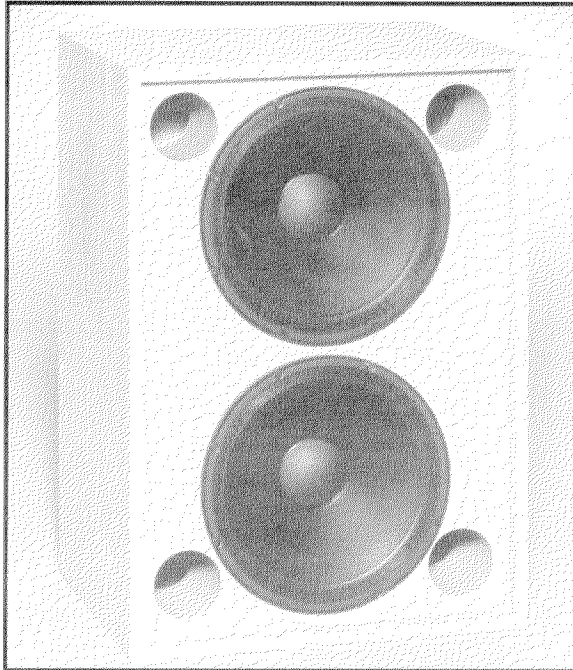




# AB8500 AcoustaBASS™ Low-Frequency System



## KEY FEATURES

- ★ High-Power Handling
- ★ High Efficiency
- ★ Extended Response
- ★ Compact Size
- ★ Enclosure Allows Refinishing

## DESCRIPTION

The Altec Lansing **AB8500** is a member of the AcoustaBASS™ family of low-frequency enclosures. The **AB8500** is a direct-radiating vented design and provides high-efficiency, low distortion and excellent low-frequency performance in a relatively small enclosure. The **AB8500** employs dual long-throw 15 inch (38.1 cm) loudspeakers in a 7.4 ft<sup>3</sup> (209.5 L) enclosure. The Enviro-board™ enclosure is finished in beige with matching fabric grille. Connections are made via barrier strip (#10) recessed into the back of the enclosure on a durable molded connector panel.

The enclosure is constructed from Enviro-Board™, a composite structural material which is easily refinished (see Finishing Enviro-Board™). Enviro-board™ is made of layered and selectively ori-

## KEY SPECIFICATIONS

<b>System Type:</b>	Direct-radiating, vented, low-frequency loudspeaker system.
<b>Pressure Sensitivity:</b> (1 w, 100 Hz to 800 Hz, re: 20 µPa, see note 1).	101 dB SPL.
<b>Frequency Response:</b> (see Figure 1, Note 2)	46 Hz to 3,500 Hz.
<b>Power Handling:</b> (50 Hz to 500 Hz, see note 3)	800 watts, AES method. 800 watts, EIA RS426A.
<b>Maximum Long-Term Output:</b> (800 watts input, 1 m, re: 20 µPa, see note 4).	127.5 dB.
<b>Impedance:</b>	3.8 ohms minimum @ 40 Hz. 4.0 ohms nominal.
<b>Components:</b>	Two 15 inch (38.1 cm) low-frequency loudspeaker.

ented hardwood strands strongly bonded together within a phenolic-resin matrix. The surface is a proprietary vinyl laminate especially formulated for Altec Lansing which can be painted or stained to match any decorative environment.

The AcoustaBASS series of low-frequency enclosures are ideally suited for any installation where high-quality sound is required and in permanent installations for houses of worship, auditoriums and arenas. The **AB8500** combines well with both the **Mantaray**® and **Vari-Intense**® series of horns. The enclosures may be stacked for greater output capability or for a narrower vertical beamwidth. Every time the number is doubled, approximately 6 dB in output is gained (3 dB for double power handling and 3 dB for the resultant higher Q).

## SPECIFICATIONS (continued)

<b>Input Connection:</b>	Screw terminals (#10-32) on barrier strip will accept 0.4 inch (1.0 cm) wide spade-lug.
<b>Recone Kit:</b>	Model R4500.
<b>Replacement Woofer:</b>	Model AB4500-RLF.
<b>Replacement Grille:</b>	Model RG8500.
<b>Enclosure:</b>	Vented design for optimum response. Constructed of 0.7-inch (1.8 cm) Enviro-Board™, a composite refinishable structural material.
<b>Finish:</b>	
Enclosure:	Wood grain, beige.
Grille Cloth:	Beige.
<b>Dimensions:</b>	
Height:	34.0 inches (86.4 cm).
Width:	24.0 inches (61.0 cm).
Depth:	20.4 inches (51.8 cm).
<b>Net Weight:</b>	108.0 lbs (49.0 kg).
<b>Shipping Weight:</b>	122.0 lbs (55.5 kg).
<b>Accessories:</b>	ASK 100 mounting kit. ASK 300 mounting kit.

