

**AudiaEXPI
&
AudiaEXPO**

Input & Output Expanders

Operation Manual

AudiaEXPI & AudiaEXPO

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INTRODUCTION

AudiaEXPI is an input expander for AUDIA[®], the benchmark in digital audio systems for demanding professional sound installations. AudiaEXPI accepts eight mic/line analog audio inputs and provides eight channels of digital audio output via CobraNet[®]. AudiaEXPI can simply add inputs to a centralized system, or it can extend system boundaries by providing inputs in remote locations. AudiaEXPI is represented as a block in AUDIA software, for easy inclusion into any system design. AudiaEXPI may also be used to provide inputs to other CobraNet compliant systems or devices.

AudiaEXPI features include:

- ◆ 8 mic/line analog inputs on plug-in barrier strips
- ◆ front panel input level controls and peak indicators
- ◆ 24-bit A/D converters with 48kHz sample rate
- ◆ 8 channels of digital audio output via CobraNet
- ◆ rotary encoder with LCD for programming/setup
- ◆ included as block in AUDIA system design software
- ◆ may be used with any CobraNet compliant system
- ◆ **CE** marked and **UL** listed power source

AudiaEXPO is an output expander for AUDIA[®], the benchmark in digital audio systems for demanding professional sound installations. AudiaEXPO accepts eight channels of digital audio input via CobraNet[®] and provides eight line-level analog audio outputs. AudiaEXPO can simply add outputs to a centralized system, or it can extend system boundaries by providing outputs in remote locations. AudiaEXPO is represented as a block in AUDIA software, for easy inclusion into any system design. AudiaEXPO may also be used to provide outputs from other CobraNet compliant systems or devices.

AudiaEXPO features include:

- ◆ 8 channels of digital audio input via CobraNet
- ◆ 24-bit D/A converters with 48kHz sample rate
- ◆ 8 line-level analog outputs on plug-in barrier strips
- ◆ front panel adjustable analog output level controls
- ◆ rotary encoder with LCD for programming/setup
- ◆ included as block in AUDIA system design software
- ◆ may be used with any CobraNet compliant system
- ◆ **CE** marked and **UL** listed power source

AudiaEXPI - Front & Rear Panels



Peak Indicators (Inputs 1-8): These red LEDs will light whenever input channel signal levels reach +14dB (6dB below clipping). Use this feature to aid in the adjustment of the Trim controls (see below).

Trims (Inputs 1-8): These screw-driver adjustable controls set the channel input gain (0dB ~ +60dB) to compensate for different source levels. This gain range will accommodate most microphone or line level signals. For best performance, adjust these controls so the channel Peak Indicators flash only on occasional peaks.

Rotary Encoder & LCD Display: This control and display are used for initial setup of the AudiaEXPI unit. When power is first applied to the unit, the display will cycle through a product description, followed by a title screen. Press the control to enter setup. Rotate the control to make a selection, then press the control again to edit that selection. Additional levels of selection may be available using this same routine. Some edits will require a choice of 'OK' or 'CANCEL'. Some selections are only informational, and cannot be edited. Select 'BACK' to return to a previous level, and select '→' to advance. Primary selections are as follows: BUNDLE NUMBER (CobraNet bundle number to logic input assignments); COBRANET LATENCY (dependent upon CobraNet firmware); PHANTOM POWER (assigns phantom power to inputs); PASSWORD PROTECT (prohibits unauthorized tampering); TITLE DISPLAY (personalized: 2 lines with 8 characters each); ABOUT (serial#, version#, and Ethernet address information).



Mic/Line Inputs: These eight mic/line analog audio inputs are provided on balanced plug-in barrier-strip connectors. For unbalanced input, wire high to (+) and ground to both (-) & (▼). For use with condenser microphones, +48 volt phantom power is available at these inputs (see Rotary Encoder above).

Logic Inputs: These eight Logic Inputs allow remote control of CobraNet bundle number assignment (see CobraNet below). Bundle numbers can be assigned to Logic Inputs using the front panel Rotary Encoder (see above), and can then be selected via external contact-closures (wired from the corresponding logic inputs to ground). Bundle numbers are used to route digital audio signals to specific devices in a system network.

CobraNet: These two RJ45 connectors provide the CobraNet digital audio interface. CobraNet allows multiple AUDIA units to share digital audio (and DSP resources) on a system network. This also allows AUDIA units to be used with CobraNet compliant devices from other manufacturers. A 10/100Base-T Ethernet switch (not hub) is required when networking multiple units. The maximum distance between any unit and an Ethernet switch is 100 meters. Additional Ethernet switches, or even fiber-optics, can be used to further extend distances between units on a system network. The primary and secondary CobraNet ports are redundant. CobraNet supports 64 channels of digital audio (32-in & 32-out) over Fast Ethernet, using CAT-5 cable. CobraNet transmits (32) channels of digital audio on (4) 'bundles' of (8) channels each. The same is true for receiving digital audio over CobraNet. Bundle numbers are used to determine where digital audio is transmitted and received. Typically, 'unicast' bundle numbers (256-61,439) are used to exchange digital audio between two specific devices. With 'unicast' bundles, each CobraNet device can transmit to no more than (4) other devices within a network. With 'multicast' bundle numbers (1-255), digital audio can be exchanged with multiple devices. Due to network delay, CobraNet has a limitation of seven (7) 'hops' (one-way transmissions) within a network.

In order to integrate AudiaEXPI into a AUDIA system, an EXPI (or CobraNet) input block must first be placed into the design layout. AUDIA units intended to receive digital audio from the AudiaEXPI must have their CobraNet jacks connected to the same network. Both the AudiaEXPI unit (hardware) and the EXPI input block (software) must be assigned matching bundle numbers, before digital audio can be successfully exchanged. AudiaEXPI bundle number assignment can be changed in real-time to allow routing of digital audio to different EXPI input blocks within the system. CobraNet Latency settings must be identical in all devices, system-wide. Also, unicast and multicast bundle numbers can be used to route digital audio to individual or multiple EXPI input blocks. Similar considerations may also apply when using AudiaEXPI with other CobraNet compliant systems or devices. AudiaEXPI and AudiaEXPO can exchange digital audio directly (outside of a system network) using either a simple 'cross-over' CAT5 cable or an Ethernet switch.

AudiaEXPO - Front & Rear Panels



Levels (Outputs 1-8): These screw-driver adjustable controls set the channel output gain (-70dB ~ 0dB) to provide appropriate signal levels to any subsequent audio equipment.

Rotary Encoder & LCD Display: This control and display are used for initial setup of the AudiaEXPI unit. When power is first applied to the unit, the display will cycle through a product description, followed by a title screen. Press the control to enter setup. Rotate the control to make a selection, then press the control again to edit that selection. Additional levels of selection may be available using this same routine. Some edits will require a choice of 'OK' or 'CANCEL'. Some selections are only informational, and cannot be edited. Select 'BACK' to return to a previous level, and select '→' to advance. Primary selections are as follows: BUNDLE NUMBER (CobraNet bundle number to logic input assignments); COBRANET LATENCY (dependent upon CobraNet firmware); PASSWORD PROTECT (prohibits unauthorized tampering); TITLE DISPLAY (personalized: 2 lines with 8 characters each); ABOUT (serial#, version#, and Ethernet address information).



Line Outputs: These eight line-level analog audio outputs are provided on balanced plug-in barrier-strip connectors. For unbalanced output, wire high to (+) and ground to (▼), leaving (-) un-connected.

Logic Inputs: These eight Logic Inputs allow remote control of CobraNet bundle number assignment (see CobraNet below). Bundle numbers can be assigned to Logic Inputs using the front panel Rotary Encoder (see above), and can then be selected via external contact-closures (wired from the corresponding logic inputs to ground). Bundle numbers are used to route digital audio signals to specific devices in a system network.

CobraNet: These two RJ45 connectors provide the CobraNet digital audio interface. CobraNet allows multiple AUDIA units to share digital audio (and DSP resources) on a system network. This also allows AUDIA units to be used with CobraNet compliant devices from other manufacturers. A 10/100Base-T Ethernet switch (not hub) is required when networking multiple units. The maximum distance between any unit and an Ethernet switch is 100 meters. Additional Ethernet switches, or even fiber-optics, can be used to further extend distances between units on a system network. The primary and secondary CobraNet ports are redundant. CobraNet supports 64 channels of digital audio (32-in & 32-out) over Fast Ethernet, using CAT-5 cable. CobraNet transmits (32) channels of digital audio on (4) 'bundles' of (8) channels each. The same is true for receiving digital audio over CobraNet. Bundle numbers are used to determine where digital audio is transmitted and received. Typically, 'unicast' bundle numbers (256-61,439) are used to exchange digital audio between two specific devices. With 'unicast' bundles, each CobraNet device can transmit to no more than (4) other devices within a network. With 'multicast' bundle numbers (1-255), digital audio can be exchanged with multiple devices. Due to network delay, CobraNet has a limitation of seven (7) 'hops' (one-way transmissions) within a network.

In order to integrate AudiaEXPO into a AUDIA system, an EXPO (or CobraNet) output block must first be placed into the design layout. AUDIA units intended to transmit digital audio to the AudiaEXPO must have their CobraNet jacks connected to the same network. Both the AudiaEXPO unit (hardware) and the EXPO output block (software) must be assigned matching bundle numbers, before digital audio can be successfully exchanged. AudiaEXPO bundle number assignment can be changed in real-time to allow access to digital audio from different EXPO output blocks within the system. CobraNet Latency settings must be identical in all devices, system-wide. Also, unicast and multicast bundle numbers can be used to access digital audio from individual or multiple EXPO output blocks. Similar considerations may apply when using AudiaEXPO with other CobraNet compliant systems or devices. AudiaEXPI and AudiaEXPO can exchange digital audio directly (outside of a system network) using either a simple 'cross-over' CAT5 cable or an Ethernet switch.

