

**DJ5600**  
**Pro Disco Mixer**

**Operation Manual**



## TABLE OF CONTENTS

Front Panel Diagram	pg. 2
Front Panel Description	pg. 3
Rear Panel Diagram	pg. 4
Rear Panel Description	pg. 5
Functional Description	pg. 6
Operation	pg. 7
Specifications	pg. 8
Block Diagram	pg. 9
Warranty	

## INTRODUCTION

The Biamp **DJ5600** is a complete stereo control center, designed to be the heart of a quality club sound system. With three stereo phono inputs, six stereo line inputs, and two mono microphone inputs, the DJ5600 is perfect for applications such as discos, resorts, and professional DJ use. The DJ5600 provides control of audio signal from turntables, audio tape, video tape, and CD players, as well as from microphones and auxiliary equipment. Four independent stereo outputs, plus mono and light send outputs, provide maximum flexibility for mixing, monitoring, and recording. The DJ5600 brings together sonic quality, innovation, and reliability.

DJ5600 features include:

- ◆ 9 stereo inputs assignable to 4 Input Channels
- ◆ 2 microphone inputs with independent Level
- ◆ Talkover with adjustable attenuation of program signals
- ◆ 2-band equalization for DJ Microphone signals
- ◆ 3-band equalization on each side of the Crossfader
- ◆ Bass Impact circuit to expand low-frequency dynamics
- ◆ switchable Effects loops for Mains and DJ Microphone
- ◆ Cue system previews inputs, equalization, and effects
- ◆ Blend Active switch allows two Cue monitoring techniques
- ◆ 600 ohm Headphone output for Cue system
- ◆ balanced stereo Main output with Balance and Level
- ◆ balanced stereo Monitor output with independent Level
- ◆ balanced Mono output with independent Level
- ◆ Main and Monitor outputs switchable to mono operation
- ◆ transformer isolated Light Send for lighting controllers
- ◆ dual Level Meters with visual Beat Sync indicators



*After reading this manual, if you have any questions or need technical assistance, please call Biamp Systems toll-free (1-800-826-1457).*



## FUNCTIONAL DESCRIPTION

**Input Source Selection:** The DJ5600 has four stereo mixing channels and a total of nine stereo inputs. Each channel has a 4-position Input Assign switch to select the desired input. The input choices for each channel are shown in the chart below.

	Ch 1	Ch 2	Ch 3	Ch 4
Phono 1	X			
Phono 2		X		
Phono 3			X	
CD 1	X		X	
CD 2		X		X
Tape 1	X		X	
Tape 2		X		X
Video	X		X	X
Aux		X		X

Phono 3 input may be converted to a line input by placing the rear panel Phono 3 switch to the line position. This line input has 6dB less gain than the other line inputs. The lower gain provides more headroom for easier control of hot signals.

**Cue Points:** The Cue switches are used to select one of the six mixer signals as the Cue signal. The cue points that can be selected are: pre-fader signals from channels 1, 2, 3, or 4; DJ Effects patch return; and the Main Effects patch return.

The Cue switches allow only one of the signals to be selected at a time. The Cue system is mono, regardless of the signal being monitored.

The selected Cue signal is heard in the right headphone when Blend Active is not used. When Blend Active is used, the Cue signal can be heard in the left and right headphones, by itself or in combination with the Main signals.

**Main Control:** Control of the Main signals is accomplished with the Channel 1~4 faders, the Crossfader, and the Main Level fader. The signals from Channels 1 and 2 are combined after the faders and travel through a 3-band EQ to the left side of the Crossfader. The signals from Channels 3 and 4 are combined after the faders and travel through a 3-band EQ to the right side of the Crossfader.

The position of the Crossfader determines which signals are sent toward the Main Outputs. With the Crossfader positioned fully left, signals from Channels 1 and 2 are sent toward the Main Outputs. With the Crossfader positioned fully right,

signals from Channels 3 and 4 are sent toward the Main Outputs. With the Crossfader centered, equal amounts of the signals from Channels 1 & 2 and Channels 3 & 4 are sent toward the Main Outputs.

The stereo signal leaving the Crossfader travels through the Balance control, which is used to adjust the left to right balance of the signal. At this point the Beat Sync circuit monitors the signals and flashes the front panel Main Beat Sync indicator in unison with the beat.

**Main Effects:** The Main signals are routed to the Main Effects section, which provides patch points for external effects processing. When the Main Effects switch is pressed IN, the signals at the Main Effects patch jacks (return) are used as the Main signals. The effects send signals (Main Effects Out & Main Effects Patch) are always present. The Main Effects switch controls only the returning signals.

