pattern.

By allowing this, the audio source distributed to each speaker can be freely arranged, and the sound for each pattern can be freely adjusted.

*Number of some memories and programs operating on the data size of configurations.

Simple & Easy Operation for amateurs

It is equally critical that venue personnel without special knowledge or skills can control these operations. When combined with an ICP1 Wall-mount Intelligent Control Panel connected by CATS cable, DMEs can quickly recall numerous partitioning and joining variations.

ICP1 allows the assigning of most parameters and attaching of titles to scenes. The ICP1’s large LCD screen can display scene titles and parameter names in five different languages – Japanese, English, French, German and Spanish.

Furthermore, 3 types of wall-mount control panels for controlling DME via GPI are available: CP4SW with 4 faders and 4 control switches, a CP4SF with 4 control switches and a CP1SF with 1 fader and 1 control switch.

These control panels feature an unprecedented user-friendly interface that allows untrained personnel to use it “fluently” with a minimum of time and effort.

Affordable and simple system set-up utilizing on-board 8-inputs and 8-outputs (DME24N)

DME24N is equipped with high-quality head amplifiers that incorporate the know-how of Yamaha’s top professional audio equipment. On-board 8-inputs and 8-outputs allow an affordable system to be built. Euroblock terminals are used for the analog I/O. Further I/O expansion is possible with a built-in M1-card slot.

Audio-Visual Presentation System Integrating With Touch Panel Control

The DME64N and DME24N feature interfaces for MIDI, RS-232c, GPI, USB, and an Ethernet terminal to support various connections with external devices.

By connecting to a touch panel controller to an Audio-Visual Presentation System, for example, devices such as projectors and screens can be controlled simultaneously. This solution allows central control of all devices using a touch panel.
Realizing creative sounds using surround processors and SPX components

Changing the sound control parameters built into DMEs by time and using surround components, various special sound effects can be created.

Using the components equivalent to SPX2000®, the acclaimed Yamaha Digital Signal Processor, more complex sound effects can also be created.

* Planned with a future version upgrade.

Building a control network by connecting only a CAT5 Cable

DME64N and DME24N are both equipped with an RJ45 Ethernet terminal. A DME-N control network can easily be created by connecting a 100Base-T CAT5 cable. By building a network, remotely located DMEs can be centrally controlled from a PC running DME Designer and monitoring can be performed using the meter component.

System 8: Theme parks

This solution allows central monitoring of each attraction’s sound system via the DME-N control network, using Ethernet and the DME meter component.

At each attraction, DME24N is synchronized with a MIDI sequencer and a lighting console, adding various special sound effects to the audio from the Multi Track recorder/player by using Surround Processor or SPX Components®.

Using the WAV File Player component* synchronized with a MIDI Sequencer or video/lighting Console, announcements stored in the unit memory can be broadcast automatically to introduce and conclude performances.

* Planned with a future version upgrade.

Central Monitor Room

**Application 6**

Retail Environments, Restaurants, Bars

Labor-saving application realized by automation and application demanded with full easy operation

Automatic broadcasting on a daily schedule

Simplifying the system for automatic broadcasting on predetermined times every day at shops, restaurants and other commercial facilities is a growing demand.

The DME64N and DME24N are perfectly suited for these applications thanks to streamlined components like Event Scheduler*.

In addition to supporting the automatic operation of CD players and other external devices via GPI, the WAV File Player* component can play WAV files stored in the internal memory of DME in sync with the Event scheduler.

* Planned with a future version upgrade.

**System 9**

Restaurants and retail outlets

Thanks to the 8 built-in input terminals and 8 output terminals, signals from CD players and microphones are directly fed to the DME24N and after routing and speaker processing, direct output is made to the speakers on the 1st and 2nd floors, in restrooms and at outside locations.

Automatic broadcasting at a designated time is managed by the Event Scheduler* and WAV File Player*. In addition to playing pre-recorded announcements and other audio files, the DME24N’s Event Scheduler can be set to automatically send playback commands to a CD player via the GPI terminal.