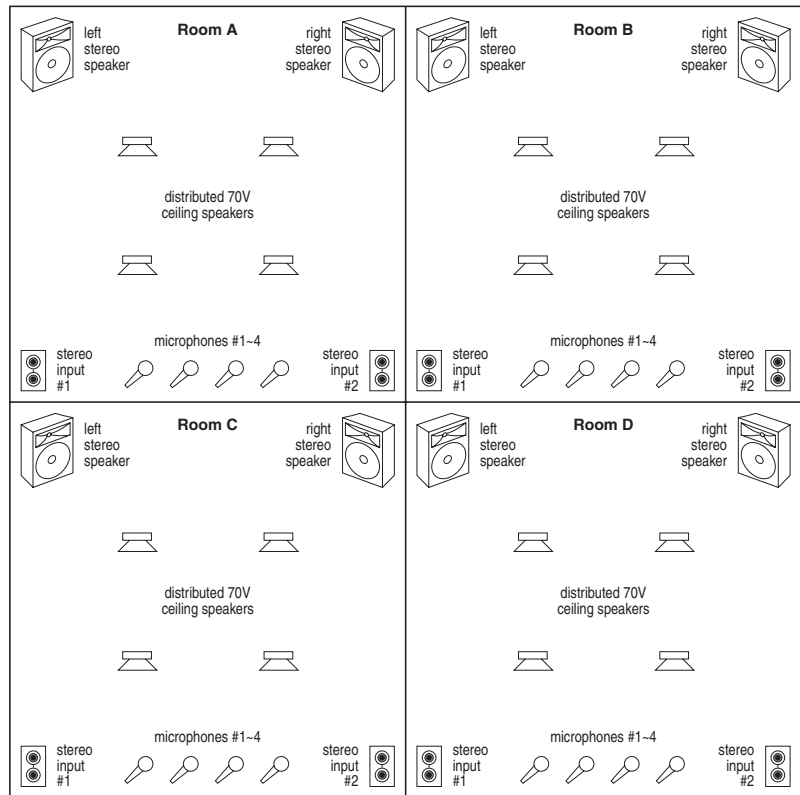
APPLICATIONS

Hotel with Sound Reinforcement in Multiple Banquet/Conference Rooms

This application demonstrates the use of AUDIA in a hotel conference/banquet facility. This is a networked system using one AudiaFLEX 10x12CM unit and three AudiaEXPI 8-Input Expander units (*forty-two inputs, twelve outputs, CobraNet*). An example system diagram is shown on the next page.

Each room has four microphones and two stereo line inputs, which are connected to an AudiaEXPI located within the room. This is beneficial because stereo line input signals are typically 'unbalanced' and, as such, should not be routed over long distances. The AudiaEXPI converts these signals to digital audio, and transmits them back to the main equipment rack via CobraNet. Additionally, CobraNet affords the necessary isolation to help avoid ground loops between active components within the individual rooms and back at the main equipment rack. CobraNet also saves on the labor and expense of wiring, by transmitting all signals from a given room over a single CAT5 cable.

Only three of the rooms utilize an AudiaEXPI locally. The fourth room houses the main equipment rack, which includes an AudiaFLEX 10x12CM. The AudiaFLEX unit accommodates the eight inputs from this room, as well as two inputs from centralized paging and background music. The AudiaFLEX unit also provides twelve system outputs: mono speech and stereo program for each of the four rooms. These outputs are feeding the two MCA8050 multi-channel amplifiers.



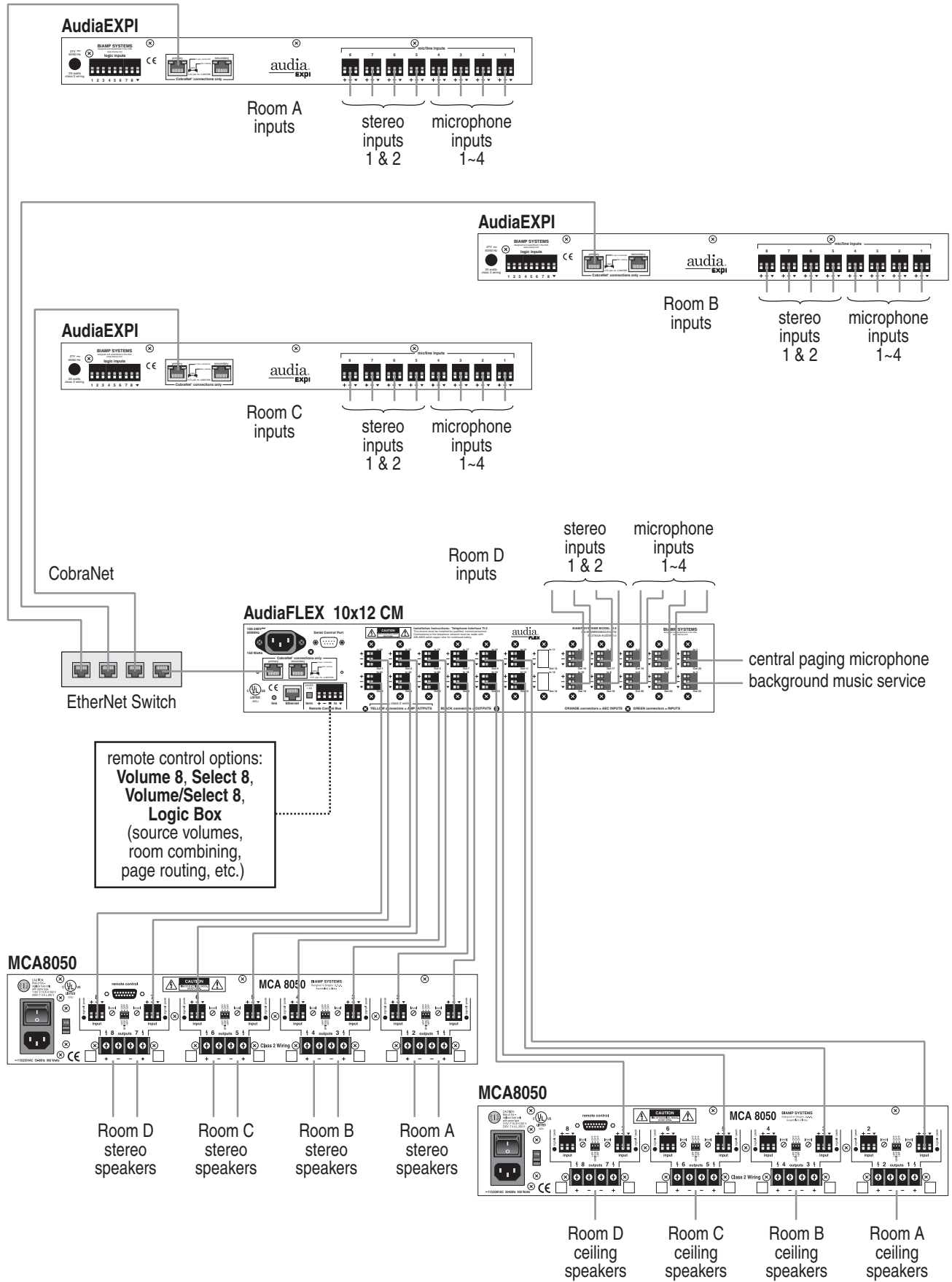
One MCA8050 amplifier has eight channels which are operating as four stereo pairs, providing up to 50 watts per channel to drive the stereo program speakers in each of the four rooms. The other MCA8050 amplifier has eight channels which have been bridged in pairs, essentially creating four channels of 100 watts each. With four TDT100 transformers installed internally, this MCA8050 is prepared to drive the (*speech related*) 70 volt distributed speaker system in each of the four rooms.

CobraNet from the AudiaEXPI units to the AudiaFLEX unit is tied together through an Ethernet switch. This allows sharing of digital audio signals (*CobraNet*) on a network. The maximum distance between any AUDIA unit and an Ethernet switch is 300 feet. Therefore, this system can span up to 600 feet between the main equipment rack and any of the rooms. Additional Ethernet switches, or even fiber-optics, can be used to further extend distances between units on the network.

All mixing and processing of signals is done back at the AudiaFLEX unit in the main equipment rack. In the system design, each room is provided with an Auto Mixer (*4x1*) for the microphones and a Router (*4x2*) for stereo source selection. A Room Combiner allows proper sharing of audio and control data amongst the Auto Mixers, and a Matrix Mixer (*8x8*) is provided to facilitate proper stereo source routing for each of the various room configurations. Duckers allow page-override of local and background music signals. Levelers are utilized on all microphone inputs (*to provide consistent volume levels*), and equalizers are utilized at all outputs (*to compensate for room acoustics and enhance intelligibility*).

Various remote control options are available. *Volume 8*, *Select 8*, and *Volume/Select 8* rotary encoder panels may be used to provide volume, source selection, and even room combining functions. A *Logic Box* could instead provide room combining via external switches (*on the room partitions or on a custom control panel*), and would also allow control of external equipment (*such as lighting, speakers, sources, etc.*). Control behavior is programmable, and can be made to change automatically to fit different system configurations. For example, volume control and source selection can follow room combining.

APPLICATIONS



APPLICATIONS

Courthouse with Multiple Courtrooms and Hard-Disk Court Recording

This application demonstrates the use of AUDIA in a modern courthouse. This is a networked system using two AudiaFLEX 20x4CM units and two AudiaEXPO 8-Output Expander units (*forty inputs, twenty-four outputs, CobraNet*). An example system diagram is shown on the next page.

Each courtroom is shown as having ten microphones. AUDIA inputs accept microphone or line-level signals equally well, so some inputs could instead be from sources such as playback of recorded evidence. Inputs from the four courtrooms are connected to the two AudiaFLEX units, which are located in a local equipment closet. Each AudiaFLEX unit accommodates inputs from two of the courtrooms, and provides four system outputs. In this case, one unit provides the outputs necessary to feed a hearing assistance system in each of the courtrooms. The other unit is providing the outputs needed for sound reinforcement. These outputs are feeding an MCA8050 multi-channel amplifier.

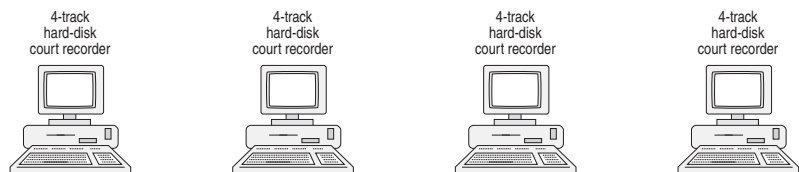
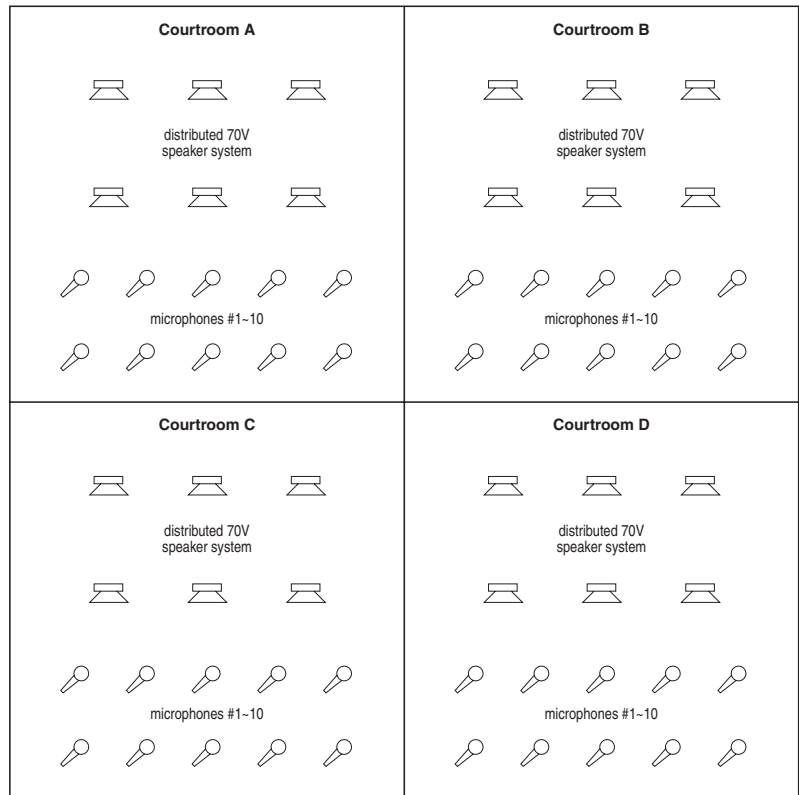
The MCA8050 amplifier has eight channels which have been bridged in pairs, essentially creating four channels of 100 watts each. With four TDT100 transformers installed internally, the MCA8050 is prepared to drive the 70 volt distributed speaker system in each of the four courtrooms.