*Altec Lansing continually strives to improve products and performance. Therefore, specifications are subject to change without notice.*

## NOTES ON MEASUREMENT CONDITIONS

1. Pink noise signal, one Watt calculated using  $E^2/Z_{min}$ , 3.16 meter-measurement distance referred to one meter.
2. On-axis, one Watt calculated using  $E^2/Z_{min}$ , 3.16 meter-measurement distance referred to one meter, low frequencies corrected for anechoic chamber error.
3. This system rating patterned after the AES method for individual driver, where the test signal is pink noise with a 6 dB crest factor over the bandwidth of the system, with power calculated using the  $E^2/Z_{min}$ , for two hours.
4. This measurement made under the same conditions as Pressure Sensitivity, but at rated power, and takes into account any power compression effects due to non-linearities in the system.
5. The loudspeaker should be connected to the 8-ohm (4-ohm) tap on amplifiers using transformer coupled output sections.
6. Distortion components invalid above 10 kHz. The distortion at any given frequency may be found by graphically taking the difference between the fundamental and harmonic, and adding the number of Decibels which the harmonic has been raised on the graph and apply the formula:

$$\% \text{ distortion} = 100 \times 10^{(\text{difference in dB}/20)}$$

## FINISHING ENVIRO-BOARD™

Finishing Enviro-Board™ is simple and straight forward as long as a few things are understood:

1. Enviro-Board™ has been tested with a large number of commercially available paints with 100% success. However, it is impossible to test every paint available. Altec Lansing therefore recommends that you test a small area on the rear of the cabinet or under the grille to check there are no adverse effects.
2. Ensure the surface is clean and free of grease (use soapy water if necessary).
3. Any latex-enamel or acrylic-based paint can be used but the high-tech top layer of Enviro-Board™ was developed in conjunction with Pittsburgh Paints. They developed their Manor Hall® Exterior House series of paints to compliment the Enviro-Board™. Altec Lansing recommends the use of these paints in adverse or tough situations.
4. Water-based Latex paints in particular can take a considerable time to dry fully. They can be handled in a few hours but full strength may not be achieved for a week, particularly in damp or cool conditions.
5. The paint can be applied with a brush, roller or spray. Care should be taken not to get paint on the woofer cone.
6. Stain can be used to highlight the grain in the Enviro-Board™ or match real wood. Care should be taken when using stain because it is impossible to refinish the material after staining. A good approach is to use a stained varnish but be careful as it is very difficult to lighten a stain.

## HANGING AcoustaBASS™

The AcoustaBASS family of products has been developed and is fully integrated with the ASK family of hanging hardware. Each ASK kit consists of a steel tube, two brackets, two eye-bolts and fasteners. The Altec Lansing contractor installs the ASK by drilling two holes into the enclosure in predetermined positions and assembling the ASK kit. Full instructions are included with each ASK kit and a template is packed with the **AB8500** to show the location of the holes. A single **AB8500** requires a single **ASK-300** to suspend it horizontally, or a single **ASK-100** to suspend it vertically. While each **AB8500** requires two **ASK-100** (horizontal), or two **ASK-300** (vertical), if multiple cabinets are suspended (up to a maximum of 3). Full attention should be given to the instructions and limitations in the ASK instruction sheet.

