

DME64N, DME24N GENERAL SPECIFICATIONS

Sampling Frequency	Internal	44.1kHz, 48kHz, 88.2kHz, 96kHz
	External	Normal Rate 39.69 - 50.88 kHz Double Rate 79.39 - 101.76 kHz
Signal Delay		0.5 msec (Channel input to Channel output@Fs = 96kHz)
Memory	Configuration	16 (depends on size of data)
	Scene	999 (depends on size of data)
Display		160 x 64 dot matrix LCD with backlight
Scene No.		7-segment LED x 3
Indicators	Wordclock	EXT.CLOCK, 96kHz, 88.2kHz, 48kHz, 44.1kHz
	External Control	NETWORK, MIDI
	Zone Configuration	MASTER
	Analog Input*1	SIGNAL x 8, PEAK x 8
Power Requirements	Analog Output*1	SIGN+AL x 8, PEAK x 8
		120V AC, 60Hz ( USA,Canada), 230V AC, 50Hz (Europe) 100+V AC, 50/60Hz(Japan)
Power Consumption		DME64N : 80W, DME24N : 75W
Dimensions (W x H x D)		DME64N : 480 x 145 x 411.5mm, 3U DME24N : 480 x 101 x 411.5mm, 2U
Weight		DME64N : 9.5kg, DME24N : 8kg
Temperature Range	Free-Air operating	10 - 35 °C
	Storage	-20 - 60 °C
Power code length		2.5m
Supplied Accessories		Power code, CD-ROM (DME Designer application), Owner's Manual, I/O lock, 16pin Euro-block plug x 2, 8pin Euro-block plug x 4(DME64N), 3pin Euro-block plug x 16 (DME24N)

\*1. Available on DME24N only

DME64N, DME24N CONTROL I/O

Terminals	Format	Level	Connector
REMOTE	-	RS232C	D-SUB Connector 9pin (Male)
	-	RS422	
MIDI	IN/OUT/THRU	-	DIN Connector 5P
WORDCLOCK	IN/OUT	TTL/75Ω	BNC Connector
Ethernet	Ethernet	-	RJ-45
USB	USB	0 - 3.3V	USB Type B (Male)
GPI	IN	0 - 5V	Euro Block Connector
	OUT	TTL	Euro Block Connector
	+V	5V	Euro Block Connector

\*1. DME64N : 16GPI inputs and 16GPI outputs      \*2. DME24N : 8GPI inputs and 8GPI outputs

DME64N DIGITAL I/O CHARACTERISTICS

Terminal	from	Format	Level	Connector	INPUT/OUTPUT	
					Fs=44.1/48kHz	Fs=88.2/96kHz
CASCADE IN	PM5D	-	RS422	D-SUB Half Pitch Connector 68P(Female)	32(IN)	32(IN)
	DME64N	-	RS422		32(IN/OUT)	32(IN/OUT)
CASCADE OUT	PM5D	-	RS422	D-SUB Half Pitch Connector 68P(Female)	32(IN)	32(IN)
	DME64N	-	RS422		32(IN/OUT)	32(IN/OUT)

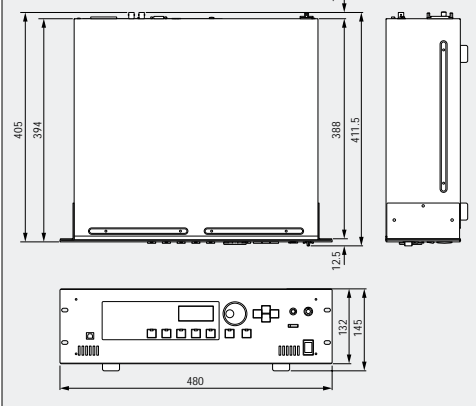
DME24N ANALOG INPUT CHARACTERISTICS

TERMINAL	GAIN	Actual Load Impedance	For Use With Nominal	Input Level		Connector
CH INPUT 1-8	-60dB 10dB	3kΩ	50-600Ω Mics & 600Ω Lines	Nominal	Max. before clip	Euro block
				-60dBu (0.775mV)	-40dBu (7.75mV)	
				10dBu (2.451V)	30dBu (24.511V)	

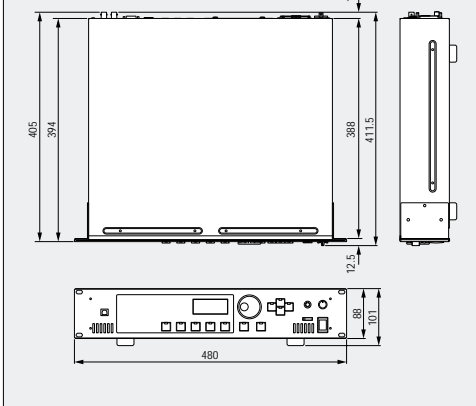
\*1.In these specifications, when dBu represents are specific voltage, 0dBu is referenced to 0.775 Vrms.  
\*2.All 4 AD converters(CH1-8) are 24 bit linear,128times oversampling.  
\*3.+48V DC(phantom power) is supplied to CH INPUT(1-8) connectors via each individual controlled switch.

DIMENSIONS unit : mm

DME64N



DME24N



YAMAHA CORPORATION  
P.O.BOX 1, Hamamatsu Japan

<http://www.yamahaproaudio.com>

For more details about CobraNet and recommended Ethernet products, visit the website: <http://www.peakaudio.com/>.

CobraNet™ is a registered trademark of Peak Audio, a Division of Cirrus Logic.

• Specifications and appearance are subject to change without notice.



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DME24N ANALOG OUTPUT CHARACTERISTICS

Output Terminals	Actual Source Impedance	For Use With Nominal	Output Level		Connector
			Nominal	Max. before clip	
OUTPUT 1-8	150Ω	600Ω Lines	+4dBu(1.23 V)	+24dBu(12.28V)	Euro block connector
OUTPUT 1-8	15Ω	8Ω	75mW	150mW	Stereo Phone Jack
		40Ω	65mW	150mW	

\*1.In these specifications, when dBu represents are specific voltage, 0dBu is referenced to 0.775 Vrms.  
\*2.All 4 DA converters(CH1-8) are 24bit, 128times oversampling.      \*3.Stereo Phone Jack is unbalanced,(Tip=LEFT, Ring=RIGHT, Sleeve=GND)

DME24N ANALOG CHARACTERISTICS (Output impedance of signal generator:150Ω)

Frequency Response 20Hz-20kHz,reference to the nominal output level @1kHz						
input	output	RL	CONDITIONS	MIN	TYP	MAX UNITS
CH INPUT 1-8	CH OUTPUT 1-8	600Ω	GAIN=-60dB	-1.5	0.0	0.5 dB
Internal OSC	PHONES	8Ω		-3.0	0.0	0.5 dB

Frequency Response fs=96kHz@20Hz-40kHz,reference to the nominal output level @1kHz						
input	output	RL	CONDITIONS	MIN	TYP	MAX UNITS
CH INPUT 1-8	CH OUTPUT 1-8	600Ω	GAIN=-60dB	-1.5	0.0	0.5 dB
Internal OSC	PHONES	8Ω		-3.0	0.0	0.5 dB

Gain Error @1kHz						
input	output	RL	CONDITIONS	MIN	TYP	MAX UNITS
CH INPUT 1-8	CH OUTPUT 1-8	600Ω	GAIN=-60dB	2.0	4.0	6.0 dBu
			GAIN=+10dB	2.0	4.0	6.0 dBu
Internal OSC	PHONES	8Ω	-30dBFS @1kHz, phones level control .max	-2.0	0	2.0 dBu

Total Harmonic Distortion fs=48kHz						
input	output	RL	CONDITIONS	MIN	TYP	MAX UNITS
CH INPUT 1-8	CH OUTPUT 1-8	600Ω	GAIN=-60dB @20Hz-20kHz @+14dBu			0.1 %
			GAIN=+10dB @20Hz-20kHz @+14dBu			0.05 %
Internal OSC	PHONES	8Ω	-30dBFS @1kHz, phones level control .max			0.1 %

Total Harmonic Distortion fs=96kHz						
input	output	RL	CONDITIONS	MIN	TYP	MAX UNITS
CH INPUT 1-8	CH OUTPUT 1-8	600Ω	GAIN=-60dB @20Hz-20kHz @+14dBu			0.1 %
			GAIN=+10dB @20Hz-20kHz @+14dBu			0.05 %
Internal OSC	PHONES	8Ω	-30dBFS @1kHz, phones level control .max			0.1 %

Hum & Noise EIN=Equivalent Input Noise						
input	output	RL	CONDITIONS	MIN	TYP	MAX UNITS
CH INPUT 1-8	CH OUTPUT 1-8	600Ω	GAIN=-60dB Master fader at nominal level and one Ch fader at nominal level. (Mixer mode)		-128 EIN	dBu
			GAIN=+10dB Master fader at nominal level and one Ch fader at nominal level. (Mixer mode)		-64	dBu
		600Ω	residual output noise phones level control min.		-82	dBu
-	PHONES	8Ω				-86 dBu

Idle tone      \* Hum & Noise are measured with a 6dB/octave filter @12.7kHz: equivalent to a 20kHz filter with infinite dB/octave attenuation.

input	output	CONDITIONS	MIN	TYP	MAX UNITS
CH INPUT 1-8	-	AD converter , peak@20-20kHz			-130 dB

Dynamic Range						
input	output	RL	CONDITIONS	MIN	TYP	MAX UNITS
CH INPUT 1-8	CH OUTPUT 1-8	600Ω	GAIN=+10dB		106	dB

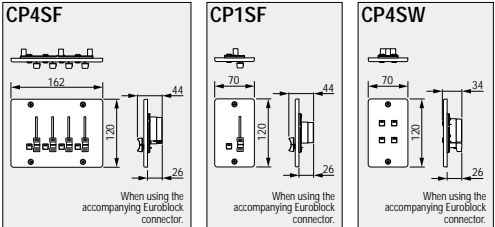
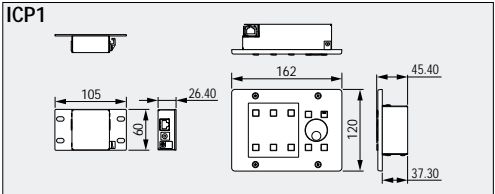
Crosstalk@1kHz      \* Dynamic range are measured with a 6dB/octave filter @12.7kHz: equivalent to a 20kHz filter with infinite dB/octave attenuation.

from/to	to/from	CONDITIONS	MIN	TYP	MAX UNITS
CH N	CH (N-1) or (N+1)	CH1-8 , adjacent inputs			-80 dB

maximum voltage gain@1kHz						
input	output	RL	CONDITIONS	MIN	TYP	MAX UNITS
CH INPUT 1-8	CH OUTPUT 1-8	600Ω	GAIN=-60dB		64	dB

Phantom Voltage						
output	CONDITIONS	MIN	TYP	MAX	UNITS	
CH 1-8 INPUT	hot, cold: No load	46	48	50	V	

Indicator turn on output level						
input	output	CONDITIONS	MIN	TYP	MAX UNITS	
CH 1-8 INPUT	CH OUTPUT 1-8	GAIN=+10dB PEAK red LED:ON	19	21	23 dBu	
		GAIN=+10dB SIGNAL green LED:ON	-18	-16	-14 dBu	



CREATING ‘KANDO’ TOGETHER

‘KANDO’ ...Inspiring the Heart and Spirit.