A CP4SF Control Panel with 4 switches and 4 faders is installed on one of the facility’s walls. When programmed for the microphone and 1st and 2nd floor speakers, this Panel can be used to adjust the volumes for these system components.

* Planned with a future version upgrade.
Hardware features

DSP power that rivals the Yamaha DM-1000 digital mixer and expands the boundaries of configuration design

The DME64N and DME24N offer such powerful performance compliments of Yamaha’s proprietary DSP and DSP-ILS, which were designed exclusively for audio processing. The DME64N features processing power to rival Yamaha’s highly acclaimed DM-1000 digital mixer, while the DME24N offers about half that.

This awesome DSP power offers two big advantages. First, it gives a single DSP box enough muscle to build larger, more complex DSP configurations, giving audio designers a free hand in fine-tuning audio signals for systems in concert halls and a wide range of other venues. And second, it makes configuration design easier than ever — because configurations that once required multiple DSP boxes can now be run with one DME64N or DME24N, which means big time and energy savings in both design and actual installation, making these Yamaha DM6s affordable solutions as well.

Sound-focused circuitry design with 24 bit/96 kHz processing support for the ultimate in sound quality

Highly recommended by leading professionals for live performances and studio recording, Yamaha digital mixing engines inherit our cutting-edge audio technologies in mixing console development — including power supply unit placement and proper grounding. And the results speak for themselves. No wonder the DME64N and DME24N can deliver peerless fidelity in reproducing any original sound — to the point of rivalling a large mixing console. The DME24N, for instance, is redefining the boundaries of audio fidelity at 24 bit/96 kHz operation with newly developed head amplifiers onboard. Just one more reason the best sound in the world comes from Yamaha.

Note: Configurations that can be created at 48kHz operation will have the same performance created at 96kHz operation

Exceptional I/O flexibility and expandability

Casade up to 8 DME64Ns for 512 input/512 output capability

The DME64N features 4 mini YGDAI slots on its rear panel for optional I/O cards. The DME24N features one slot. These slots support analog inputs and outputs when using high-gain analog I/O and D/A converters, which in practice, not only makes installation fast and easy, but translates into some of the best cost performance in the business.

DME42N rear panel features 8 analog input and 8 analog output terminals

The DME64N’s rear panel features 8 microphone analog inputs and 8 output Euroblock terminals. Each terminal offers built-in high-precision 24 bit /96 kHz A/D- and D/A-converters, which in practice, not only makes installation fast and easy, but translates into some of the best cost performance in the business. The DME24N’s rear panel features 8 analog input and 8 analog output terminals.

Control Network via Ethernet

Up to 16 DME64Ns, DME24Ns and ICPs intelligent control panel units can be connected via their RJ45 connectors to form an Ethernet network. Making use of existing 100base-T CAT 5 cables and other Ethernet infrastructure components enables quick, easy, cost-effective system construction.

Comprehensive GPI, RS-232C, USB and MIDI control signal support

The DME64N and DME24N offer a wide range of control signal support. The DME64N has 16 in and 16 out GPI ports to control interfaces for use with different units. The DME64N has 16 in and 16 out GRP ports to link with installed sound systems and other equipment. The DME24N has 8 I/Os. What’s more, both include RS-232C / RS422 serial ports for interfacing with remote control units and PCs, USB ports for popular PC interfaces and MIDI IN/OUT interfaces for synchronization with electronic musical instruments, sequencers and stage lighting controllers.

Jumbo LCD display with extensive front panel controls

Both DME64N and DME24N offer outstanding ease of operation thanks to their large, easy-to-read backlit LCD displays and comprehensive clusters of front panel controls — LED status indicators, jog wheel and SCENE, Home and Utility keys. A monitoring headphone jack with phone level control is standard. The DME24N also provides SIGNAL and PEAK LED indicators on the front panel for 8 inputs and outputs.