The signals leaving the Main Effects section are applied to the Talkover section, which is used to add signals from the DJ or Floor Mics to the Main signals.

**DJ Effects:** The input signal from DJ Mic is amplified and sent to the DJ Mic Effects section, where a patch point is provided for external signal processing. When the DJ Mic Effects switch is pressed IN, the signal at the DJ Mic Effects patch jack (return) is used as the DJ Mic signal. The DJ Mic Effects send signal is always present. The DJ Mic Effects switch controls only the returning signal.

The DJ Mic and Floor Mic signals are combined and travel through the Mic Bass and Mic Treble controls to the Talkover section.

**Talkover:** At this point the DJ and Floor Mic signals can be added to the Main signal by pressing the Talkover switch IN. The Talkover Level control determines how much the Main signal is attenuated, when Talkover is ON (Talkover switch IN). Talkover attenuation is variable from 0dB (clockwise) to -20dB (counter-clockwise).

When the Talkover switch is pressed IN, the Main signal will be attenuated gradually to the level set by the Talkover Level control. When the Talkover switch is released, the Main signal returns gradually to the original level. The output of the Talkover section is applied to the Bass Impact circuit.

**Bass Impact:** This circuit is active when the front panel Bass Impact switch is pressed IN. The circuit monitors the low frequency dynamics of the Main signal. When the peak value of the signal exceeds the average value by 6dB, expansion takes place.

The brightness of the Bass Impact indicator varies with the amount of expansion: dim for little or no expansion and bright for maximum expansion (approximately 12dB).

The Main signals leaving the Bass Impact circuit are applied to the Main Level fader, the Monitor Level control, and the Mono Out Level control.

**Main Level:** The Main Level fader controls the level of signals at the rear panel Main Out Left and Main Out Right jacks. The signals at the Main Out jacks can be converted to mono (L+R) by setting the rear panel Main switch to the Mono position (IN).

The left and right Main signals are also routed to the Level Meter and the Main side of the Blend control. A mono (L+R) version of the Main signal is applied to the Light Send output.

**Monitor Level:** The Monitor Level control adjusts the level of the signals at the rear panel Monitor Out Left and Monitor Out Right jacks. These signals can be converted to mono (L+R) by pressing the front panel Monitor Mono switch IN.

**Blend:** The Blend Active switch and the Blend control determine the signal that is sent to the Cue headphones.

With the Blend Active switch OUT, the Blend control has no effect. The signal heard in the headphones is a mono (L+R) version of the Main signal on the left and the mono Cue signal on the right.

With the Blend Active switch IN, the Blend control selects between a stereo Main signal and the mono Cue signal.

**Cue Level:** The Cue Level control adjusts the volume at the Cue headphone output. The Cue Level control affects both left and right signals equally.

# OPERATION

## CUE SYSTEM

Select the signal you want to monitor by pressing one of the six Cue buttons. The indicator above the selected button will light to indicate which source is the Cue signal. Only one signal may be selected at a time. When one of the buttons is pressed, all others are locked out.

**Channels 1-4:** The Cue signal from a channel is always a mono (L+R) version of the stereo input signal. The Cue signal is taken after the Input Assign switch, but before the channel fader, so the position of the channel fader will not affect the Cue levels.

**DJ Effects:** When the DJ Mic Effects Cue button is selected, the return signal at the DJ Mic Effects patch jack is monitored. This is the processed signal that is returning from the external effects device.

This Cue signal allows you to monitor the DJ Mic Effects and make any adjustments before using the processed DJ Mic signal for Talkover.

If an external effects processor is not used for the DJ Mic, the Cue switch can still be used to monitor the unprocessed DJ Mic signal before using Talkover. Set the Cue Level control for relatively low headphone volume. If the headphones are set for high volume levels, feedback may occur between the DJ Mic and the headphones.

**Main Effects:** When the Main Effects button is selected, the return signals at the Main Effects patch jacks are monitored. This is the processed signal that is returning from the external effects device.

This Cue button allows you to monitor the Main Effects and make any adjustments before you add them to the Main mix.

If an external effects processor is not used for the Main signals, the signal at the Cue switch is just a mono (L+R) version of the Main signals.

The selected Cue signal is sent to two points, the Cue Beat Sync circuit and the Blend circuit. The output of the Blend circuit feeds the Cue headphones.