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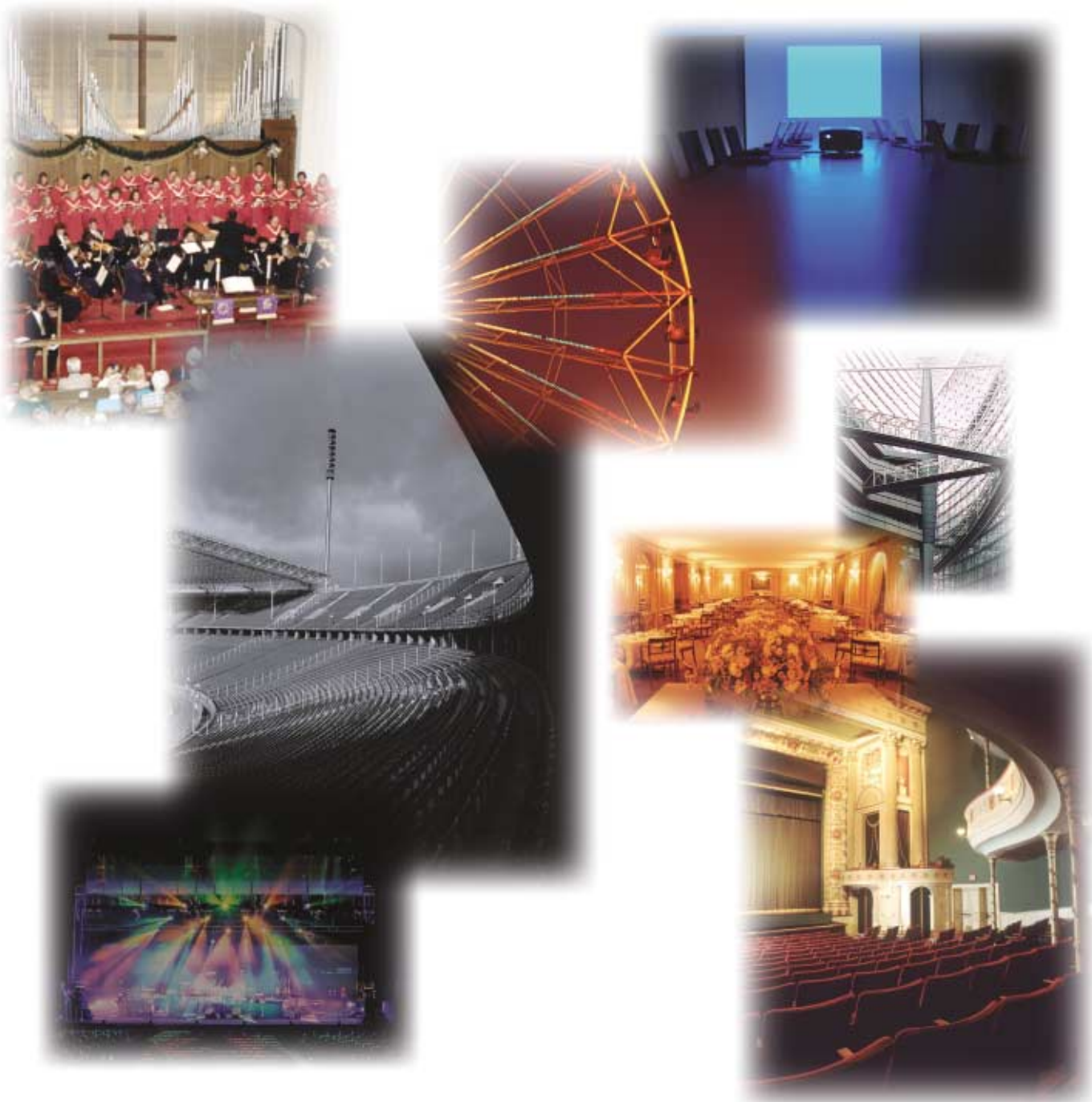


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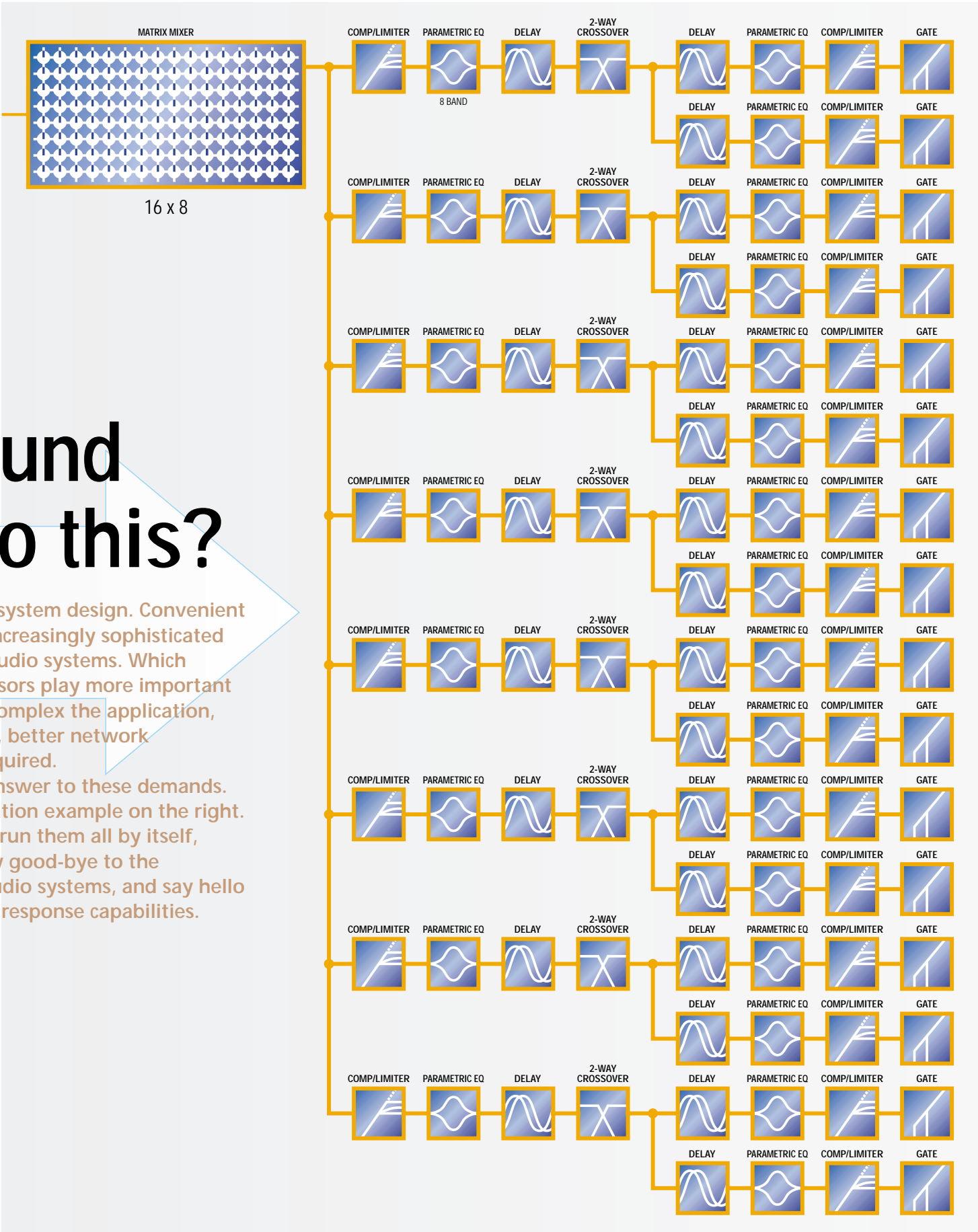
# DME64N / DME24N

## DIGITAL MIXING ENGINES

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



DSP configuration operable with one DME64N.



# 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.

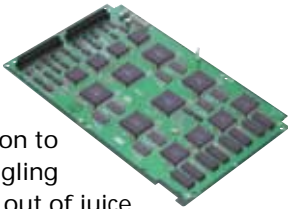
The DME64N and DME24N are Yamaha's answer to these demands. Just follow the arrow to the DSP configuration example on the right. The DME64N packs enough DSP muscle to run them all by itself, with Yamaha sound quality, of course. Say good-bye to the limitations of conventional professional audio systems,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

### 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.



# Performing Arts Centers, Houses of Worship, Theaters, Live Music Clubs

Applications requiring exceptional sound quality and versatility

## Unsurpassed sonic quality

By recognizing the endless demand for quality sound and clarity required in performing arts centers, houses of worships, 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.