CobraNet and Ethernet from both AudiaFLEX units are tied together through an Ethernet switch. This allows sharing of digital audio signals (*CobraNet*) and control data (*Ethernet*) on a network. Connected to the same Ethernet switch, and functioning as part of the same network, are two AudiaEXPO units. These two AudiaEXPO units are physically located in a central computer/recording office. The maximum distance between any AUDIA unit and an Ethernet switch is 300 feet. Therefore, this system can span up to 600 feet between the equipment closet and the computer/recording office. Additional Ethernet switches, or even fiber-optics, can further extend distances between units on the network.

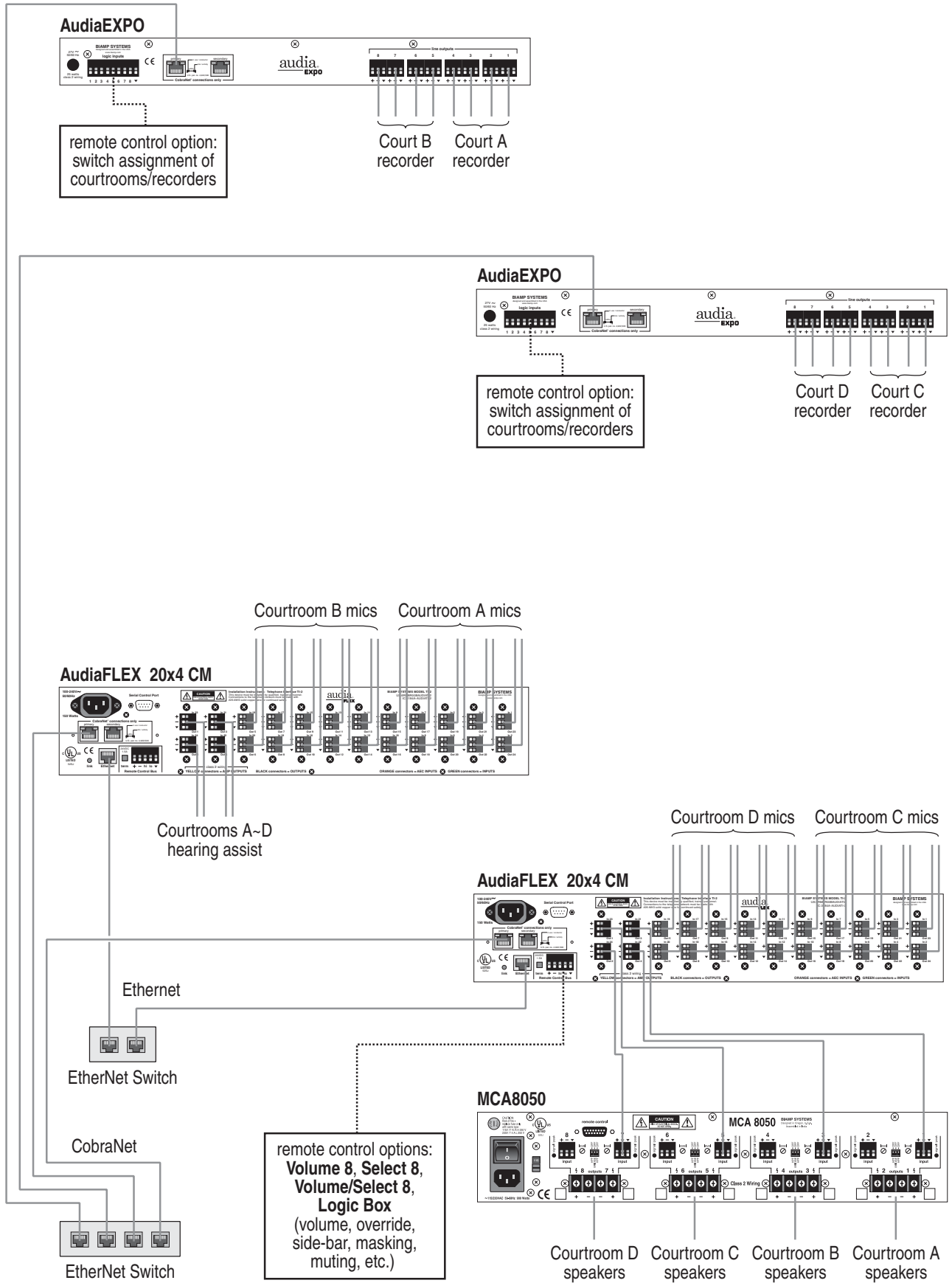
Each AudiaEXPO receives eight channels of digital audio via CobraNet, over a single CAT5 cable. These eight channels of digital audio are then converted to analog audio, and appear on eight separate output connections. Each AudiaEXPO provides the appropriate channels of audio for two of the four court recording systems. Mixing and processing of these signals (*to achieve proper microphone/track assignment and consistent recording levels*) has already been accomplished back at the AudiaFLEX units.

Design example: Recording signals are not gated or equalized, but Levelers are employed to ensure consistent levels and intelligibility. Matrix Mixers used to provide the following input-to-track assignments: Judge & Sidebar (track 1); Witness, Evidence, & Clerk (track 2); Defense, Prosecution, Podium, & Wireless (track 3); Jury (track 4). Mixing and processing of signals for hearing assistance and sound reinforcement have also been accomplished within the AudiaFLEX units. These are the same input signals that feed the recorders, but in this case they are mixed and gated appropriately using Auto Mixers. Levelers are then utilized at these outputs (*to provide consistent output volume*), and equalizers are utilized at the sound reinforcements outputs only (*to compensate for courtroom acoustics*).

Various remote control options are available. *Volume 8*, *Select 8*, and *Volume/Select 8* rotary encoder panels may be used to provide volume, override, sidebar, and other such functions. A *Logic Box* would allow individual microphone privacy switches and/or control of external functions (*such as camera presets or speaker relays*). External switches can even be connected to the AudiaEXPO logic inputs, to allow remote selection of courtroom-to-recorder assignments (*via CobraNet bundle assignment*).



APPLICATIONS



APPLICATIONS

Hospital with Multiple Zones of Paging, Messaging, and Background Music

This application demonstrates the use of AUDIA in a multi-zone hospital building. This is a networked system using one AudiaFLEX 8x8CM unit and three AudiaEXPO 8-Output Expander units (*eight inputs, thirty-two outputs, CobraNet*). An example system diagram is shown on the back page.

All inputs (*paging microphone, message repeater, background music, and telephone system*) reside on the first floor of the building, and are connected to the AudiaFLEX unit located there. The AudiaFLEX unit also provides the outputs necessary to feed the eight zones on the first floor. An AudiaEXPO unit is located on each of the other floors, and provides the corresponding zone outputs for that floor.

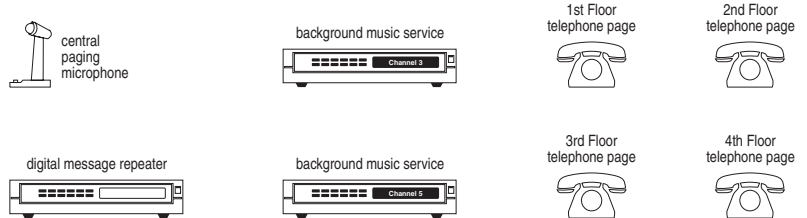
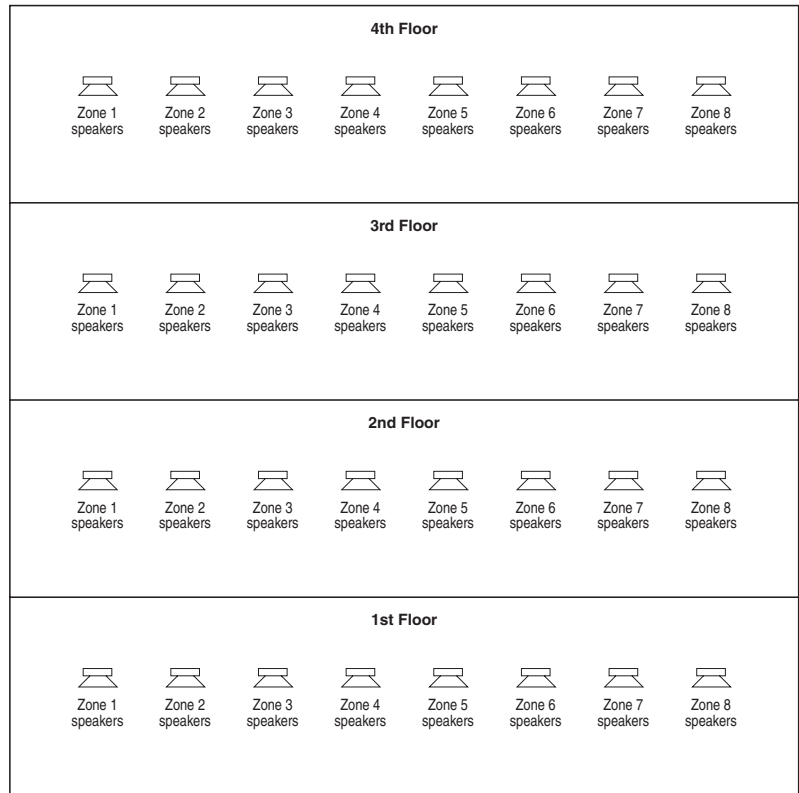
The AudiaFLEX unit distributes the appropriate signals to the AudiaEXPO units on the other floors as digital audio via CobraNet. This is beneficial because some of the input sources are 'unbalanced' and, as such, should not be routed over long distances. Additionally, CobraNet affords the necessary isolation to help avoid ground loops between the active components located on different floors. CobraNet also saves on the labor and expense of wiring, by transmitting all eight of the associated zone output signals to a given floor over a single CAT5 cable.