**Beat Sync:** The Cue Beat Sync indicator, along with the Main Beat Sync indicator, can be used to synchronize the beat of the Cue and Main signals just before the crossfade. In use, the timing of the Cue signal is adjusted until the Main and Cue Beat Sync indicators flash together, then the crossfade is made smoothly with no interruption of the beat.

**Blend:** The Blend Active switch and the Blend control allow a choice of how the Main & Cue signals appear in the Cue headphones.

When the Blend Active switch is OUT, a mono (L+R) version of the Main signals is heard in the left headphone, while the mono Cue signal is heard in the right headphone. The Blend control has no effect.

When the Blend Active switch is IN, the Blend control determines the balance between the stereo Main signal and the mono Cue signal in the headphones. With the Blend control fully clockwise, only the Main signals are heard (stereo) in the headphones. With the Blend control fully counter-clockwise, only the Cue signal is heard (mono) in both headphones. With the Blend control centered, a combination of stereo Main and mono Cue signals is heard.

## MAIN SYSTEM

The line inputs have been labelled for a typical system. However, since all of the line inputs are identical electronically, any line-level source can be connected to any of the line inputs.

The three phono inputs are available at only one channel each, while the line inputs are available to channels on either side of the Crossfader. The ability to assign line inputs to either side of the Crossfader allows the mixer to be set up in many customized configurations.

**Channel Faders & Crossfader:** There are two basic ways to segue between cuts: using the Crossfader, or leaving the Crossfader centered and using the Channel Faders.

When the Crossfader is used, the Channel Fader is brought up to the desired level for the next cut, then the Crossfader is moved toward that channel with the next cut.

When the Channel Faders are used, the Crossfader stays centered and the Channel Fader for the current cut is brought down, while the Channel Fader for the next cut is brought up. The method allows mixing between any combination of channels.

**Equalization:** The EQ controls allow adjustments to the overall tone of the Main signals. The EQ controls to the left of the Crossfader affect only Channel 1 and Channel 2. The EQ controls to the right of

the Crossfader affect only Channel 3 and Channel 4.

**Beat Sync:** The Beat Sync indicators give a visual indication of the low-frequency beat of the Main & Cue signals. When the Beat Sync indicators flash in unison, a segue can be made which provides an uninterrupted beat.

**Balance:** This control sets the left to right balance of the Main signals. In most situations, this control remains centered.

**Main Effects:** This switch controls the routing of the Main signals through external processors, such as samplers, expanders, reverbs, etc. The indicator above the switch lights when the Main signals are being processed.

Main Effects patching is prior to Talkover. Therefore, DJ Mic & Floor Mic signals are not affected by Main Effects processing.

**Talkover:** The Talkover switch enables the DJ Mic and the Floor Mic. The position of the Talkover Level control determines how much the Main signals will drop in level, when Talkover is on.

When Talkover is engaged, the Main signal levels will drop gradually, and return gradually when Talkover is released. This prevents abrupt changes in level, allowing for smooth Talkover transitions.

**Bass Impact:** This switch selects an internal processor which expands the low-frequency dynamic range of the Main signals. When the peak levels exceed the average levels by 6dB, Bass Impact increases those levels further, adding impact to the signals.

The brightness of the Bass Impact indicator varies with the amount of expansion that is added to the signals.

**Main Fader:** This control adjusts the level of the Main left and right output signals.

**Monitor Level:** The control adjusts the level at the Monitor output. If Monitor Out is used for a DJ booth speaker system, turn down levels to avoid feedback when using Talkover.

**Main Out:** The Level Meter displays the left and right Main signals. When the "0" indicators on the meter light, signal levels of +4dBu are present at Main Out.