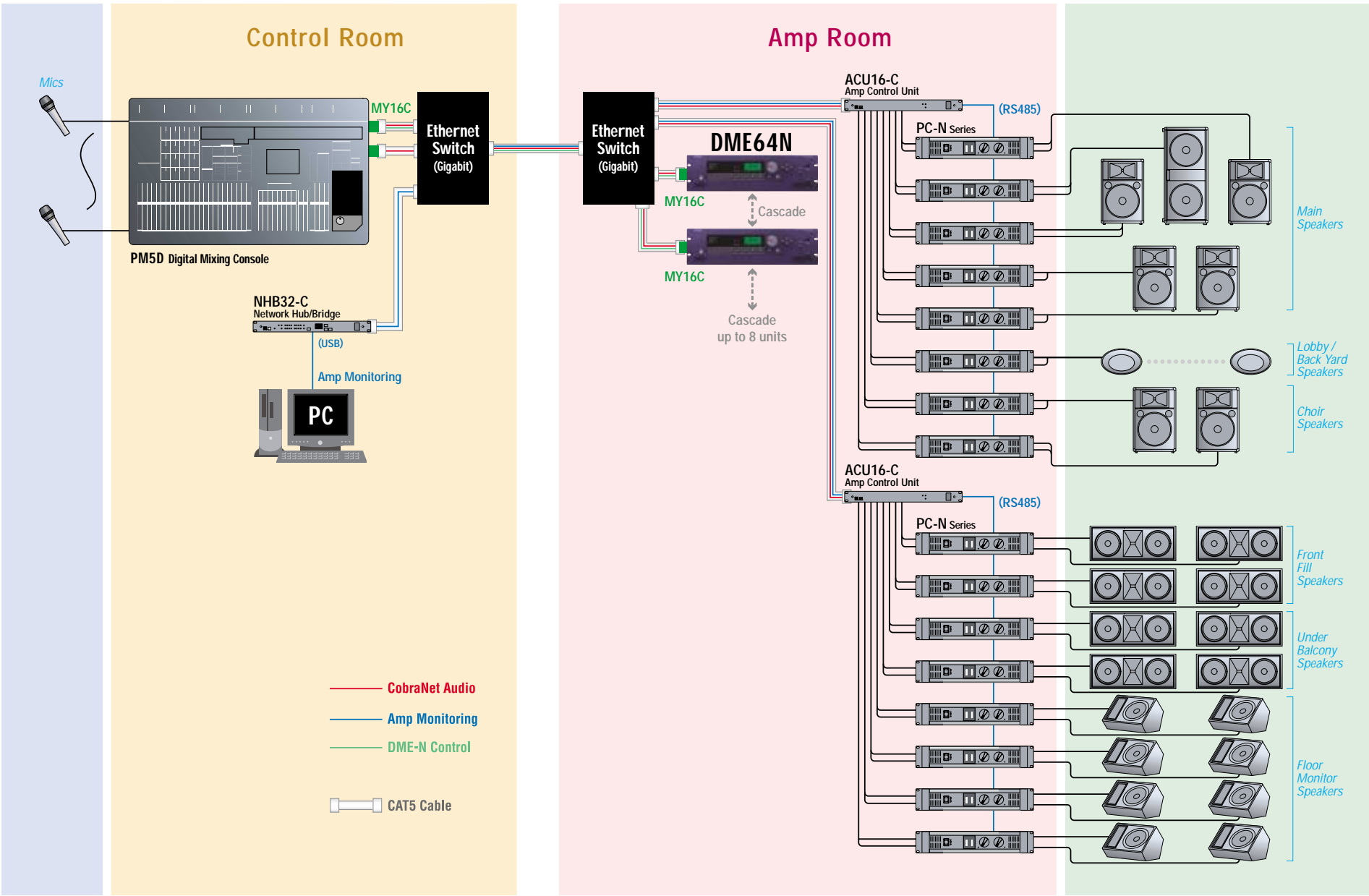
For example, the sound characteristics demanded for main speakers, monitor speakers, auxiliary speakers, front fills, and speakers for the lobby, dressing rooms, staff rooms and other locations, can be optimized individually. Up to now, such system designs and installations were time and cost consuming 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.

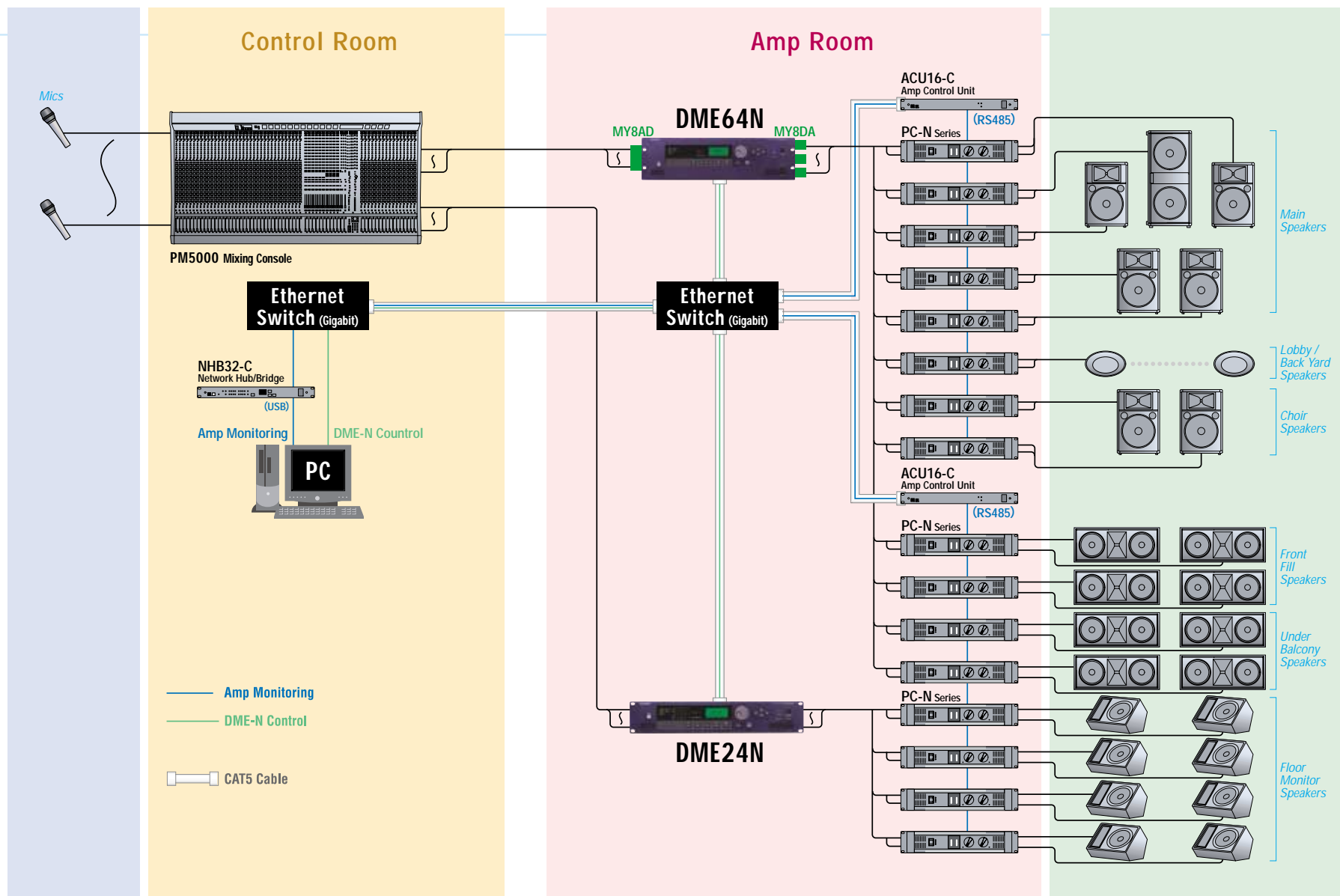


### System 1

#### Intermediate-sized theaters and churches with digital mixers

Audio signals from the PM5D Digital Mixing console located in the control room are sent from the MY16-C card to the DME64N in the amp room via CobraNet using CAT5 cable. DME64N performs speaker processing and routing of audio distribution to each ACU16-C Amplifier Control Unit. Audio output from DME64N is converted to analog signals in each ACU16-C and sent to the designated PC-N power amplifiers. DME64N is controlled directly from PM5D via CobraNet. The operation status of amps can be monitored using the PC in the control room.





## System 2

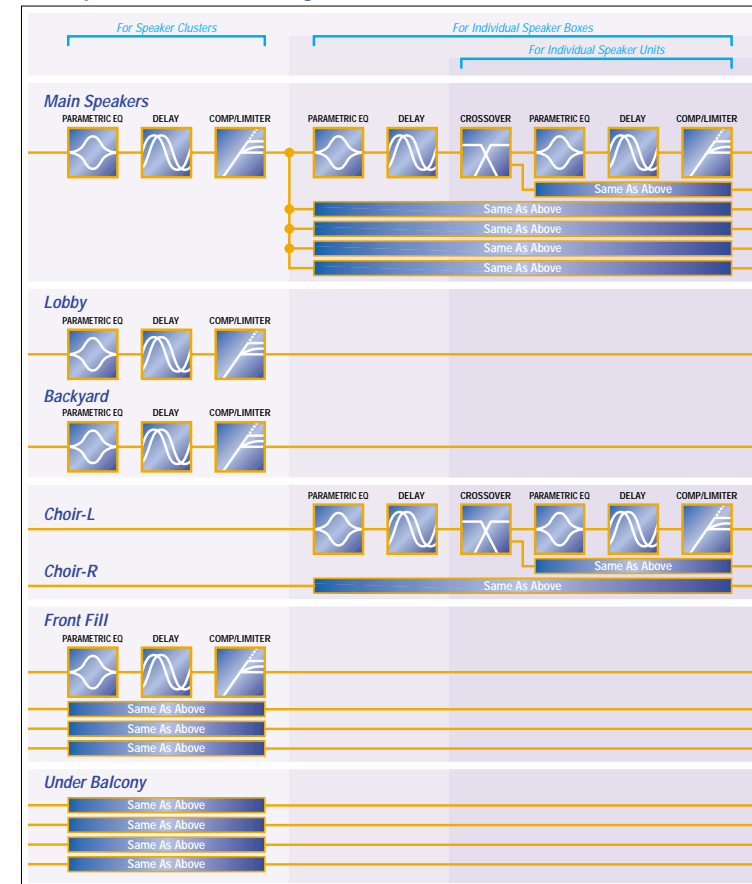
### Intermediate-sized churches and theaters with analog mixers

In this hybrid system, audio signals are transmitted in a conventional analog manner, from the PM5000 mixing console to the MY8-AD 8-channel analog input card inside DME64N, and from the MY8-DA 8-channel analog output card inside DME64N to the PC-N 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 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.