The zone outputs on each of the floors are connected to an MCA8050 multi-channel amplifier, located in the same equipment rack as the AudiaFLEX or AudiaEXPO unit. Each MCA8050 amplifier has eight channels, delivering 50 watts of power per channel. With eight TDT50 transformers installed internally, each MCA8050 is prepared to drive the eight 70 volt distributed speaker systems on that floor.

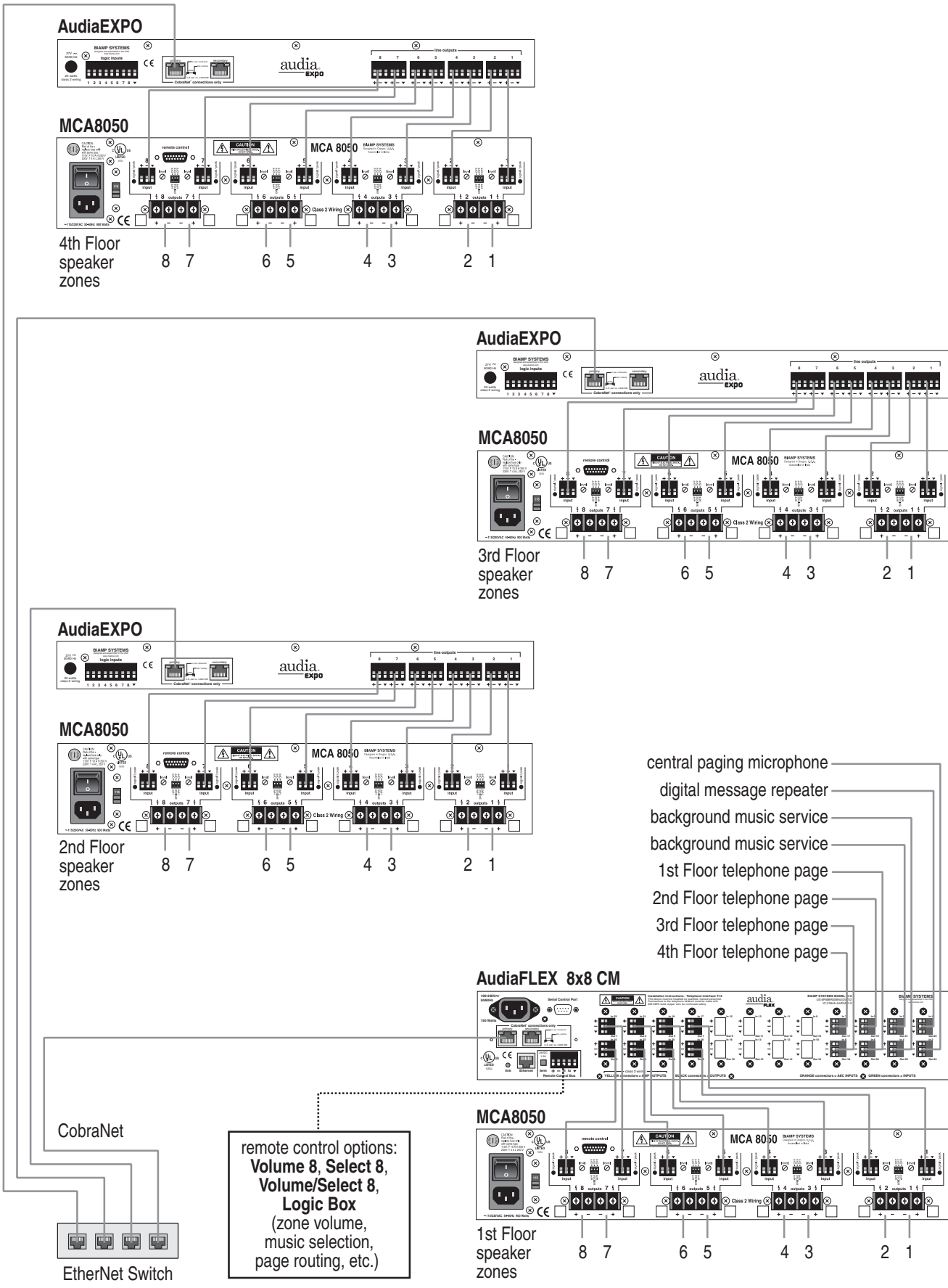
CobraNet from the AudiaFLEX unit to the AudiaEXPO units is tied together through an Ethernet switch. This allows sharing of digital audio signals (*CobraNet*) on a network. The maximum distance between any AUDIA unit and an Ethernet switch is 300 feet. Therefore, this system can span up to 600 feet between the first floor equipment rack and any of the other floors. Additional Ethernet switches, or even fiber-optics, can be used to further extend distances between units on the network.

All mixing and processing of signals is accomplished within the AudiaFLEX unit on the first floor. In the system design, the paging microphone is fed to a Router (*1x32*) for assignment to the individual zones. The message repeater is fed to a Router (*1x4*) for assignment to the four floors. The two background music inputs are both fed to four separate Routers (*2x1*) for source selection on each of the four floors. Telephone paging is fed to a set of four Duckers (*one for each floor*) to provide page-override of the selected background music on that floor. Output from the message Router is fed to a second set of four Duckers (*one for each floor*) to provide message-override of the telephone and music signals on that floor. Finally, output from the microphone Router is fed to a bank of thirty-two Duckers (*one for each zone*) to provide master page-override of all other signals in any selected zones. Levelers are utilized on all paging and message inputs (*to provide consistent volume levels*), and equalizers are utilized at all outputs (*to compensate for building acoustics and enhance intelligibility*).

Various remote control options are available. *Volume 8, Select 8, and Volume/Select 8* rotary encoder panels may be used to provide volume, source selection, and even page routing functions. Two *Logic Box* control devices could instead provide forty logic inputs, which would allow all page/message routing and music source selection to be accomplished using external switches on custom control panels.



APPLICATIONS



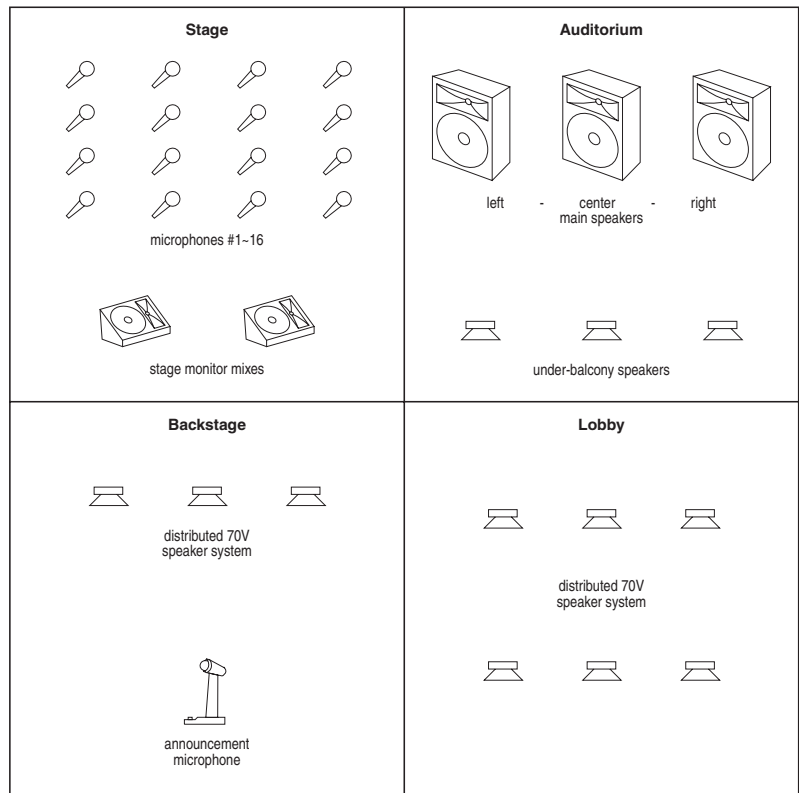
APPLICATIONS

Theater with Live Mixing Console and Multiple Speaker Zones

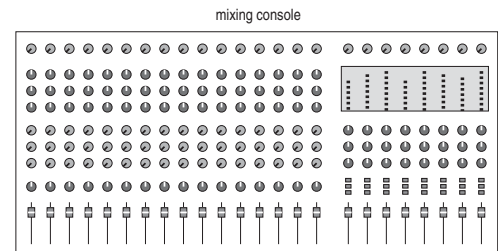
This application demonstrates the use of AUDIA in a live-performance theater. This is a networked system using one AudiaFLEX 2x8CM unit, three AudiaEXPI 8-Input Expander units, and two AudiaEXPO 8-Output Expander units (*twenty-six inputs, twenty-four outputs, CobraNet*). An example system diagram is shown on the back page.

Sixteen stage microphones are connected to the inputs of two AudiaEXPI units, which are located backstage. These sixteen signals then appear at the outputs of two AudiaEXPO units, which are located near the mixing console. The console is used to mix these signals (*plus any local source signals, such as effects and playback*) to as many as eight different outputs: Left/Center/Right (*front-of-house*), Under-Balcony (*rear-of-house*), Stage Monitors (*1 & 2*), Lobby, and Backstage. These outputs are connected to another AudiaEXPI unit, which is located near the mixing console. These eight signals then appear backstage at an AudiaFLEX unit, which provides signal processing for each of the outputs before feeding MCA8050 and MCA8150 power amplifiers located in the same equipment rack.