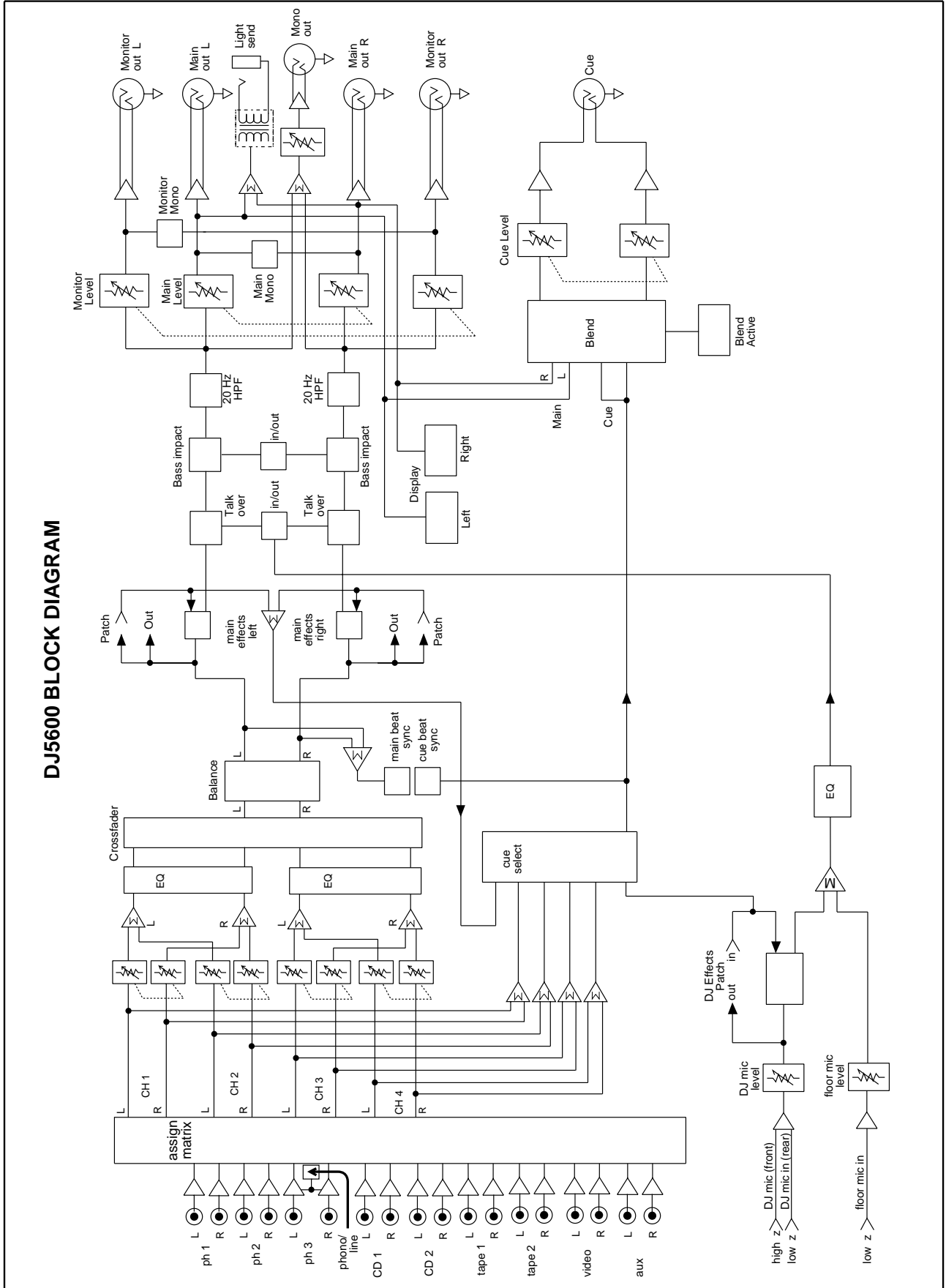
**Mono Level:** This control adjusts the level of the Mono output signals.