Scene and function names in 5 languages

The DME64N, DME24N and ICP intelligent control panel can display names for scenes and function keys in 5 languages — Japanese, English, French, German and Spanish. And at 3 units feature a user-friendly interface for trouble-free operation regardless of level of skill or experience.
DME Designer

Dedicated application software allows simple system design of DME with intuitive and easy graphical operations.

Simple, 3-Window Operation with Snap Shot Function

DME Designer is designed with 3 primary windows. The Main Window enables users to perform operations such as scene recall and preference settings. The Designer Window is used to create configurations for each DM E64N, DM E24N and ICP1. And the Component Window provides an advanced graphic user interface to edit individual DSP components and make detailed component settings. Each component includes a Snap Shot feature capable of temporary storage of up to 4 sets of component parameters. Simply clicking these sets — A, B, C or D — during editing offers users a fast, efficient means of comparing the sound produced by each.

Diverse array of built-in components

The DM E64N and DM E24N provide support for a wide range of sound control components and effects. SPX Effecters, Crossover Processor, Crossover Delay, Compander, Compressor, De-Esser, Ducker, Equalizer, Gate, EQ, and PEQ are available for use over a wide range of applications. High-precision filtering is supported by band pass, high pass, low pass and notch filters, while components like the 64X64 Matrix facilitates internal sound mixing. The Delay Matrix allows users to set delay plus volume for each point. As a result, the matrix can be used to perform speaker alignment. Also included are Pan, Pan-LCR, Surround Processor, Router to Meter, Oscillator, and Phantom power supply ON/OFF switching.

Central management of multiple mixing engines for more than 16 zone control

DME Designer can incorporate a total of 16 DM E64N, DM E24N and ICP1 units in a single zone, and open more than 16 zone windows simultaneously. You can store/recall each zone set as a scene containing multiple DM E64N, DM E24N and ICP1s, with individual parameter values for each DSP component, combined with a DSP configuration, and saved clock setup. You can store/recall a maximum of 999 scenes.*1

Matrix Mixer

The Matrix Mixer allows storage and recall of up to 84964. For the Delay Matrix Mixer, the delay value can be set in addition to the level at each point for time alignment and level setting using a simple component.

Gain Trim

Gain trim allows remote operation of the ADR9R A/D converter with a preamp from the DM E64N or DM E24N. Both units enable control of AD64R mic pre-amps, high-pass filters and phantom power supply ON/OFF switching.

Compatible OS:


* Planned with future version upgrade

Software
### Software

#### Component List

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**Note:** SPX Effects Components, WAV File Player, Event Scheduler: Planned with future upgrade.

### Options

#### Wall-Mount Remote Control Panels

**ICP1**

The ICP1 intelligent control panel features controls virtually identical to those on the DM64N/DM24N front panels, giving operators remote control capabilities for both DM6Ns. It offers unmatched ease of use thanks to a large, easy-to-read backlit LCD display that shows names for scenes and function keys in 5 languages — Japanese, English, French, German, and Spanish. The 6 function keys appearing at the top and bottom of the LCD screen can be assigned to most parameters for easy remote control access. These function keys are defined as a “function key set” or “page”. Up to 4 sets of “pages” are available — for up to 24 parameters assigned to function keys. Users can change the “page” by pressing the HOME key. A single function key can be used for simultaneous multiple parameter control by defining parameter links. Function keys are defined with DM6 Designer software.

#### My16-C

The MY16-C is a CobraNet™-compliant multi-YGDAI card for use in the optional DM64N and DM24N rear panel I/O card slots. It supports 16-channels of I/O, letting users construct CobraNet™-based digital audio network systems. Using a serial bridge, the MY16-C can receive control data from a PM5D, as well as send and receive control data between MY16-C units. 16-channel audio signal is sent in 2 bundles that can be configured by a bundle setting switch. By changing DIP switch settings, FS can be set to 48kHz or 96kHz, and latency can be defined as 5.33, 2.66 or 1.33 ms. The DM64N can handle up to 2 MY16-C Cards.