The MCA8050 amplifier has eight channels bridged in pairs, creating four channels of 100 watts each. These outputs are driving the Backstage, Lobby, and Monitor speaker systems. The MCA8150 amplifier also has eight channels which have been bridged in pairs, providing four channels of 300 watts each. These outputs are driving the Left/Center/Right and Under-Balcony speakers. TDT300 and TDT100 transformers are installed internally for outputs driving 70V distributed speaker systems.



emergency paging microphone

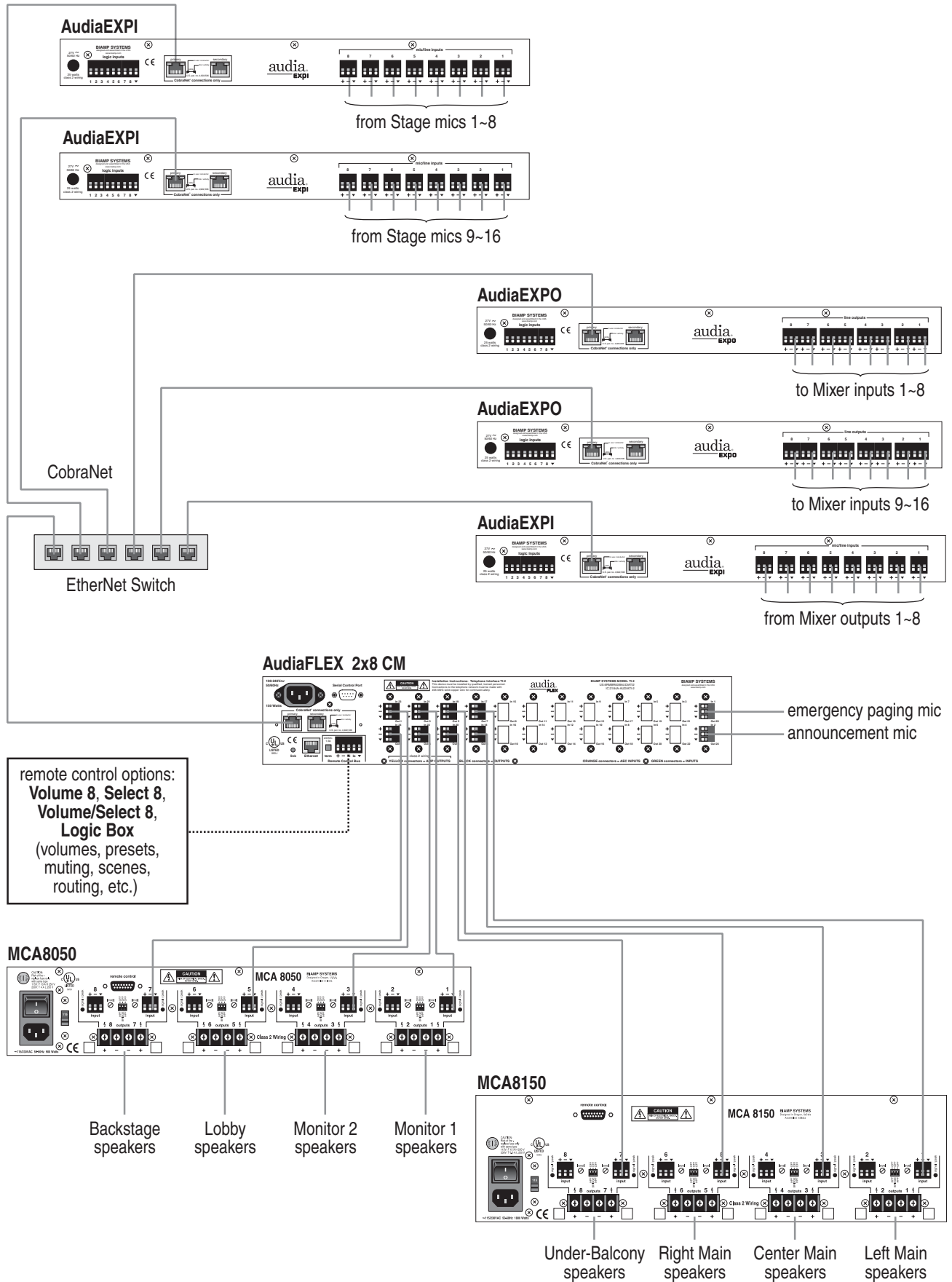


The AudiaFLEX unit also receives input from an emergency paging microphone (*located in the office*), and from an announcement microphone (*located backstage*). These two signals can be routed (*with override capability*) to any of the eight outputs. Example: Emergency paging may be desired at all outputs, while announcements may be routed to the Lobby or Backstage as necessary. CobraNet from the six AUDIA units is tied together through an Ethernet switch. This allows sharing of digital audio signals on a network. The maximum distance between any AUDIA unit and an Ethernet switch is 300 feet. Therefore, this system can span up to 600 feet between the stage and mixing position. Additional Ethernet switches, or even fiber-optics, can be used to further extend distances between units on the network. An added benefit to CobraNet is that it affords the necessary isolation to help avoid ground loops between active components in different locations. CobraNet also saves on the labor and expense of wiring, by transmitting eight channels of digital audio over a single CAT5 cable.

Of course, all live mixing is done at the console. The AUDIA network provides transportation, routing, and processing of the signals. AudiaEXPI and AudiaEXPO units act as a 'digital snake', transmitting digital audio between the stage and mixing position. The AudiaFLEX unit provides routing and remote control capabilities, as well as signal processing for the speaker outputs. In the system design, the emergency and announcement microphone inputs employ Levelers (*for consistent volume*), Routers (*for output assignment*), and Duckers (*for page-override*). At the outputs, processing includes Equalizers (*to compensate for acoustics*), Comp/Limiters (*to control peaks*), and Delays (*for speaker zone alignment*).

Various remote control options are available. *Volume 8*, *Select 8*, and *Volume/Select 8* rotary encoder panels may be used to provide volume, preset selection, and even page routing functions. A *Logic Box* allows system control via external switches, or control of external equipment from the system.

APPLICATIONS



SPECIFICATIONS

AudiaEXPI SPECIFICATIONS

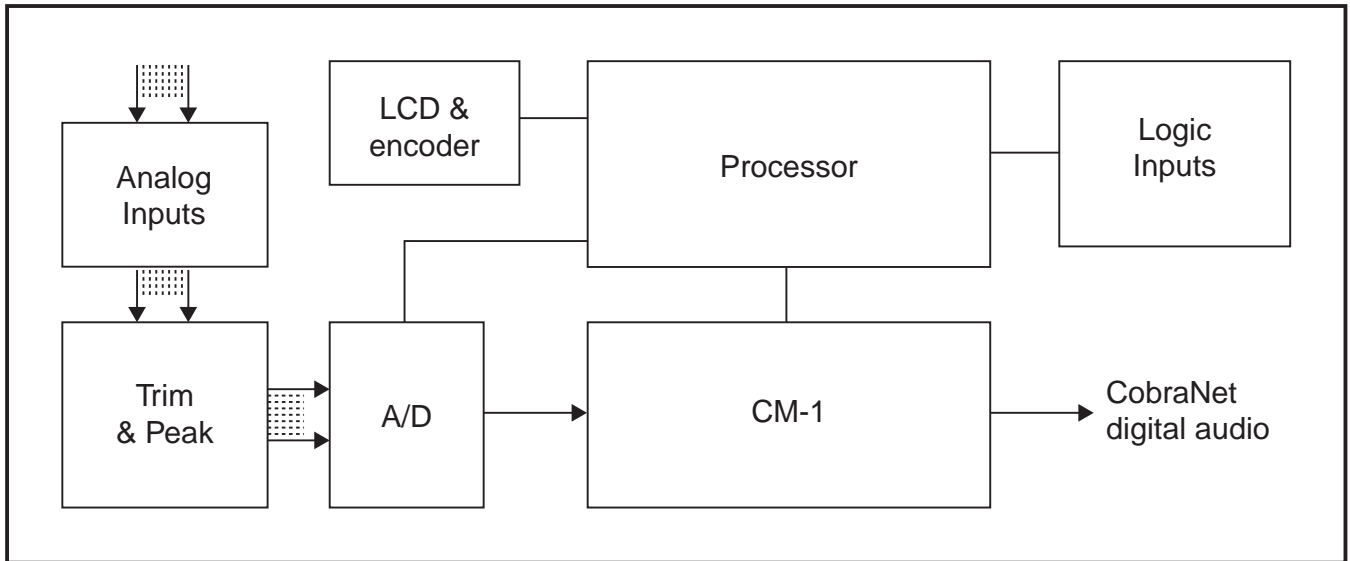
Frequency Response (20Hz~20kHz @ -20dBFS):	+0/-0.4dB	Maximum Input (mic/line):	+20dBu
THD+N (20Hz~20kHz @ -20dBFS):		Phantom Power:	+48 VDC (10mA/input)
line level (0dBu)	< 0.006%	Input Gain Range (variable trim):	0dB ~ +60dB
mic level (-60dBu)	< 0.065%	A/D Converters:	24-bit (48kHz sampling)
Equivalent Input Noise (20Hz~20kHz, 66dB gain, 150 ohm):	-123dBu	Power Consumption (115/230VAC 50/60Hz):	< 25 watts
Maximum Gain (input channels):	60dB	Dimensions:	
Crosstalk (channel-to-channel @ 1kHz):		height	1.75 inches (44.5mm)
line level	< -90dB	width	19 inches (483mm)
mic level	< -80dB	depth	5.75 inches (146mm)
Input Impedance (mic/line balanced):	6.6k ohms	Weight:	4.3 lbs. (2kg)

AudiaEXPO SPECIFICATIONS

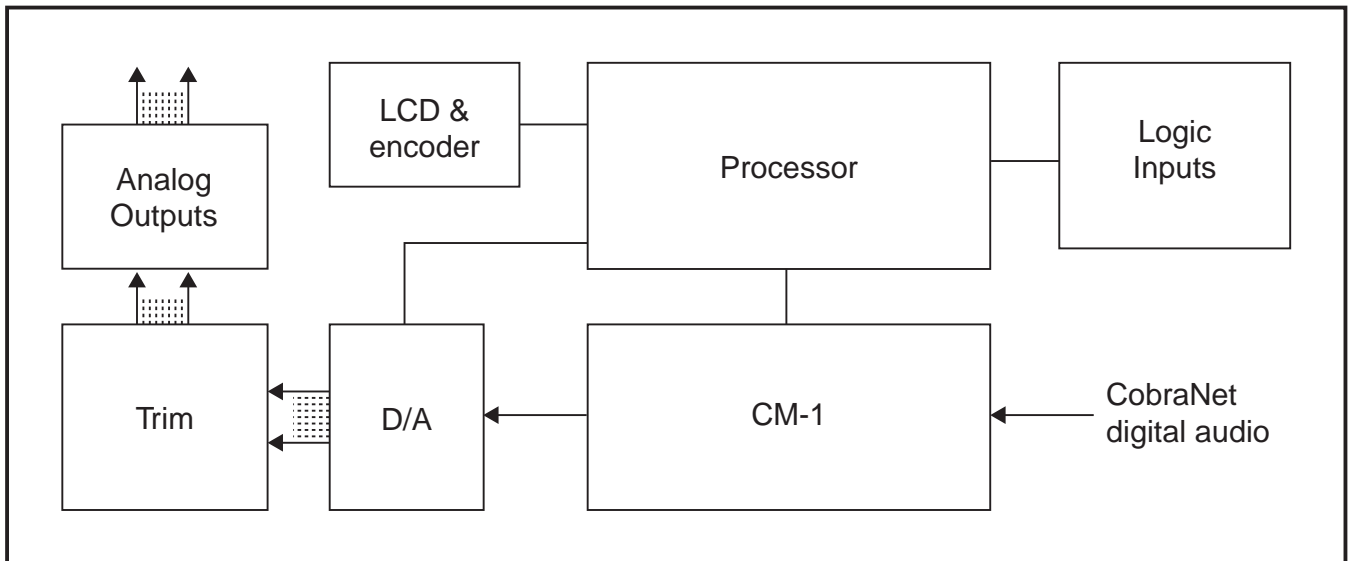
Frequency Response (20Hz~20kHz @ -20dBFS):	+0/-0.4dB	D/A Converters:	24-bit (48kHz sampling)
THD+N (20Hz~20kHz @ -20dBFS):	< 0.006%	Power Consumption (115/230VAC 50/60Hz):	< 25 watts
Dynamic Range:	110dB	Dimensions:	
Crosstalk (channel-to-channel @ 1kHz):	< -90dB	height	1.75 inches (44.5mm)
Output Impedance (balanced):	200 ohms	width	19 inches (483mm)
Maximum Output (balanced):	+24dBu	depth	5.75 inches (146mm)
Output Gain Range (variable trim):	-70dB ~ 0dB	Weight:	4.3 lbs. (2kg)