# SPECIFICATIONS

<p><b>PHONO INPUTS:</b></p> <p>Input Sensitivity -43.4dBv</p> <p>Input Impedance 47k ohms</p> <p>Maximum Input Level (@ 1kHz) -18.9dBv</p> <p><b>LINE INPUTS:</b></p> <p>Input Sensitivity -18.9dBv</p> <p>Input Impedance 17.5k ohms</p> <p>Maximum Input Level (@ 1kHz) +14.9dBv</p> <p><b>MICROPHONE INPUTS (low impedance):</b></p> <p>Input Sensitivity -38.7dBv</p> <p>Input Impedance 1.9k ohms</p> <p>Maximum Input Level (@ 1kHz) -18.8dBv</p> <p><b>MICROPHONE INPUT (high-impedance):</b></p> <p>Input Sensitivity -22dBv</p> <p>Input Impedance 8k ohms</p> <p>Maximum Input Level (@ 1kHz) +2.2dBv</p> <p><b>SIGNAL/NOISE RATIO (A wgtd.):</b></p> <p>Phono (10mV @ 1kHz) 86dB</p> <p>Line (-10dBv @ 1kHz) 83dB</p> <p><b>THD (20Hz-20kHz @ +4dBm):</b></p> <p>Phono &lt;0.1%</p> <p>Line &lt;0.05%</p> <p><b>CROSSTALK (-10dBm @ 1kHz line input):</b></p> <p>Cue -to-Main -59dB</p> <p><b>HEADPHONE OUTPUT (@ 600 ohms):</b> +20dBm</p>	<p><b>FREQUENCY RESPONSE (20Hz-20kHz):</b> +0/-3dB</p> <p><b>TALKOVER ATTENUATION:</b> 0 to -20dB</p> <p><b>EQUALIZATION:</b></p> <p>Input Channels</p> <p>High ±8dB @ 7kHz</p> <p>Mid ±8dB @ 2.5kHz</p> <p>Low ±8dB @ 85Hz</p> <p>DJ Mic</p> <p>High ±8dB @ 10kHz</p> <p>Low ±8dB @ 80Hz</p> <p><b>LIGHT SEND (nominal level):</b> +4dBm</p> <p><b>DIMENSIONS:</b></p> <p>Height (5 rack spaces) 8.75 inches</p> <p>Width 19 inches</p> <p>Depth 5 inches</p> <p><b>WEIGHT:</b> 13 lbs.</p> <p><b>CONNECTORS:</b></p> <p>Inputs RCA, XLR, &amp; ¼" phone</p> <p>Outputs ¼" phone (balanced)</p> <p><b>METERING:</b> dual 12-segment LED</p> <p><b>POWER REQUIREMENTS:</b> 120 VAC/60Hz</p> <p><b>POWER CONSUMPTION:</b> &lt; 21 watts</p>
--	--

# BLOCK DIAGRAM

## DJ5600 BLOCK DIAGRAM



## WARRANTY

---

### BIAMP IS PLEASED TO EXTEND THE FOLLOWING 1-YEAR LIMITED WARRANTY TO THE ORIGINAL PURCHASER OF THE PROFESSIONAL SOUND EQUIPMENT DESCRIBED IN THIS OWNER'S MANUAL.

BIAMP Systems expressly warrants this product to be free from defects in material and workmanship for a period of 1 YEAR from the date of purchase as a new product from an authorized BIAMP dealer under the following conditions.

1. The Purchaser is responsible for completing and mailing to BIAMP, within 10 days of purchase, the attached warranty application.

2. In the event the warranted BIAMP product requires service during the warranty period, BIAMP will repair or replace, at its option, defective materials, provided you have identified yourself as the original purchaser of the product to any authorized BIAMP Service Center. Transportation and insurance charges to and from an authorized Service Center or the BIAMP factory for warranted products or components thereof to obtain repairs shall be the responsibility of the Purchaser.

3. This warranty will be VOIDED if the serial number has been removed or defaced; or if the product has been subjected to accidental damage, abuse, rental usage, alterations, or attempted repair by any person not authorized by BIAMP to make repairs; or if the product has been installed contrary to BIAMP's instructions.

4. The normal wear and tear of appearance items such as paint, knobs, handles, and covers is not covered under this warranty.

5. BIAMP SHALL NOT IN ANY EVENT BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS, LOSS OF USE, PROPERTY DAMAGE, INJURY TO GOODWILL, OR OTHER ECONOMIC LOSS OF ANY SORT. EXCEPT AS EXPRESSLY PROVIDED HEREIN, BIAMP DISCLAIMS ALL OTHER LIABILITY TO PURCHASER OR ANY OTHER PERSONS ARISING OUT OF USE OR PERFORMANCE OF THE PRODUCT, INCLUDING LIABILITY FOR NEGLIGENCE OR STRICT LIABILITY IN TORT.

6. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED. BIAMP EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE REMEDIES SET FORTH HEREIN SHALL BE THE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES WITH RESPECT TO ANY DEFECTIVE PRODUCT. THE AGENTS, EMPLOYEES, DISTRIBUTORS, AND DEALERS OF BIAMP ARE NOT AUTHORIZED TO MODIFY THIS WARRANTY OR TO MAKE ADDITIONAL WARRANTIES BINDING ON BIAMP. ACCORDINGLY, ADDITIONAL STATEMENTS SUCH AS DEALER ADVERTISEMENTS OR REPRESENTATIONS DO NOT CONSTITUTE WARRANTIES BY BIAMP.

7. No action for breach of this warranty may be commenced more than one year after the expiration of this warranty.

Thank you for purchasing BIAMP...  
AMERICAN SOUND CRAFTSMANSHIP

Biamp Systems  
14130 N.W. Science Park  
Portland, Oregon 97229  
(503) 641-7287  
an affiliate of Rauland-Borg Corp.