#### CP1SF

Wall-mountable remote control panel for GPI control with 4 switches and one fader.

#### CP4SF

Wall-mountable remote control panel for GPI control with 4 channels and 4 faders.

#### CP4SW

Wall-mountable remote control panel for GPI control with one switch and one fader.

### User Control

**User Component feature for unrestricted component combinations**

User Component feature lets users create original components by combining existing components. Defining a combination of frequently used components as a user component makes creating configurations faster, easier, and more efficient. Combining this feature with the User Control Function lets system designers allow the operation of selected components only. In combination with the Security setting function, system designers can protect any parameters they do not want opened or operated by end users.

**User Control feature for gathering multiple component controllers**

System integrators can create their own User Control Panels by selecting desired controllers from each component. These controllers can be selected by drag-and-drop or copy-and-paste. User Control offers added user convenience in tasks like gathering frequently used controllers and selecting only parameters edited by end users.

**Security guaranteed with 10-level user designation**

The Security Setting feature identifies users via password input when logging onto the application. Users can be assigned one of 10 security levels, with each level given its own access rights — Scene recall, browsing, parameter operation, editing or combinations of these rights. In this way, features available to each user can be restricted. Combining the feature to lock each component and password protection for user components guarantees the confidentiality of components and parameters set by system designers.

**Probe feature for listening to specific points**

The Probe feature allows listening to configurations at any specific point. This is a convenient feature that allows listening and checking of sounds for configuration errors and wiring mistakes using only the DM6 via the headphone jack with built-in oscilator.
**Digital Mixing Consoles**

**PM 5D-R H**

The PM5D and PM5D-RH are new compact, lightweight digital mixing consoles that offer optimized operation for live mixing and true PM quality sound. They include a wide range of features to guarantee top operating efficiency in live concerts and other applications. Both models support high resolution 24-bit/96kHz processing and integrate 8 effect units, with optional Add-On Effects available to provide rich sound effects. The PM5D-RH features a recallable head amplifier. The PM5D and PM5D-RH offer 64 input channel mixing capability — 48 mono + 4 stereo analog inputs, 4 internal stereo returns — and a bus configuration of 24 mix buses + LCR + CUE + 4 Mmatrix. They also feature 4 mini-YGDAI card slots capable of up to 64 I/O support, and integrate 24 + 4 input faders and 2 stereo master faders. Input channels offer 4-band EQ, HPF and 1000msec delay, with LR, LCR, surround panning functions and several varieties of gates and compressors also available. Output channels feature 8-band EQ for mix-out and main-out, as well as 4-band EQ for matrix-out. Compressor/limiter functions and 1000 msec delay are also available.

The PM5D’s matrix is expandable by cascading the DME64N. Using the DME64N as an external matrix box, the PM5D can be expanded into a 40-by-64 matrix. Both DME64N and DME24N can be controlled directly from the PM5D — for the ultimate in sound integration.

**PM 5D**

The PM5D and PM5D-RH are new compact, lightweight digital mixing consoles that offer optimized operation for live mixing and true PM quality sound. They include a wide range of features to guarantee top operating efficiency in live concerts and other applications. Both models support high resolution 24-bit/96kHz processing and integrate 8 effect units, with optional Add-On Effects available to provide rich sound effects. The PM5D-RH features a recallable head amplifier. The PM5D and PM5D-RH offer 64 input channel mixing capability — 48 mono + 4 stereo analog inputs, 4 internal stereo returns — and a bus configuration of 24 mix buses + LCR + CUE + 4 Mmatrix. They also feature 4 mini-YGDAI card slots capable of up to 64 I/O support, and integrate 24 + 4 input faders and 2 stereo master faders. Input channels offer 4-band EQ, HPF and 1000msec delay, with LR, LCR, surround panning functions and several varieties of gates and compressors also available. Output channels feature 8-band EQ for mix-out and main-out, as well as 4-band EQ for matrix-out. Compressor/limiter functions and 1000 msec delay are also available.