BLOCK DIAGRAMS

AudiaEXPI BLOCK DIAGRAM



AudiaEXPO BLOCK DIAGRAM



WARRANTY

BIAMP SYSTEMS IS PLEASED TO EXTEND THE FOLLOWING 5-YEAR LIMITED WARRANTY TO THE ORIGINAL PURCHASER OF THE PROFESSIONAL SOUND EQUIPMENT DESCRIBED IN THIS MANUAL

1. BIAMP Systems warrants to the original purchaser of new products that the product will be free from defects in material and workmanship for a period of 5 YEARS from the date of purchase from an authorized BIAMP Systems dealer, subject to the terms and conditions set forth below.
2. If you notify BIAMP during the warranty period that a BIAMP Systems product fails to comply with the warranty, BIAMP Systems will repair or replace, at BIAMP Systems' option, the nonconforming product. As a condition to receiving the benefits of this warranty, you must provide BIAMP Systems with documentation that establishes that you were the original purchaser of the products. Such evidence may consist of your sales receipt from an authorized BIAMP Systems dealer. Transportation and insurance charges to and from the BIAMP Systems factory for warranty service shall be your responsibility.
3. This warranty will be VOID if the serial number has been removed or defaced; or if the product has been altered, subjected to damage, abuse or rental usage, repaired by any person not authorized by BIAMP Systems to make repairs; or installed in any manner that does not comply with BIAMP Systems' recommendations.
4. Electro-mechanical fans, electrolytic capacitors, and normal wear and tear of items such as paint, knobs, handles, and covers are not covered under this warranty.
5. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. BIAMP SYSTEMS DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
6. The remedies set forth herein shall be the purchaser's sole and exclusive remedies with respect to any defective product.
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Biamp Systems
9300 S.W. Gemini Drive
Beaverton, Oregon 97008
(503) 641-7287



EC Declaration of Conformity

Biamp Systems Corporation, as manufacturer having sole responsibility, hereby declares that the following described product complies with the applicable provisions of the DIRECTIVES below except as noted herein. Any alterations to the product not agreed upon and directed by Biamp Systems Corporation will invalidate this declaration.

Product Models: EXPI, EXPO

Product Description: Input and Output Expanders for networking with audio DSPs.

Applicable EC Directives: Applicable Harmonized Standards:

LVD Directive (2006/95/EC) Safety EN 60065:2002

EMC Directive (2004/108/EC) Emissions EN 55103-1:1996, Environment E2
Immunity EN 55103-2:1996

Special Considerations for Product Environment or Compliance:

Use only Biamp Systems supplied 24 VDC External Power Supply Adaptor.

Shielded cabling must be used for system connections.

Technical Construction File, Location and Contact:

Biamp Systems, Inc. phone: (503) 641.7287
9300 S.W. Gemini Drive fax: (503) 626.0281
Beaverton, OR USA 97008 e-mail: biamp@biamp.com

Authorized Representative: Larry Copley, Compliance Engineer

Authorized Signature:

A handwritten signature in cursive script that reads "Larry Copley".

Issued: March, 2010

SAFETY INFORMATION

The words **WARNING** and **CAUTION** throughout the manual, and on the device, call attention to important safety information. These words have the following meanings.

WARNING: The related information alerts you to conditions that could result in serious injury or damage to property if the instructions are not followed properly.

CAUTION: The related information instructs you on how to prevent damage to the equipment or how to avoid conditions that could result in minor injury if proper steps are not followed.

Product labelling and the operation manual may use the internationally recognized symbols defined below to note safety messages.



The lightning flash with arrowhead symbol, enclosed within a triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the apparatus's enclosure or at connection terminals that may be of sufficient magnitude to constitute a risk of electrical shock.



The exclamation point, enclosed within a triangle, is intended to alert the user to important installation, operation, and maintenance (servicing) instructions in the literature accompanying the apparatus.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

CAUTION: Installation of this apparatus should be made by a qualified installation person and should conform to all applicable local codes.



Modification and optional equipment information referenced in this manual is for use by qualified installation and service personnel only.



"INFORMACIÓN DE SEGURIDAD"

Las palabras **PELIGRO** (**WARNING**) y **PRECAUCIÓN** (**CAUTION**) a lo largo del manual y en el dispositivo (sistema), llaman la atención acerca de una importante información de seguridad. Estas palabras tienen los siguientes significados:

PELIGRO : la información relata las condiciones en que podría ser dañada seriamente la propiedad si no se siguen adecuadamente las instrucciones.

PRECAUCIÓN : la información que se relata le instruye en cómo prevenir daños al equipo o como evitar condiciones que podrían resultar en perjuicio menor si los pasos adecuados no son seguidos correctamente.

El etiquetado del producto y el manual de operación pueden hacer uso de los símbolos reconocidos internacionalmente y cuyos mensajes están definidos a continuación para modificar mensajes de seguridad:



El símbolo del rayo encerrado en un triángulo pretende alertar al usuario de la presencia de un peligroso voltaje no aislado, dentro de la caja del aparato o a un terminal de conexión y que podría ser de suficiente magnitud como para constituir un grave riesgo de descarga eléctrica.



El punto de exclamación dentro de un triángulo pretende alertar al usuario de la importancia de las instrucciones de instalación, operación y mantenimiento (servicio) que acompañan al aparato.

PELIGRO : para reducir el riesgo de fuego o una descarga eléctrica, no exponer este aparato a la lluvia o la humedad.

PRECAUCIÓN : la instalación de este aparato debería hacerse por una persona cualificada en la instalación, y debería conformar todos los códigos locales aplicables.



La modificación y la información opcional del equipo referenciada en este manual es para ser utilizada únicamente por personal cualificado en instalación y servicio.



INFORMATION CONCERNANT VOTRE SECURITE

Les mots **WARNING** et **CAUTION** dans le manuel d'utilisation et sur les appareils attirent votre attention sur les plus importantes informations concernant votre sécurité. Ces mots ont la signification suivante:

WARNING: Ce mot vous indique les circonstances dans lesquelles vous pourriez être blessé ou endommager votre équipement si les instructions ne sont pas suivies correctement.

CAUTION: Ce mot vous indique comment éviter d'endommager votre matériel et comment éviter de vous blesser si vous ne suivez pas les instructions.

Vous trouverez peut-être les symboles suivants sur votre appareil ou dans le manuel d'utilisation.



L'éclair se terminant en flèche dans un triangle permet de prévenir l'utilisateur d'un voltage dangereux non isolé dans l'appareil ou d'une connexion d'une amplitude suffisante pour constituer un risque de choc électrique.



Le point d'exclamation dans un triangle permet de prévenir l'utilisateur des points importants concernant l'installation, le fonctionnement et l'entretien de l'appareil figurant dans le manuel d'utilisation.

WARNING: POUR REDUIRE LES RISQUES DE FEU OU DE CHOC ELECTRIQUE, NE PAS METTRE L'APPAREIL SOUS LA PLUIE OU DANS L'HUMIDITE.

CAUTION: L'installation de cet appareil doit être faite par un installateur qualifié et doit être en conformité avec toutes les lois locales en application.



Les informations concernant une modification ou un équipement en option dans le manuel doivent être effectués par du personnel qualifié.



INFORMAZIONI PER LA SICUREZZA

Le parole **AVVERTENZA** (**WARNING**) e **PRUDENZA** (**CAUTION**) poste sul manuale d'uso e sul apparato richiamano la vostra attenzione su delle importanti informazioni per la vostra sicurezza. Queste parole hanno il seguente significato.

AVVERTENZA: La suddetta indicazione vi avvisa sul rischio di incorrere in danni a cose o a persone, se le procedure d'uso e installazione non saranno seguite propriamente.

PRUDENZA: La suddetta indicazione vi instruisce su come prevenire e ridurre al minimo, il rischio di danni agli apparati e alle persone se le istruzioni saranno seguite propriamente.

Le apparecchiature e i manuali di istruzioni riporteranno la simbologia standard raffigurata qui sotto, accompagnate dalle relative informazioni per la sicurezza.



La simbologia con il fulmine all'interno di un triangolo, intende avvisare l'utente della presenza di alto voltaggio all'interno dell'apparecchio in questione, e che il suddetto apparecchio si alimenta attraverso una tensione di rete ad alto voltaggio e che dunque si potrebbe incorrere sul rischio di una possibile scossa elettrica.



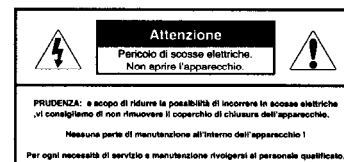
La simbologia con il punto esclamativo all'interno di un triangolo, intende avvisare l'utente di una serie di istruzioni contenute nel manuale d'uso riguardanti: operato, manutenzione e assistenza. Il suddetto manuale sarà a corredo dell'apparecchio.

AVVERTENZA: PER RIDURRE IL RISCHIO DI POSSIBILI INCENDI O SCOSSE ELETTRICHE, SCONSIGLIAMO DI ESPORRE L'APPARECCHIO ALLA PIOGGIA O ALL'UMIDITA'.

PRUDENZA: L'installazione di questo apparato dovrà essere effettuata solo da personale qualificato e il tipo di installazione dovrà essere in regola con le norme vigenti locali.



Modifiche e ulteriori informazioni specificate in questo manuale sono solamente riservate al personale qualificato all'installazione.