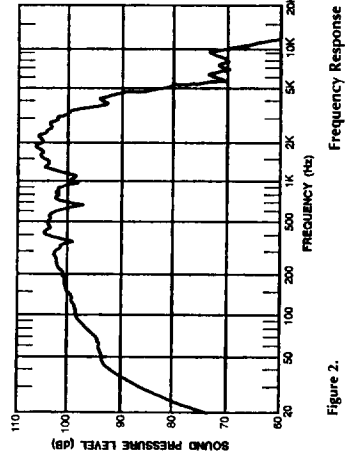


Figure 2. Frequency Response

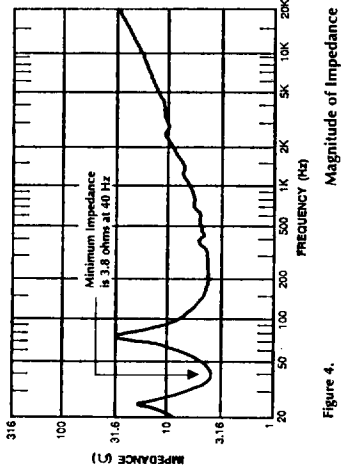


Figure 4. Magnitude of Impedance

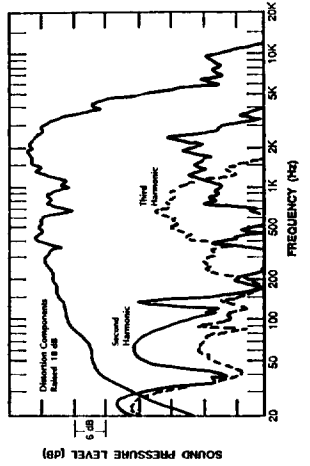


Figure 6. Harmonic Distortion at 0.01 Rated Power

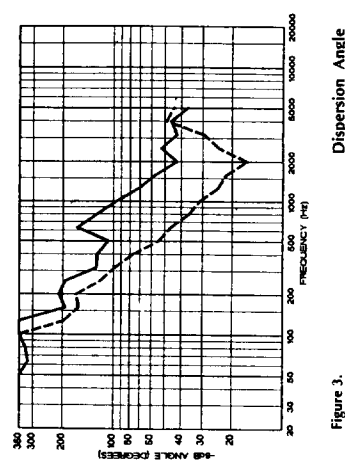


Figure 3. Dispersion Angle

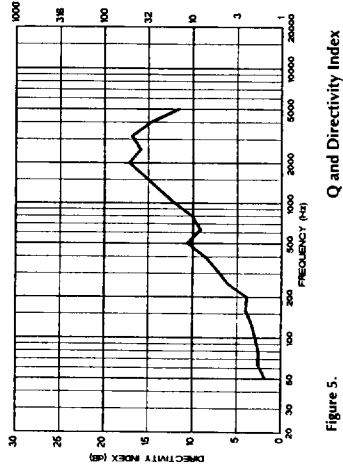


Figure 5. Q and Directivity Index

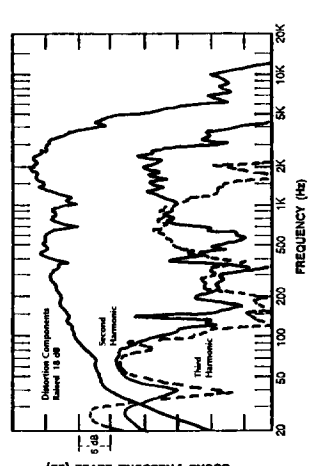


Figure 7. Harmonic Distortion at 0.1 Rated Power

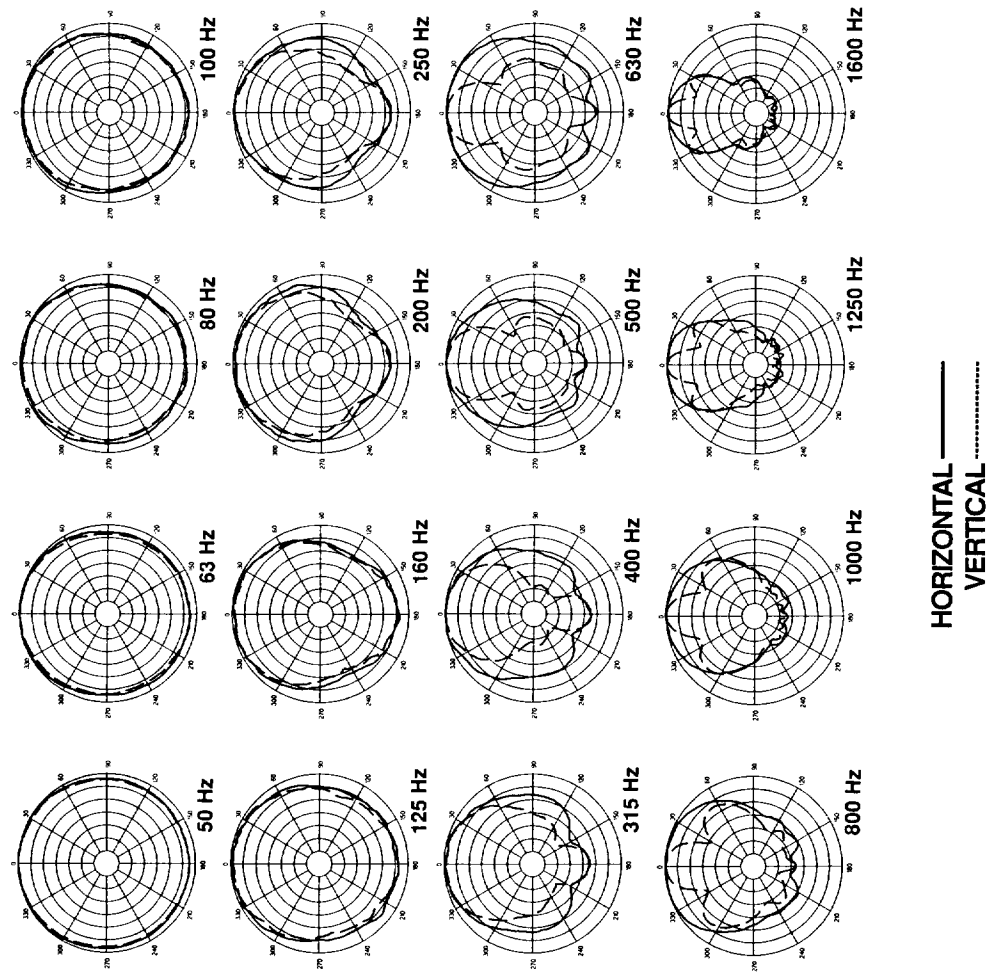
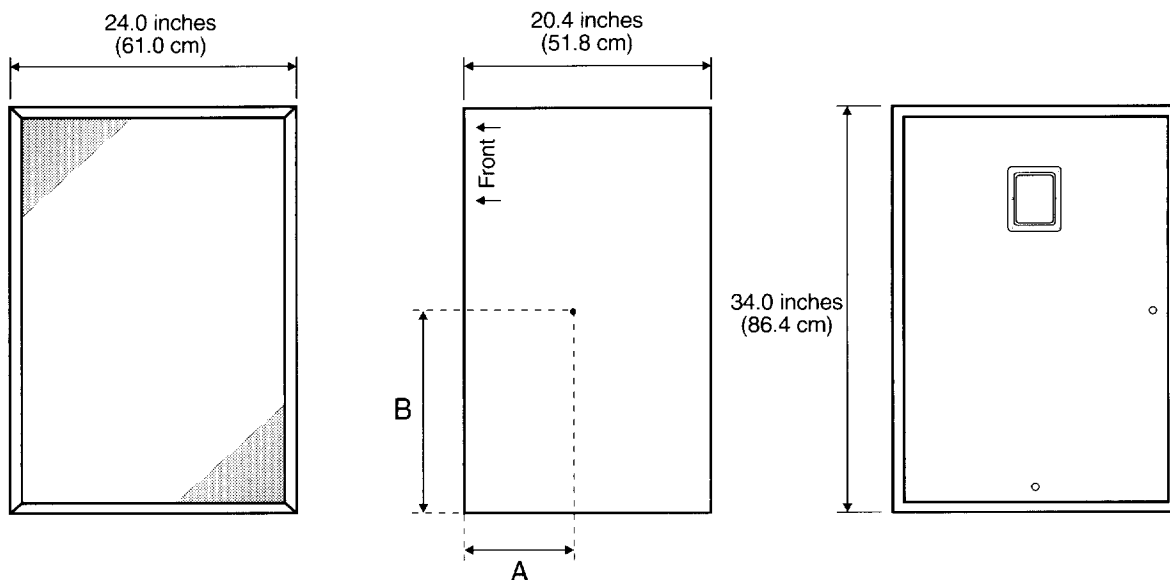


Figure 1. 1/3-Octave Polar Responses

## Center of Gravity

A: 9.4 inches (23.9 cm)

B: 17.0 inches (43.2 cm)



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## ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The loudspeaker shall be a low-frequency, bass reflex design, consisting of dual long-throw, high efficiency 15 inch (38.1 cm) woofer front mounted in a 7.4 ft<sup>3</sup> (209.5 L) enclosure. The loudspeaker shall meet the following design criteria: Power handling, 800 Watts of pink noise with 6 dB crest factor, band width limited from 50 Hz to 500 Hz. Frequency response, smooth and uniformly usable at high output levels from 46 Hz to 3,500 Hz. Pressure sensitivity, 101 dB SPL at one watt, 100 Hz to 800 Hz, measured at a distance of one meter on axis. Impedance 4.0 ohms nominal, 3.8 ohms minimum. Directivity

pattern 110° horizontal by 50° vertical at 500 Hz. The enclosure shall be constructed from hardwood composite material and damped with sound absorbing glass wool. The enclosure can be finished using commonly available paints and stains to match any decorative environment. The enclosure and cloth grille shall be finished in beige. The dimensions shall be 34.0 inches (86.4 cm) high by 24.0 inches (61.0 cm) wide by 20.4 inches (51.8 cm) deep. The loudspeaker system shall weigh 108.0 lbs (49.0 kg).

The low frequency loudspeaker system shall be the Altec Lansing AcoustaBASS series **AB8500**.



a MARK IV company

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