**Power Amplifiers**

**PC-N Series**

PC9500N 950W @ 8.82Ω (US, Australia) / 950W @ 8Ω (EU)
PC4800N 480W @ 8/8.82Ω (US, Australia) / 480W @ 8Ω (EU)

Yamaha’s PC9500N and PC4800N amplifiers feature excellent line power characteristics and advanced designs to guarantee the quality, performance, reliability and sound which today’s professionals demand. Economy, too — with Yamaha proprietary EEEngine technology slashing power consumption by 50% over previous models. That’s more, the PC-N Series supports remote PC control and status monitoring via the CobraNet-compliant ACU16-C amplifier control unit. Both PC-N models also offer versatile connectivity for flexible setup and installation.

**Amplifier Control Unit**

**ACU16-C**

16-channel D/A Converter and Monitoring / Control Unit

The ACU16-C amplifier control unit supports CobraNet™ for maximum efficiency control of Yamaha’s PC-N Series power amplifiers. The ACU16-C converts digital audio signals from CobraNet™ with its integrated 16-channel high-precision D/A converter, then distributes the converted analog sound to the amplifiers. What’s more, Yamaha’s dedicated Network Amp Manager software lets users control and monitor up to 32 PC-N amplifier units.

**Network Hub and Bridge**

**NHB32-C**

32 IN / 32 OUT Channel Audio and Control Interface

The NHB32-C network hub and bridge works as a networking interface to send/receive digital audio signals and control signals to and from CobraNet™. A single NHB32-C unit can support up to 32-channels of digital audio I/O and one control signal I/O (Remote control of AD8HR head amps, or PC-N amp control, or MIDI). Network Amp Manager software allows central control of both audio and control signals.

**Mic Line Amplifier**

**MLA8**

The MLA8 mic line amplifier is an 8 channel preamplifier featuring unparalleled articulation and sound quality descended from Yamaha’s internationally acclaimed DM5000 digital mixing console. It not only offers such practical features as PFL, HPF and PHANTOM, but packs them into the compact concomitance of a 1U cabinet. The MLA8 also comes with a Euroblock output connector for installed sound systems and a Dsub-25pin connector compatible with the RYB-AD968 8-channel mini-YGDAI A/D card — for maximum affinity with Yamaha digital mixers.

**A/D Converter with Remote Preamplifier**

**AD8HR**

The AD8HR is a quality sound 8-channel A/D converter with 96 kHz processing. It features head amplifier technology descended from our PM5000 high-end analog PA console — so you can count on the highest quality sound around. Two output connectors enable 2 x 8-channel digital audio output in the AES/EBU format. What’s more, users can take advantage of the AD8HR’s head amplifier remote control function to operate the unit as a stage box.

**D/A Converter**

**DA824**

The DA824 is a D/A converter that converts 8-channel digital audio inputs into 24 bit/48 kHz analog outputs. It includes an expansion slot to support optional mini-YGDAI cards with AES/EBU, ADAT, TASCAM and ADAT digital formats.

**Mini-YGDAI Cards**

**16 I/O Series**

**MY16-C** 16-channel Audio Card format: ADAT
**MY16-AT** 16-channel Audio Card format: TASCAM
**MY16-DA** 16-channel Audio Card format: AES/EBU
**MY16-TD** 16-channel Audio Card format: TDIF

**96 kHz Series**

**MY8-BDA96** 8-channel Analog Input Card
**MY8-BAE96** 8-channel AES/EBU format I/O (with sample rate converter)
**MY8-DA96** 8-channel Analog Input Card
**MY8-DAE96** 8-channel AES/EBU format I/O

**Standard Series**

**MY8-BAE95** 8-channel AES/EBU format I/O
**MY8-BA96** 8-channel AES/EBU format I/O
**MY8-BAE96** 8-channel AES/EBU format I/O
**MY8-DAE96** 8-channel AES/EBU format I/O

**DA824**

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