### Example: DME64N configuration.



## System 3

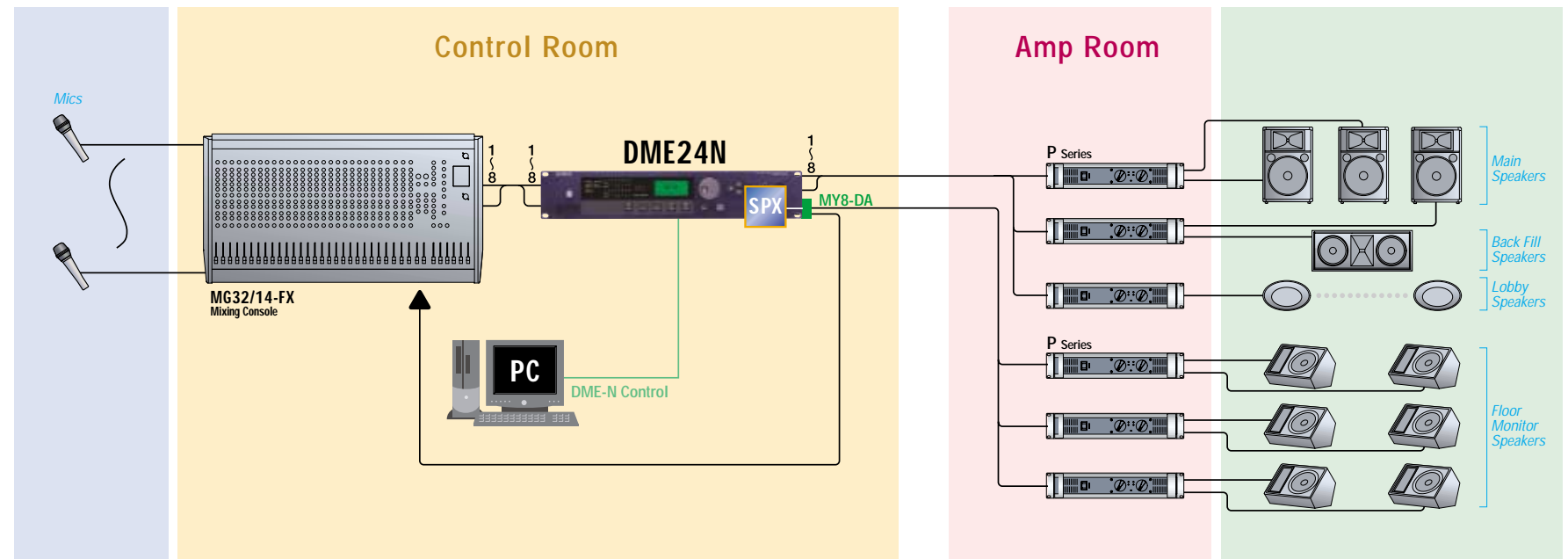
### Small churches and theaters

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 8-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.





# Sports Venues

Application requiring long-haul audio transmission and pattern change of sound system depending on event types

## 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 DMEs 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\*1 (two 100m\*1 cables via switch) by common CAT5 / 100Base-TX cabling, and up to 2 kilometers\*1 by optic fiber (as optical data). It is fast, with a constant 1.33 ms, 2.66 ms, or 5.33 ms latency\*2; 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.

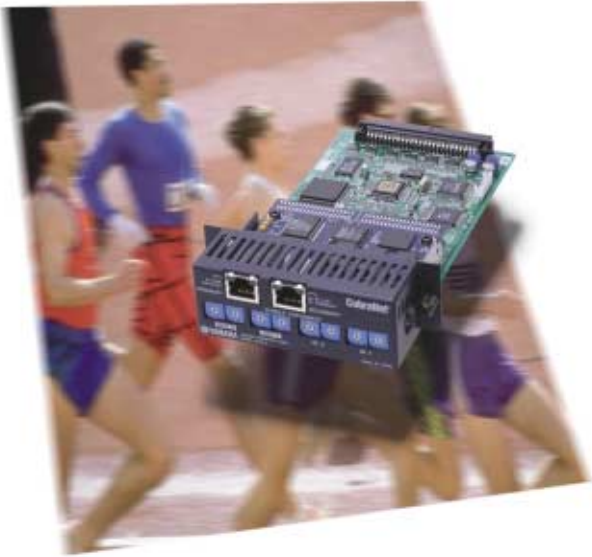
\*2. MY16-C CobraNet card is compatible with 1.33ms, 2.66ms and 5.33ms latency. NHB32-C Network HUB/Bridge and ACU16-C Amp Control Unit are currently compatible with 5.33ms latency.

## 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 DME's 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.

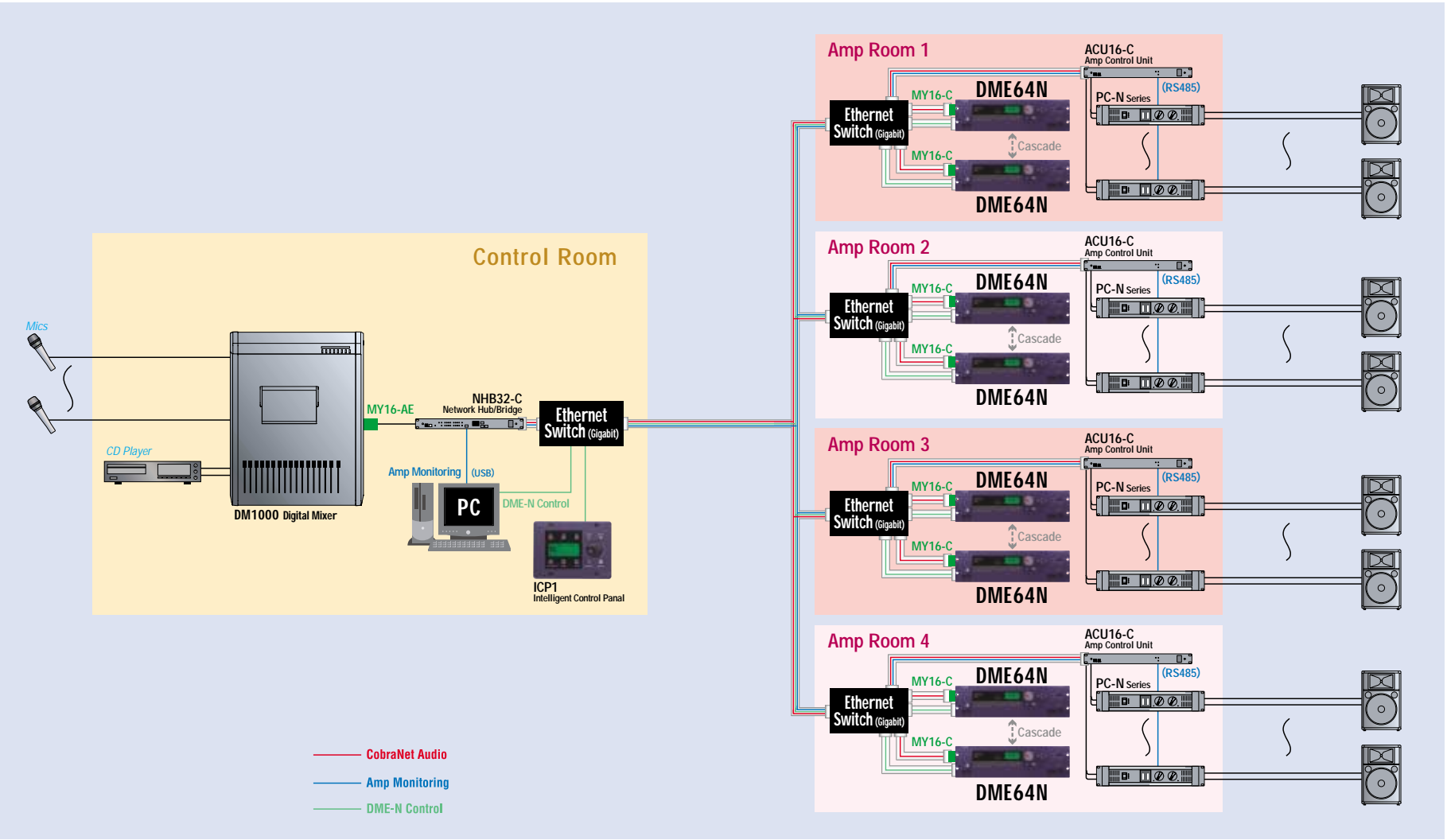


### System 4

#### Sports stadiums

A Yamaha DM1000 Digital Console is used to mix live audio from microphones and recorded background music from CDs or other sound sources, with the resulting mix output to CobraNet™ via an NHB32-C 32 I/O CobraNet Audio interface. When used with fiber optic cables, CobraNet™ can transmit digital audio over distances of up to 2 kilometers.

In this system, a DME64N and ACU16-C Amp Control Unit installed in each of the 4 amp rooms receive audio from the network. The DME64Ns perform routing and speaker processing, while the ACU16-Cs supply analog audio signals to power amplifiers. Remote control of all DNE64Ns and monitoring of amplifier drive conditions via ACU16-Cs can be performed from a remote-control room PC. Switching audio patterns in response to changes in spectator seating areas for different sporting events can be handled from the control room PC or an ICP1 Intelligent Control Panel set up close to the system operator.





# Live Mixing

Application with mixing console as the center of control.  
Application expected to minimize the time & energy needed for setup

## 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

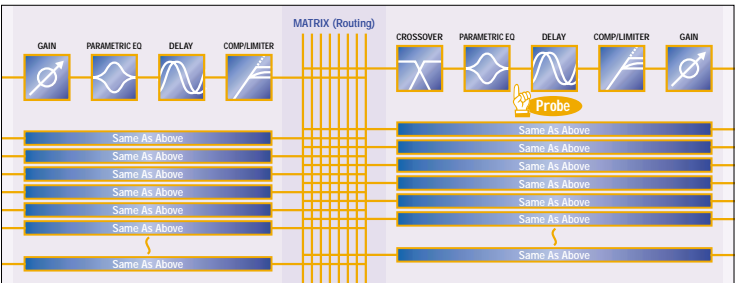
Parameters of DME64N can be controlled directly from the PM5D to realize seamless and efficient operation during live performances. DME-N control from PM5D can be made via the cascade connectors or via MY16-C. Furthermore, AD8HR (8 channel head amplifier and AD converter) can be remote controlled from PM5D, 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
- PEQ