Sicherheitshinweise

Die Begriffe **WARNUNG** (engl. WARNING) und **ACHTUNG** (engl. CAUTION) in der Bedienungsanleitung und auf den Geräten machen auf wichtige Sicherheitsinformationen aufmerksam. Diese Begriffe haben die folgende Bedeutung:

WARNUNG: Der folgende Text warnt Sie vor ernsthaften Verletzungen oder Beschädigungen, die aus einer fehlerhaften Bedienung bzw. Handhabung des Gerätes resultieren können.

ACHTUNG: Der folgende Text informiert Sie über Bedienungshinweise zum Schutz Ihres Gerätes oder weist auf mögliche Schäden hin, wenn die Bedienungshinweise nicht beachtet werden.

Die Beschriftung der Geräte und die Bedienungsanleitungen weisen unter Umständen international bekannte Symbole auf, die die folgende Bedeutung haben:



Das Blitzsymbol im Dreieck warnt vor anliegender, nicht isolierter „gefährlicher Spannung“ im Inneren oder an den Anschlüssen des Gerätes. Die Berührung der unter Spannung stehenden Teile kann zu einem elektrischen Schock führen.



Das Rußzeichen im Dreieck macht auf wichtige Installations-, Bedienungs- und Servicehinweise in der zugehörigen Bedienungsanleitung aufmerksam.

WARNUNG: Zur Minderung des Risikos von Feuer und elektrischem Schock schützen Sie das Gerät vor Regen und Feuchtigkeit.

ACHTUNG: Die Installation des Gerätes sollte nur durch qualifiziertes Personal durchgeführt werden und muß den jeweiligen Bestimmungen entsprechen.



Die Modifikationen und die Informationen zu den optionalen Erweiterungen in der Bedienungsanleitung sind nur für qualifiziertes Personal bestimmt.

	ACHTUNG Risiko von elektrischem Schock Gerät nicht öffnen	
Achtung: Zur Minderung des Risikos von elektrischem Schock das Gerät nicht öffnen		
Keine Bedienungselemente im Inneren des Gerätes		
Service nur durch qualifiziertes Personal durchführen lassen		

Sikkerhedsinformation

Ordene **ADVARSEL** (WARNING) og **FORSIGTIG** (CAUTION), brugt i henholdsvis brugervejledning og på selve produktet, indikerer, at vigtig information omkring sikkerhed følger. Ordene betyder følgende:

ADVARSEL: Den efterfølgende information advarer Dem om forhold, der kan føre til alvorlige ulykker og ejendomsskader, hvis ikke vejledningen følges.

FORSIGTIG: Den efterfølgende information vejleder Dem i, hvordan De undgår skade på produktet, samt undgår forhold der kan føre til mindre ulykker og ejendomsskader, hvis ikke vejledningen følges.

Produktetiketter og brugervejledning kan indeholde de internationalt anerkendte symboler der er vist nedenfor:



Trekanten med et lyn i midten har til hensigt at advare brugeren om, at produktet indeholder "farlig spænding", og at det derfor er forbundet med fare for elektrisk stød at åbne produktet.



Trekanten med udråbstegn har til hensigt at advare brugeren om, at vigtig information omkring installation, brug, service og vedligeholdelse af produktet er indeholdt i den medfølgende brugervejledning.

ADVARSEL: Med henblik på at reducere risikoen for brand eller elektrisk stød, må produktet ikke udsættes for regn eller fugt.

FORSIGTIG: Installation af dette produkt skal foretages af en autoriseret installatør og skal være i overensstemmelse med alle anvendelige lokale retningslinier.



Modifikationer samt alternativt udstyr beskrevet i denne brugervejledning er kun henvendt til kvalificerede installatører og servicepersonale.

	FORSIGTIG Fare for elektrisk stød - må ikke åbnes.	
FORSIGTIG: Med henblik på at reducere risikoen for elektrisk stød, må svæbet ikke fjernes.		
Indeholder ingen komponenter relevante for brugeren.		
Anvend autoriseret servicepersonale ved alle serviceeftersøg.		

VEILIGHEIDSINFORMATIE

De woorden **WAARSCHUWING** (WARNING) en **VOORZICHTIG** (CAUTION) welke in de handleiding en op het apparaat voorkomen, waarschuwen U voor belangrijke veiligheidsinformatie. Zij hebben de volgende betekenissen:

WAARSCHUWING: De betreffende informatie waarschuwt U voor omstandigheden die kunnen leiden tot defecten of beschadigingen aan apparaten als de instructies niet volledig worden opgevolgd.

VOORZICHTIG: De betreffende informatie instrueert U hoe U defecten aan apparatuur kunt voorkomen of hoe U omstandigheden kunt vermijden die kunnen resulteren in schade als de juiste stappen niet worden opgevolgd.

Produkt informatie en handleiding hanteren onderstaande internationaal erkende symbolen om veiligheidsinstructies aan te geven.



De bliksemschicht in een driehoek wordt gebruikt om de gebruiker te attenderen op ongeïsoleerde "gevaarlijke spanning" in het apparaat of bij de aansluitklemmen, die het risico van een elektrische schok kunnen geven.



Het uitroepteken in een driehoek wordt gebruikt om de gebruiker te attenderen op belangrijke installatie, gebruiks- en onderhoudsinstructies in de beschrijving die bij het apparaat hoort.

WAARSCHUWING: OM HET RISICO VAN BRAND OF EEN ELECTRISCHE SCHOK TE VERMIJDEN DIENT U HET APPARAAT NIET AAN VOCHT BLOOT TE STELLEN.

VOORZICHTIG: Installatie van dit apparaat dient te geschieden door gekwalificeerd personeel en dient te geschieden conform de plaatselijke voorschriften.



Modificaties en aanvullende informatie waar in de handleiding naar wordt verwezen, dient alleen voor gebruik door gekwalificeerd personeel.

	VOORZICHTIG. Risiko van elektrische schok. Niet openen.	
Waarschuwing: Om het risico van een elektrische schok te verminderen het apparaat niet openen.		
Er zijn geen, door gebruiker, vervangbare onderdelen in dit apparaat.		
Service overlaten aan gekwalificeerd service personeel.		

TURVALLISUUSTIEDOTE

Sanat **VAROITUS** (WARNING) ja **HUOMIO** (CAUTION), jotka esiintyvät manuaalissa ja itse laitteessa, ilmoittavat tärkeästä turvallisuusinformaatiosta. Näillä sanoilla on seuraava merkitys:

VAROITUS: Yhteydessä oleva informaatio varoittaa olosuhteista, jotka saattavat johtaa vakaviin vammoihin tai laitteen vaurioitumiseen, mikäli ohjeita ei täysin noudateta.

HUOMIO: Yhteydessä oleva informaatio neuvoo, miten laitteen vaurioituminen voidaan ehkäistä tai miten voidaan välttää olosuhteet, jotka voivat johtaa lieviin vammoihin, mikäli ohjeita ei noudateta.

Tuotteessa tai käyttöohjeessa voidaan käyttää seuraavia alla määriteltyjä kansainvälisiä symboleja, jotka viittaavat turvallisuusinformaatioon.



Kolmion sisällä olevan nuoli-päinen salarua varoittaa käyttäjää laitteen sisällä tai liitännöissä olevasta eristämättömästä vaarallisesta jännitteestä, joka saattaa olla tarpeeksi suuri aiheuttaakseen sähköiskun vaaran.



Kolmion sisällä oleva huutomerkin tarkoituksena on ilmoittaa käyttäjälle tärkeistä asennusta, käyttöä tai huoltoa koskevista ohjeista laitteen mukana seuraavassa kirjallisuudessa.

VAROITUS: ÄLÄ ALTISTA LAITETTA SATEELLE TAI KOSTEUELLE TULIPALON JA SÄHKÖISKUN VAARAN VUOKSI.

HUOMIO: Laitteen asentaminen tulisi jättää ammattitaitoisen henkilön suorittavaksi ja asennuksessa tulee noudattaa kaikkia paikallisia säännöksiä.



Tässä manuaalissa oleva informaatio, joka koskee muutostöitä ja lisälaitteita, on tarkoitettu vain ammattitaitoisten asennus- ja huoltohenkilöiden käyttöön.

	HUOMIO Sähköiskun vaara, älä avaa.	
HUOMIO: ÄLÄ AVAA KANTTA SÄHKÖISKUN VAARAN VUOKSI		
EI SISÄLLÄ KÄYTTÄJÄN HUOLLETTAVIA OSIA		
JÄTÄ HUOLTO AMMATTITAITOISELLE HENKILÖKUNNALLE		

SIKKERHETS INFORMASJON

Når ordene **ADVARSEL (WARNING)** og **VIKTIG (CAUTION)** blir brukt i manualen og på produktet, gjelder det informasjon som har med brukers sikkerhet å gjøre. Ordene har følgende mening:

ADVARSEL: Tilhørende informasjon viser til forhold som kan resultere i alvorlige skader eller edeleggelse hvis anvisningene ikke følges nøye.

VIKTIG: Tilhørende informasjon forteller deg hvordan du skal unngå feil på utstyret, eller unngå situasjoner som kan resultere i mindre skader.

Produkt merkingen og bruksanvisningen bruker internasjonale symboler for å merke punkter som er viktige for brukers sikkerhet.



Lynet i en triangel advarer brukeren om isolert "farlig spenning" inne i apparatet, eller tilkoblings terminaler som kan gi støt.



Etter utropstegnet i en triangel følger informasjon som er viktig når det gjelder installasjon, bruk og vedlikehold (service) av apparatet.

ADVARSEL: FOR Å REDUSERE FAREN FOR BRANN ELLER STØT MÅ APPARATET IKKE UTSETTES FOR VANN ELLER FUKTIGHET.

VIKTIG: Installasjon av apparatet skal foretas av autorisert installatør etter gjeldende forskrifter.



Modifikasjoner og tillegg informasjon som følger er kun for kvalifiserte installatører eller service personell.

	VIKTIG FARE FOR STØT, MÅ IKKE DEMONTERES.	
<p>VIKTIG: For å unngå faren for støt, må ingen deksler fjernes Ingen interne deler skal justeres eller repareres av bruker. Overlet service til autorisert personell.</p>		

SÄKERHETS INFORMATION

Orden **VARNING (WARNING)** och **OBSERVERA (CAUTION)** vilka används i denna manual och på apparaten, är menade att uppmärksamma viktig säkerhets information. Dessa ord har följande betydelse.

VARNING: Information som uppmärksammar på omständigheter som kan resultera i allvarig personskada eller skada på egendom om instruktionerna ej följs.

OBSERVERA: Information som uppmärksammar på instruktioner om hur skada på utrustning eller hur situationer där lättare personskador kan uppstå undvikas.