### 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

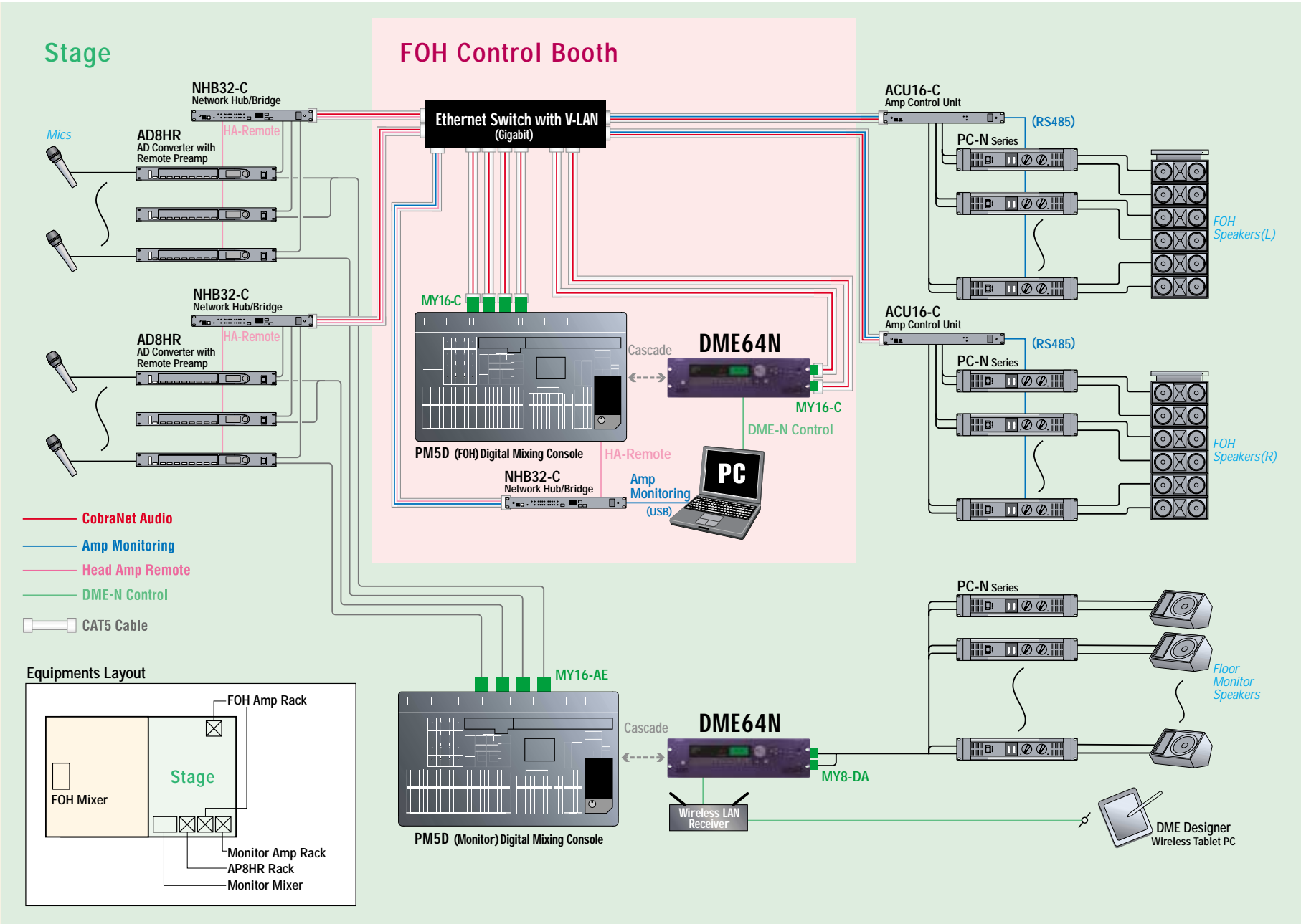
### Live mixing

AES/EBU signals from the high-accuracy AD converter AD8HR installed on the stage is fed to the PM5D at FOH via NHB32-C 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 though CobraNet to the PC-N amplifier via ACU16-C 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 DME64 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 NHB32-C) 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.

\* HA Remote and Amp Monitor cannot both be performed at the same time



# Meeting Facilities

Application requiring combination patterns of zones.  
Application that enables anyone to change patterns and make sound adjustments



ICP1

## 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 scene memories differs depending on the data size of configurations.

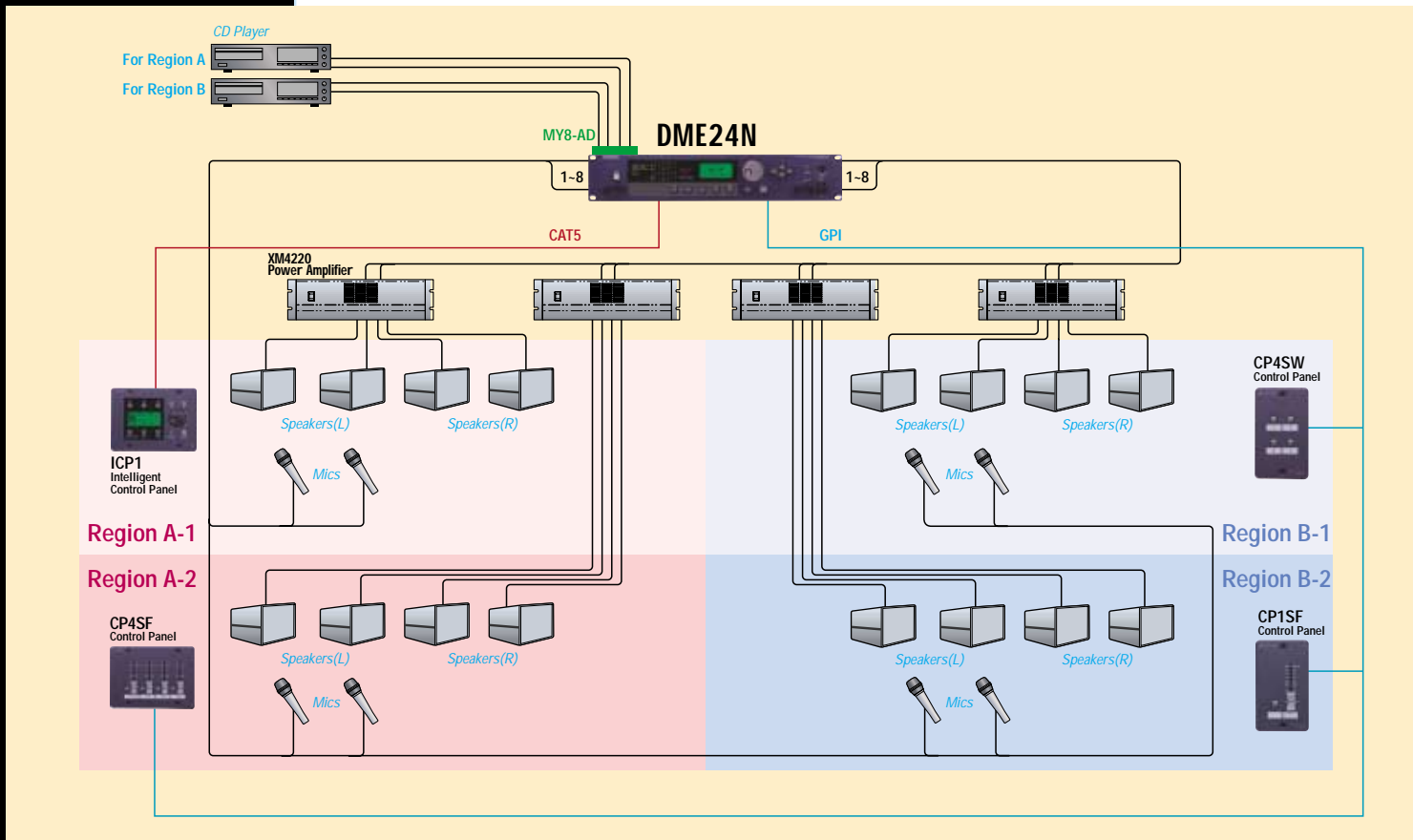
## Simple & Easy Operation for amateurs

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 CAT5 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: CP4SF with 4 faders and 4 control switches, a CP4SW 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.



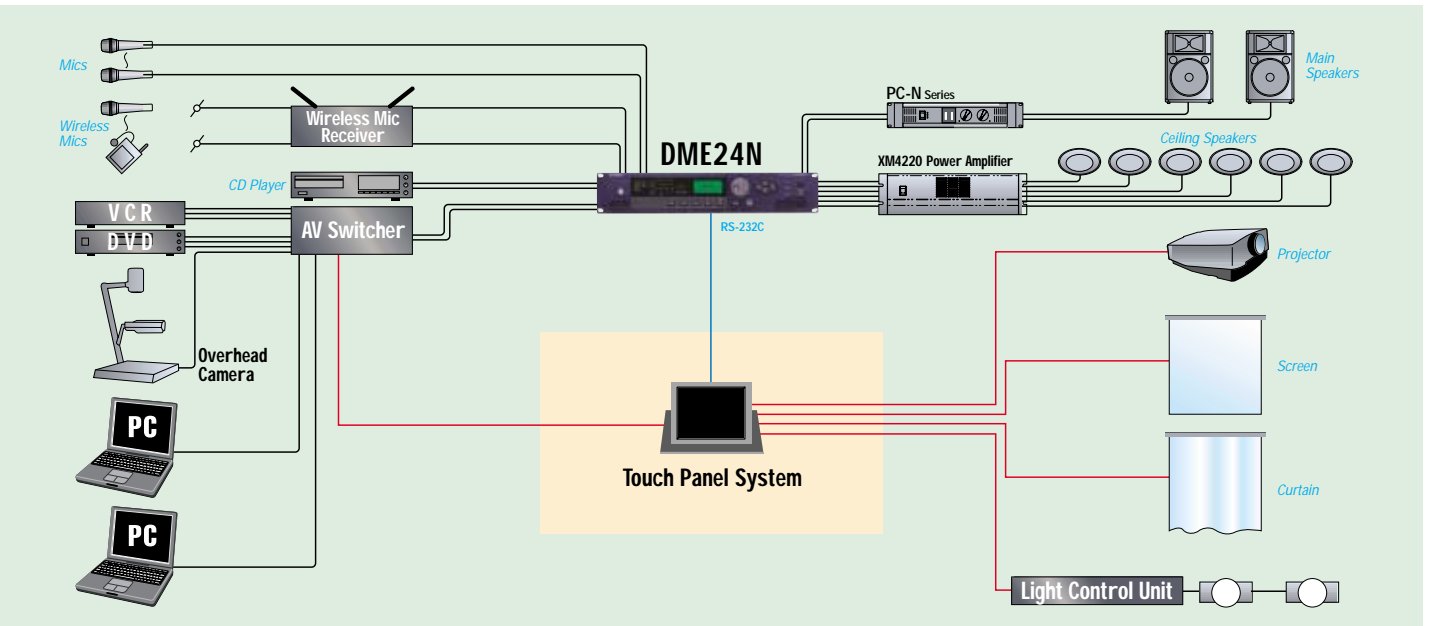
## Affordable and simple system set-up utilizing on-board 8- inputs and 8-outputs (DME24N)

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 MY-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.



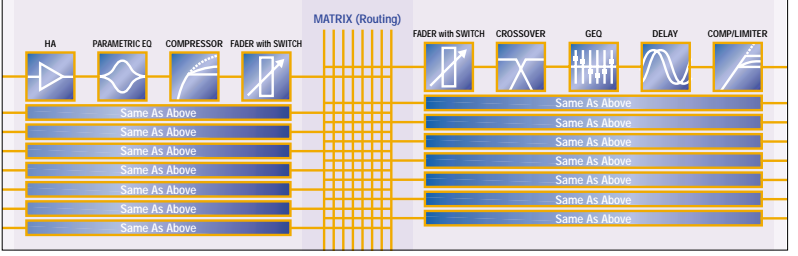
## System 6 Ballrooms

In this system, a single DME24N is used to control 4 partitionable regions — A-1, A-2, B-1, B-2. The unit's Pattern Selection function can quickly and easily offer three different partitioning configurations — the four regions partitioned, two floor areas consisting of A and B regions, and one area consisting of all 4 regions.

With this configuration, background music and microphone sound can be easily supplied to each region, with audio from different sources mixed, adjusted for tone and routed through the DME24N.

Users can remote control the DME24N from an ICP1 Intelligent Control Panel located in Region A-1 connected to the unit via Ethernet. This ICP1 can be used for pattern switching or operating any of the DME24N's component parameters. Other regions contain a CP4SF with 4 faders and 4 control switches, a CP4SW with 4 control switches and a CP1SF with 1 fader and 1 control switch allowing users to adjust background music and microphone volumes.

### Example: DME24N configuration.



## System 7 Audio-Visual Presentations

The DME24N adopts a touch panel controller as its master control unit connected via RS232 and integrated with other devices like projector, AV switcher and so on.

This system uses the DME24N to mix the multiple input sources, process the sound with the various components and perform speaker processing for each speaker for maximum sound clarity.



# Entertainment Venues

Application demanded with new and creative sound effects as well as central monitoring



## 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

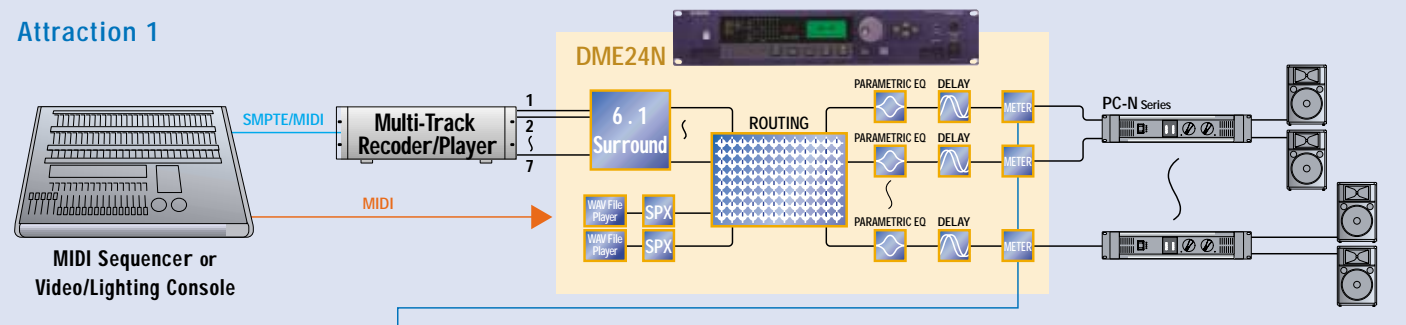
This solution allows central monitoring of each attraction's sound system via the DME-N control network, using Ethernet and the DME meter component.

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

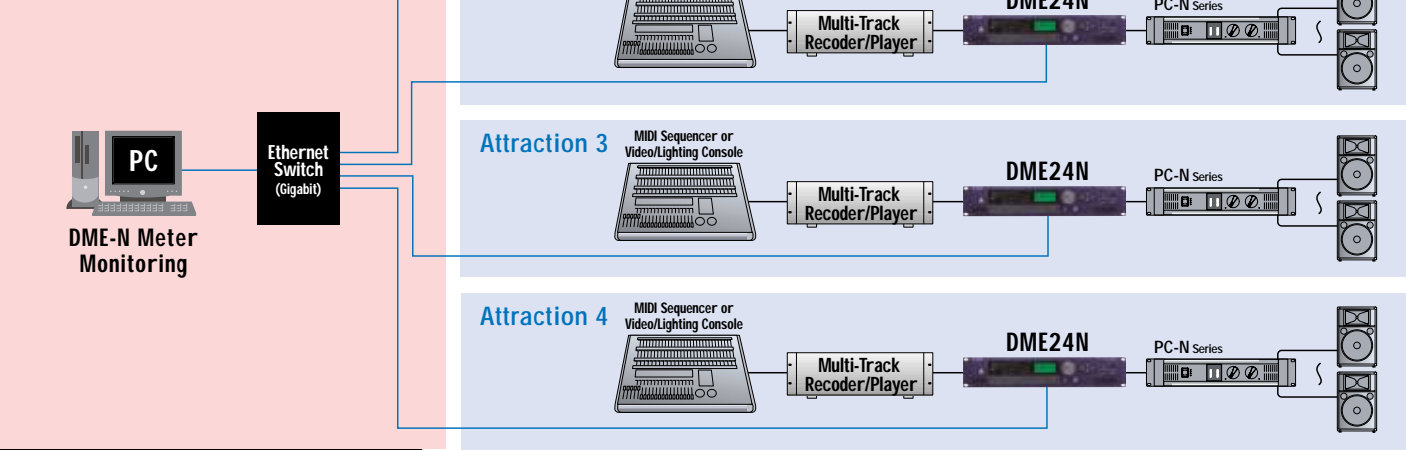
Using the Wav File Player component\* synchronized with a MIDI Sequencer or video/lighting Console, announcements stored in the unit memory can be broadcast automatically to introduce and conclude performances.

\* Planned with a future version upgrade.

#### Attraction 1



#### Central Monitor Room



# 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.

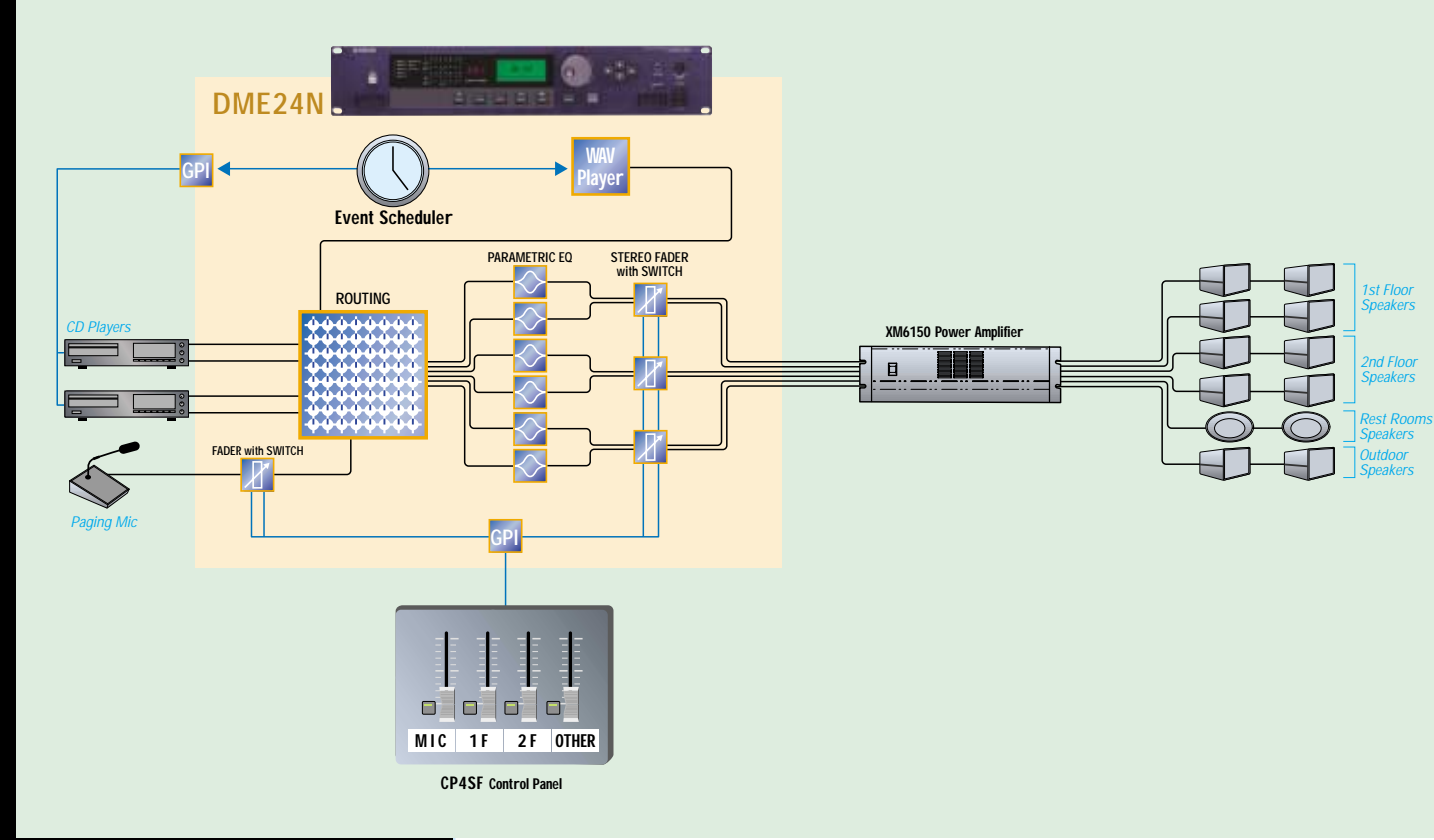
### System 9 Restaurants and retail outlets

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.







Thanks to unparalleled DSP power, the Yamaha DME64N and DME24N digital mixing engines deliver optimized audio system solutions over a wide range of applications based on a comprehensive DSP component selection to customize any audio need. Unprecedented sound quality, overwhelming DSP power, high scalability and networking compatibility — backed up by true ease of use — provide new freedom in designing audio systems for installed sound systems and live mixing.



**DSP power that rivals the Yamaha DM1000 digital mixer and expands the boundaries of configuration design**

The DME64N and DME24N offer such powerful performance compliments of Yamaha's proprietary DSP7 and DSP6 LSIs, which were designed exclusively for audio processing. The DME64N features processing power to rival Yamaha's highly acclaimed DM1000 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 DMEs 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 24bit/ 96KHz operation with newly developed head amplifiers onboard. Just one more reason the best sound in the world comes from Yamaha.