Följande internationellt använda ord och symboler används i handboken och på märkningar på produkten för att uppmärksamma användare på viktiga säkerhets instruktioner.



En blixn med pil, innesluten i en triangel, menad att uppmärksamma användare på närvaron av isolerade "farliga spänningar" i apparaten eller på anslutnings kontakter vilka har tillräcklig styrka för att medföra risk för elektrisk stöt.



Et utropstecken, innesluten i en triangel, menad att uppmärksamma användare på viktiga installations, handhavande eller underhålls-instruktioner i medföljande dokumentation.

VARNING: FÖR ATT MINSKA RISKEN FÖR BRAND ELLER ELEKTRISK STÖT, UTSÄTT EJ APPARATEN FÖR FUKT ELLER VÄTSKA.

OBSERVERA: Installation av denna apparat skall utföras av kvalificerad installatör samt enligt alla gällande lokala bestämmelser.



Eventuella modifierings instruktioner och annan information av teknisk art i denna manual är endast avsedd att användas av kvalificerad installations och service personal.

	OBSERVERA RISK FÖR ELEKTRISK STÖT FÄR EJ ÖPPNAS	
<p>OBSERVERA: FÖR ATT MINSKA RISKEN FÖR ELEKTRISK STÖT, AVLÅSNÄ EJ LOCKET. INGA AV ANVÄNDARE UTBYTBARA ELLER REPARERBARA KOMPONENTER INUTI DENNA APPARAT. ALL SERVICE PÅ DENNA APPARAT SKALL UTFÖRAS AV KVALIFICERAD PERSONAL</p>		

ΠΛΗΡΟΦΟΡΙΕΣ ΑΣΦΑΛΕΙΑΣ

Οι λέξεις **ΚΙΝΔΥΝΟΣ (WARNING)** και **ΠΡΟΣΟΧΗ (CAUTION)** που αναφέρονται μέσα στο εγχειρίδιο και στη συσκευή, επικεντρώνουν την προσοχή σε σημαντικές πληροφορίες ασφαλείας. Οι λέξεις αυτές έχουν την παρακάτω σημασία.

ΚΙΝΔΥΝΟΣ: Η αναγραφόμενη πληροφορία επιστά την προσοχή σας σε καταστάσεις που θα μπορούσαν να έχουν σαν αποτέλεσμα σοβαρό τραυματισμό ή καταστροφή της ιδιοκτησίας αν οι οδηγίες δεν ακολουθηθούν κατάλληλα.

ΠΡΟΣΟΧΗ: Η αναγραφόμενη πληροφορία σας καθοδηγεί πώς να προλάβετε καταστροφή του εξοπλισμού ή πώς να αποφύγετε καταστάσεις που θα μπορούσαν να έχουν ως αποτέλεσμα μικροτραυματισμούς αν δεν ακολουθηθούν τα σωστά βήματα.

Στις επιγραφές των προτόνων και στο εγχειρίδιο λειτουργίας, χρησιμοποιούνται τα σεινάς αναγνωρισμένα σύμβολα, των οποίων ο ροισμός δίνεται παρακάτω έτσι ώστε να υπογραμμιστούν τα μηνύματα ασφαλείας.



Η φωτεινή αναλαμπή με σύμβολο το βέλος, μέσα στο τρίγωνο, έχει σκοπό να επιστήσει την προσοχή του χρήστη, στην ύπαρξη μη-μονωμένης « επικίνδυνης ισχύος ρεύματος » στο εσωτερικό της συσκευής ή στις άκρες σύνδεσης οι οποίες μπορεί να έχουν αρκετό μέγεθος ώστε να περιέχουν κίνδυνο ηλεκτροπληξίας.



Το επεξηγηματικό σημείο, μέσα στο τρίγωνο, έχει σκοπό να επιστήσει την προσοχή του χρήστη στις σημαντικές οδηγίες εγκατάστασης, λειτουργίας και συντήρησης (service) που περιέχονται στα φυλλάδια που συνοδεύουν την συσκευή.

ΚΙΝΔΥΝΟΣ: Για να αποφύγετε τον κίνδυνο φωτιάς ή ηλεκτροπληξίας, μην εκθέτετε αυτή τη συσκευή σε βροχή ή σε υγρασία.

ΠΡΟΣΟΧΗ: Η εγκατάσταση αυτής της συσκευής θα πρέπει να γίνει από εξειδικευμένο άτομο και θα πρέπει να προσαρμόζεται σε όλους τους εφαρμοσμούς τοπικούς κώδικες.



Οι τροποποιήσεις και οι προληπτικές πληροφορίες για τον εξοπλισμό, που αναφέρονται ως αυτό το εγχειρίδιο, προορίζονται για χρήση μόνο από εξειδικευμένα στην εγκατάσταση και στο service, άτομα.

	ΠΡΟΣΟΧΗ ΚΙΝΔΥΝΟΣ ΗΛΕΚΤΡΟΠΛΗΞΙΑΣ. ΜΗΝ ΑΝΟΙΓΕΤΕ.	
<p>ΠΡΟΣΟΧΗ: ΓΙΑ ΝΑ ΜΕΙΩΣΕΤΕ ΤΟΝ ΚΙΝΔΥΝΟ ΗΛΕΚΤΡΟΠΛΗΞΙΑΣ, ΜΗΝ ΜΕΤΑΚΙΝΗΣΕΤΕ ΤΟ ΚΑΛΥΜΜΑ. ΔΕΝ ΠΑΡΕΧΟΝΤΑΙ ΑΝΤΑΛΛΑΚΤΙΚΑ SERVICE ΣΤΟΝ ΧΡΗΣΤΗ ΓΙΑ SERVICE ΑΝΑΦΕΡΘΕΤΕ ΣΤΟ ΕΞΟΥΣΙΟΔΟΤΗΜΕΝΟ ΠΡΟΣΩΠΙΚΟ SERVICE</p>		

INFORMAÇÃO SOBRE SEGURANÇA

As palavras **ADVERTÊNCIA (WARNING)** e **PRECAUÇÃO (CAUTION)** neste manual, e no dispositivo, alertam para importantes informações sobre segurança. Estas palavras significam o seguinte:

ADVERTÊNCIA: Informação relacionada que alerta sobre condições que poderão resultar em lesões sérias ou prejuízo, se as instruções não forem seguidas adequadamente.

PRECAUÇÃO: Informação relacionada que instrui como prevenir danos no equipamento ou como evitar condições que poderão resultar em lesões leves, se os passos não forem seguidos adequadamente.

As etiquetas do produto e do manual de operações podem usar os símbolos internacionalmente reconhecidos definidos abaixo para advertir mensagens de segurança.



símbolo do relâmpago com uma seta, dentro de um triângulo, tem o fim de alertar o usuário a presença de "voltagem perigosa" sem isolamento dentro da caixa isolamento do aparelho ou nos terminais de ligação que podem ter a magnitude suficiente que constitui um risco de choque elétrico.



ponto de exclamação, dentro de um triângulo, tem o fim de alertar o usuário sobre instruções importantes de instalação, operação e manutenção (serviços) na literatura que acompanha o aparelho.

ADVERTÊNCIA: PARA REDUZIR O RISCO DE INCÊNDIO OU CHOQUE ELÉCTRICO, NÃO EXPONHA ESTE APARELHO A CHUVA OU HUMIDADE.

PRECAUÇÃO: A instalação deste aparelho deve ser feita por um profissional qualificado e deve obedecer a todos os códigos locais aplicáveis.



Modificação e informação sobre equipamento adicional citados neste manual são para o uso exclusivo do pessoal qualificado de instalação e manutenção.

	PRECAUÇÃO RISCO DE CHOQUE ELÉCTRICO NÃO ABRA	
<p>PRECAUÇÃO: PARA REDUZIR O RISCO DE CHOQUE ELÉCTRICO, NÃO REMOVA A TAMPA. PARTES INTERNAS NÃO MANTIDAS PELO USUÁRIO. ENCAMINHE A MANUTENÇÃO PARA PESSOAL DE SERVIÇOS QUALIFICADO.</p>		

有害物质表

Biamp Systems EXPI、EXPO、EXPI-D 和 EXPO-D 音频输入和输出设备

部件名称	有毒有害物质或元素					
	Pb (铅)	Hg (汞)	Cd (镉)	Cr+6 (六价铬)	PBB	PBDE
EXPI、EXPO、EXPI-D 或 EXPO-D 设备	X	O	X	O	O	O
电源变压器	X	O	X	O	O	O
可插拔 Euroblock 连接器	O	O	O	O	O	O
手册和其他书面文档	O	O	O	O	O	O
包装箱和所有包装材料	O	O	O	O	O	O

O: 表示该部件所有均质材料中的这种有毒有害物质低于 SJ/T11363-2006 的限制要求

X: 表示该部件中至少有一种均质材料所含的这种有毒有害物质高于 SJ/T11363-2006 的限制要求。

除限制销售和使用某些危险物质和制剂的欧盟指令 76/769/EEC 的修正指令-欧盟指令 91/338/EEC 所禁止的用途外，在电触头和（或）镀镉所含的均质材料中，镉及其化合物的含量或许超过 0.01%。

在以下一种或多种物质所含的均质材料中，铅及其化合物的含量或许超过 0.1%：

- 1) 电子元器件中玻璃内。
- 2) 铅作为合金元素的钢材中，铅含量可高达 0.35%。
- 3) 铅作为合金元素的铝材中，铅含量可高达 0.4%。
- 4) 铅作为合金元素的铜材中，铅含量可高达 4%。
- 5) 高熔点类焊料（即含铅量 85% 以上的铅基焊料）中。
- 6) 电子陶瓷部件内。
- 7) 由两种以上元素组成、用于连接管脚和微处理器封装、铅含量超过 80% 但低于 85% 的焊料中。
- 8) 兼容性管脚连接器系统中。
- 9) 倒装芯片封装内半导体芯片及载体之间完成可靠电子连接的焊料中。



在正常使用情况下，中国环保使用期限为 10 年，条件是：

- 环境温度为 0-40°C (32-104°F)
- 湿度为 0-95%，无凝结
- 海拔高度为 0-10,000 英尺
- 空气流通
- 没有水或其他液体进入任何部件
- 电源为 95-265V AC, 50/60Hz
- 部件没有损坏（损坏部件应立即修理）
- 由工厂授权人员使用批准的材料进行所有维修



EU RoHS COMPLIANT

This Biamp product -- including all attendant cables and accessories supplied by Biamp -- meets all requirements of EU Directives 2002/95/EC of January 27, 2003, and 2005/618/EC of August 18, 2005, the EU RoHS Directives. An EU RoHS Materials Content Declaration document may be obtained at <http://www.biamp.com>