**Note:** Configurations that are be created at 48kHz operation will be half the size of the same configuration created at 96kHz operation

**Exceptional I/O flexibility and expandability. Cascade 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-precision A/D and D/A cards with up to 8 I/Os, as well as AES/EBU-, ADAT-, and TASCAM-compliant digital I/O cards with 16 I/Os. Thanks to these YGDAI slots, the DME64N and DME24N offer additional support for I/Os over a wide range of audio formats.

As a result, the DME64N can support up to 64 input and 64 output channels with 4 MY card slots. The DME24N accommodates up to 24 x 24 — with 8 analog inputs and 8 analog outputs onboard, plus one MY card slot. In addition, up to 8 DME64N devices can be cascaded to support large-scale applications, providing a maximum of 512 inputs/512 outputs with digital I/O MY cards and 128 inputs/128 outputs with analog I/O MY-cards.

**DME24N rear panel features 8 analog input and 8 analog output terminals**

The DME24N's rear panel features 8 mic/line 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.

**MY16-C mini-YGDAI I/O card ensures CobraNet™ compatibility**

With the addition of the new 16-I/O MY16-C card that supports the CobraNet™ advanced digital audio network, Yamaha's mini-YGDAI card portfolio now offers a broader range of digital format I/O cards. These cards enable network construction with other CobraNet™-compliant products - including the NHB32C network hub and bridge and the ACU16C amp control unit. The DME64N can support up to 2 MY 16-C cards. The DME24N, one.

**Control Network via Ethernet**

Up to 16 DME64N, DME24N and ICP1 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 interfaces for use with different units. The DME64N has 16 in and 16 out GPI ports to link with installed sound systems and other equipment. The DME24N has 8 I/O. What's more, both include RS232C / 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**

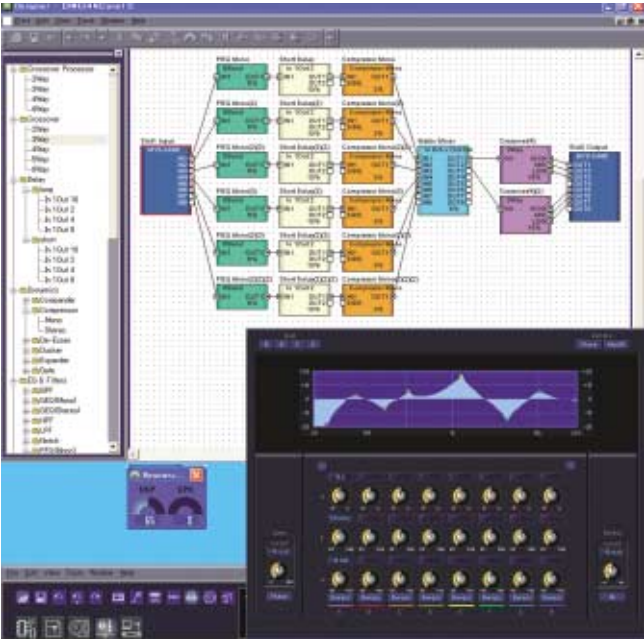
Both DME64N and DME24N offer outstanding ease of operation thanks to their large, easy-to-read backlit LCD displays and comprehensive clusters of front panel controls — LED status indicators, jog wheel and SCENE, Home and Utility keys. A monitoring headphone jack with phone level control is standard. 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 ICP1 intelligent control panel can display names for scenes and function keys in 5 languages — Japanese, English, French, German and Spanish. And all 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.

Compatible OS: Windows® XP Professional, XP Home Edition, Windows 2000 Professional

**Dedicated software for detailed DME operation and programming**  
Yamaha's dedicated DME Designer software bundled with the DME64N or DME24N is used to program these units' powerful DSPs. By giving users the freedom to combine a broad spectrum of audio processing components, this software can produce audio configurations "made to order" for any and all applications.

**Create configurations with drag-and-drop**  
Configurations combining and connecting components are created on DME Designer with a logical, straightforward graphic user interface similar to CAD applications. Its simple, yet advanced, operating techniques let users select components, connect lines and handle related tasks with drag-and-drop and other standard methods. What's more, DME Designer supports output of configuration data in dxf format importable to popular CAD software.

**Central management of multiple mixing engines for more than 16 zone control**  
DME Designer can incorporate a total of 16 DME64N, DME24N and ICP1 units in a single zone, and open more than 16 zone windows simultaneously. You can store/recall each zone set-up as a scene containing multiple DME64N, DME24N and ICP1s, with individual parameter values for each DSP component, combined with a DSP configuration, and word clock setup. You can store/recall a maximum of 999 scenes\*2. Created Scenes can be uploaded to the DME unit for operation using the DME alone without the connection of a PC.

\*1: Maximum number of configurations that can be stored in memory on one DME unit may differ depending on data size.  
\*2: Maximum scene memory differs depending on the size of configuration data. Maximum 16 configurations.

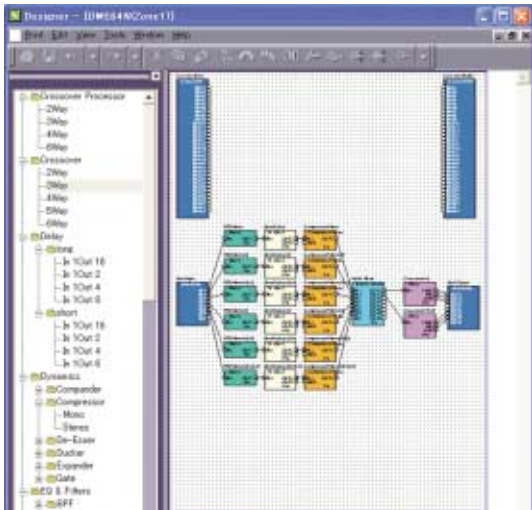
**Simple, 3-Window Operation with Snap Shot Function**  
DME Designer is designed with 3 primary windows. The Main Window enables users to perform operations such as scene recall and preference settings. The Designer Window is used to create configurations for each DME64N, DME24N and ICP1. And the Component 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.



Main Window



Component Window



Designer Window



Resource Meter Window

## Diverse array of built-in components

The DME64N and DME24N provide support for a wide range of sound control components and effects. Crossover Processor, Crossover, Delay, Compander, Compressor, De Esser, Ducker, Expander, Gate, GEQ 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 Mixer 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 Fader components.

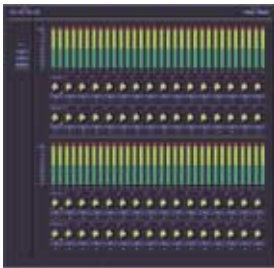


**Gain Trim**  
Gain Trim allows remote operation of the AD8HR AD converter with a preamp from the DME64N or DME24N. Both units enable control of AD8HR mic pre-amps in 1dB steps, high-pass filters and phantom power supply ON/OFF switching.

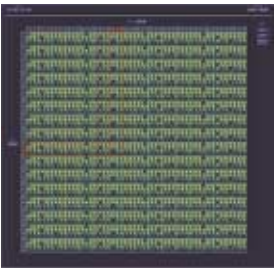
AD8HR



Input Master



Output Master



64 x 64

**Matrix Mixer**  
The Matrix Mixer allows large-scale matrix mixing of up to 64X64. 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 single component.



GEQ



3-1



5.1



6.1

**Surround 3-1, 5.1 and 6.1**  
These components support 3-1, 5.1 and 6.1 surround processing.



PEQ8

**Equalizer**  
Features a variety of equalizers, including the graphic equalizer (mono/stereo 7, 15 and 31 band) and parametric equalizer (mono/stereo 2, 3, 4, 6 and 8 band). The Snap Shot feature — that allows users to store 4 parameter sets for on-demand comparative listening — is particularly effective in making acoustic adjustments with equalizers.

**SPX Effecters\***  
The effects built into the DME64N and DME24N are equivalent to those of Yamaha's acclaimed SPX2000 Professional Multi-Effect Processor. This feature will enjoy widespread use in applications from live mixing to music production.  
\* Planned with future version upgrade

**WAV File Player\***  
This component allows playback of wav format audio files. Memory size is 1 minute or more for 44.1kHz audio data(mono). (Playback time differs depending on configuration data size.)  
\* Planned with future version upgrade

**Event Scheduler\***  
Event Scheduler lets users set event schedules with its calendar and timer functions, and triggers other components like the WAV File Player and GPI transmission, which can be used to control external devices.  
\* Planned with future version upgrade



User Control



**User Component feature for unrestricted component combinations**  
The 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 end 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 of 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 DME via the headphone jack with built-in oscillator.

Component List

Crossover Processor	Crossover Processor	2-Way	De-Esser	Mono	Meter	12 Channels	Pan	Matrix Mixer	64 Input / 64 Output	
	Crossover Processor	3-Way	De-Esser	Stereo	Meter	16 Channels		Pan-LCR	1 Channel	
	Crossover Processor	4-Way	Ducker	Mono	Miscellaneous	Oscillator		Pan-LCR	2 Channels	
	Crossover Processor	5-Way	Ducker	Stereo		Gain Trim		Pan-LCR	4 Channels	
	Crossover Processor	6-Way	Expander	Mono		Gain Trim		Pan-LCR	8 Channels	
Crossover	Crossover 12dB/Oct	2-Way	EQ	Expander	Stereo	2 Channels	Pan-LCR	16 Channels		
	Crossover 24dB/Oct	2-Way		Gate	Mono	4 Channels	Pan-LR	1 Channel		
	Crossover 36dB/Oct	2-Way		Gate	Stereo	8 Channels	Pan-LR	2 Channels		
	Crossover 48dB/Oct	2-Way		GEO-Mono	7 Bands	12 Channels	Pan-LR	4 Channels		
	Crossover 12dB/Oct	3-Way		GEO-Mono	15 Bands	Delay Matrix Mixer	2 Inputs / 2 Outputs	Pan-LR	8 Channels	
	Crossover 24dB/Oct	3-Way		GEO-Mono	31 Bands	Delay Matrix Mixer	2 Inputs / 4 Outputs	Pan-LR	12 Channels	
	Crossover 36dB/Oct	3-Way		GEO-Stereo	7 Bands	Delay Matrix Mixer	2 Inputs / 8 Outputs	Pan-LR	16 Channels	
	Crossover 48dB/Oct	3-Way		GEO-Stereo	15 Bands	Delay Matrix Mixer	2 Inputs / 12 Outputs	Surround	3-1	
	Crossover 12dB/Oct	4-Way		GEO-Stereo	31 Bands	Delay Matrix Mixer	2 Inputs / 16 Outputs	Surround	5.1	
	Crossover 24dB/Oct	4-Way		PEQ-Mono	2 Bands	Delay Matrix Mixer	4 Inputs / 2 Outputs	Surround	6.1	
	Crossover 36dB/Oct	4-Way		PEQ-Mono	3 Bands	Delay Matrix Mixer	4 Inputs / 4 Outputs	Router	1 Input / 2 Outputs	
	Crossover 48dB/Oct	4-Way		PEQ-Mono	4 Bands	Delay Matrix Mixer	4 Inputs / 8 Outputs	Router	1 Input / 4 Outputs	
	Crossover 12dB/Oct	5-Way		PEQ-Mono	6 Bands	Delay Matrix Mixer	4 Inputs / 12 Outputs	Router	1 Input / 8 Outputs	
	Crossover 24dB/Oct	5-Way		PEQ-Mono	8 Bands	Delay Matrix Mixer	4 Inputs / 16 Outputs	Router	1 Input / 12 Outputs	
	Crossover 36dB/Oct	5-Way		PEQ-Stereo	2 Bands	Delay Matrix Mixer	8 Inputs / 2 Outputs	Router	1 Input / 16 Outputs	
	Crossover 48dB/Oct	5-Way		PEQ-Stereo	3 Bands	Delay Matrix Mixer	8 Inputs / 4 Outputs	Router	2 Inputs / 2 Outputs	
	Crossover 12dB/Oct	6-Way		PEQ-Stereo	4 Bands	Delay Matrix Mixer	8 Inputs / 8 Outputs	Router	2 Inputs / 4 Outputs	
	Crossover 24dB/Oct	6-Way		PEQ-Stereo	6 Bands	Delay Matrix Mixer	8 Inputs / 12 Outputs	Router	2 Inputs / 8 Outputs	
	Crossover 36dB/Oct	6-Way		PEQ-Stereo	8 Bands	Delay Matrix Mixer	8 Inputs / 16 Outputs	Router	2 Inputs / 12 Outputs	
	Crossover 48dB/Oct	6-Way		Fader	Fader with ON/OFF	1 Channel	Matrix Mixer	2 Inputs / 1 Output	Router	2 Inputs / 16 Outputs
Delay	Delay-Long	1 Output	Fader with ON/OFF	2 Channels	Matrix Mixer	2 Inputs / 2 Outputs	Router	4 Inputs / 2 Outputs		
	Delay-Long	2 Outputs	Fader with ON/OFF	4 Channels	Matrix Mixer	4 Inputs / 1 Output	Router	4 Inputs / 4 Outputs		
	Delay-Long	3 Outputs	Fader with ON/OFF	8 Channels	Matrix Mixer	4 Inputs / 2 Outputs	Router	4 Inputs / 8 Outputs		
	Delay-Long	4 Outputs	Fader with ON/OFF	16 Channels	Matrix Mixer	4 Inputs / 4 Outputs	Router	4 Inputs / 12 Outputs		
	Delay-Long	5 Outputs	Filter	BPF	Mono	Matrix Mixer	8 Inputs / 1 Output	Router	4 Inputs / 16 Outputs	
	Delay-Long	6 Outputs		BPF	Stereo	Matrix Mixer	8 Inputs / 2 Outputs	Router	8 Inputs / 2 Outputs	
	Delay-Long	7 Outputs		HPF	Mono	Matrix Mixer	8 Inputs / 4 Outputs	Router	8 Inputs / 4 Outputs	
	Delay-Long	8 Outputs		HPF	Stereo	Matrix Mixer	8 Inputs / 8 Outputs	Router	8 Inputs / 8 Outputs	
	Delay-Short	1 Outputs		LPF	Mono	Matrix Mixer	12 Inputs / 1 Output	Router	8 Inputs / 12 Outputs	
	Delay-Short	2 Outputs		LPF	Stereo	Matrix Mixer	12 Inputs / 2 Outputs	Router	8 Inputs / 16 Outputs	
	Delay-Short	3 Outputs		Notch	Mono	Matrix Mixer	12 Inputs / 4 Outputs	Router	12 Inputs / 2 Outputs	
	Delay-Short	4 Outputs		Notch	Stereo	Matrix Mixer	12 Inputs / 8 Outputs	Router	12 Inputs / 4 Outputs	
	Delay-Short	5 Outputs		Programmable BPF	Mono	Matrix Mixer	12 Inputs / 12 Outputs	Router	12 Inputs / 8 Outputs	
	Delay-Short	6 Outputs		Programmable BPF	Stereo	Matrix Mixer	16 Inputs / 1 Output	Router	12 Inputs / 12 Outputs	
	Delay-Short	7 Outputs	Programmable HPF	Mono	Matrix Mixer	16 Inputs / 2 Outputs	Router	12 Inputs / 16 Outputs		
	Delay-Short	8 Outputs	Programmable HPF	Stereo	Matrix Mixer	16 Inputs / 4 Outputs	Router	16 Inputs / 2 Outputs		
	Dynamics	Compander Hard	Mono	Programmable LPF	Mono	Matrix Mixer	16 Inputs / 8 Outputs	Router	16 Inputs / 4 Outputs	
		Compander Hard	Stereo	Programmable LPF	Stereo	Matrix Mixer	16 Inputs / 12 Outputs	Router	16 Inputs / 8 Outputs	
		Compander Soft	Mono	Meter	Meter	1 Channel	Matrix Mixer	16 Inputs / 16 Outputs	Router	16 Inputs / 12 Outputs
		Compander Soft	Stereo		Meter	2 Channels	Matrix Mixer	32 Inputs / 16 Outputs	Router	16 Inputs / 16 Outputs
Compressor		Mono	Meter		4 Channels	Matrix Mixer	32 Inputs / 32 Outputs			
Compressor		Stereo	Meter		8 Channels	Matrix Mixer	64 Inputs / 32 Outputs			

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

Wall-Mount Remote Control Panels



Intelligent Control Panel ICP1



The ICP1 intelligent control panel features controls virtually identical to those on the DME64N/DME24N front panels, giving operators remote control capabilities for both DMEs. 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 assignable 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 DME Designer software.



Control Panel CP4SF

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



Control Panel CP4SW

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



Control Panel CP1SF

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



16-Channel CobraNet™ Interface Card MY16-C



The MY16-C is a CobraNet™-compliant mini-YGDAI card for use in the optional DME64N and DME24N 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 msec. The DME64N can handle up to 2 MY16-C Cards.



# Digital Mixing Consoles

## PM5D-RH



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 24bit/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 + 8 Matrixes. They also feature 4

## Power Amplifiers



PC9500N



PC9500N REAR PANEL

## Amplifier Control Unit



REAR PANEL

## Network Hub and Bridge



REAR PANEL

# PM5D



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.

## PC-N Series

**PC9500N** 925W + 925W [at 8 Ω] (US, Australia) / 950W + 950W [at 8 Ω] (EU)  
**PC4800N** 475W + 475W [at 8 Ω] (US, Australia) / 450W + 450W [at 8 Ω] (EU)

Yamaha's PC9500N and PC4800N amplifiers feature excellent linear 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. What'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.

## 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 NetworkAmp Manager software lets users control and monitor up to 32 PC-N amplifier units.

## 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



REAR PANEL

## A/D Converter with Remote Preamplifier



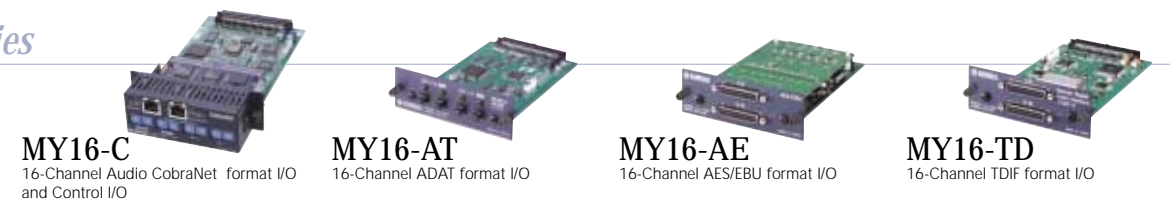
REAR PANEL

## D/A Converter

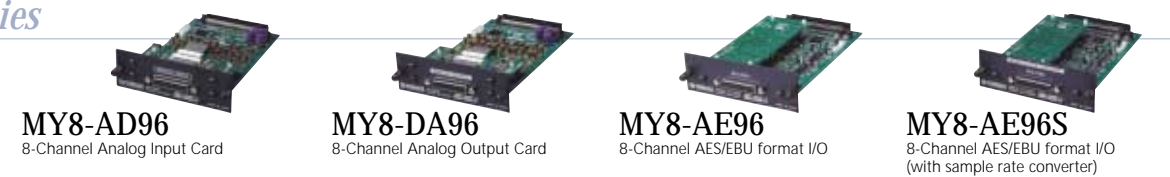


## Mini-YGDAI Cards

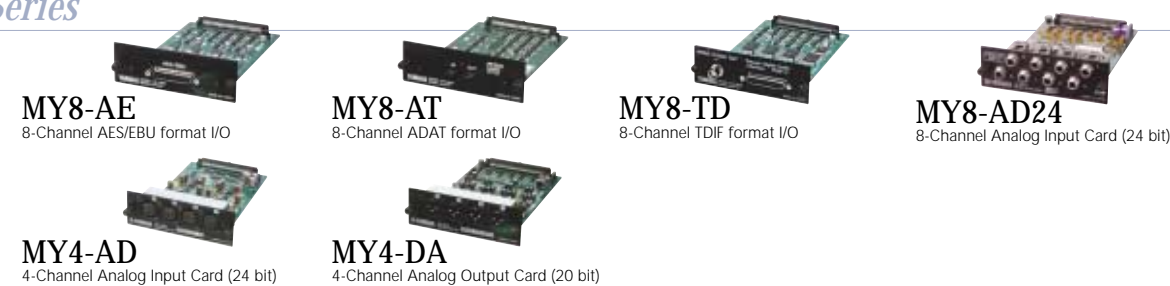
### 16 I/O Series



### 96 kHz Series



### Standard Series



# MLA8

The MLA8 mic/line amplifier is an 8-channel preamplifier featuring unparalleled articulation and sound quality descended from Yamaha's internationally acclaimed DM2000 digital mixing console. It not only offers such practical features as PAD, HPF and PHANTOM, but packs them into the compact convenience 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 MY8-AD96 8-channel mini-YGDAI A/D card — for maximum affinity with Yamaha digital mixers.

# 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 2x 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.

# 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 and TASCAM digital formats.

DME64N has 4 mini-YGDAI card slots, the DME24N one. Each slot offers up to 16 I/O channels, with mini-YGDAI cards available for digital I/O in ADAT, TASCAM or AES/EBU formats, or for extra analog I/O capability at standard or higher sampling rates.