

## DTS-99

### Duplex® Loudspeaker System

- High output capability
- Excellent directivity control
- Enclosure allows refinishing
- Low-profile under-balcony system

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#### Description

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The Altec Lansing **DTS-99** is a two-way, factory-assembled, vented-bass, under-balcony system. This compact system features high sensitivity, high output capability and point-source alignment, together with excellent directivity control down to 1,000 Hz. The coverage at 1,250 Hz is 100° horizontal by 90° vertical and the system's nominal coverage is 90° horizontal by 90° vertical. The bass-reflex porting extends the low-frequency response to below 85 Hz, or lower if multiple units are used. The **DTS-99** consists of two 165-mm (6.5-inch) high-power woofers with a centrally mounted 25.4-mm (1-inch) compression driver utilizing a 90° x 90° Vari-Intense® constant-directivity horn. Electrical connection to the driver is made by large screw terminals able to accept up to 10-gauge wire, or via two parallel, 4-pin Neutrik Speakon® connectors. The system is provided with a 1,500-Hz passive crossover featuring tweeter protection. The enclosure is constructed from 12-mm (0.5-inch) thick, thoroughly braced 11-ply birch plywood with a 19-mm (0.75-inch) front baffle and is lined with sound-absorbing glass wool. Threaded insert mounting points are provided to conveniently attach the Altec Lansing **MB-99** mounting bracket. The

system is also provided with two sets of inserts for the OmniMount® 100 series mounting brackets, one set on the back and one set located on one end.\* The finish of the enclosure is textured black paint which can be easily painted to complement any interior. The grille is black powder-coated metal lined with weather-resistant foam and fastened to the front of the enclosure with wood screws.

The **DTS-99** is ideally suited for use as a low-profile, under-balcony speaker system for use in churches, auditoriums, hotels and civic centers.

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#### Architects' And Engineers' Specifications

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The loudspeaker system shall be of the vented type, consisting of two 165-mm (6.5-inch) high-power, under-hung voice-coil woofers together with a centrally mounted, 25.4-mm (1-inch) compression driver loaded with a 90° x 90° Vari-Intense® constant-directivity horn. The loudspeaker system shall meet the following performance criteria. Power handling shall be 160 watts of pink noise with a 6-dB crest factor, band limited from 85 Hz to 20 kHz. Frequency response shall be smooth and uniformly usable from 85 Hz to 20 kHz. Pressure sensitivity shall be 92 dB SPL when

measured at one meter on axis with one watt of band-limited pink noise from 85 Hz to 20 kHz. The enclosure shall be constructed from 12-mm (0.5-inch), 11-ply birch plywood with a 19-mm (0.75-inch) baffle and lined with sound-absorbing glass wool. The finish of the enclosure shall be textured black. A black metal removable grille, complete with foam weather-resistant screen, shall be provided. The dimensions of the enclosure shall be 203 mm (8.0 inches) high by 533 mm (21.0 inches) wide by 254 mm (10.0 inches) deep. The loudspeaker system shall weigh 12.7 kg (28 lb).

The loudspeaker system shall be the Altec Lansing **DTS-99**

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#### Uniform Limited Warranty Statement

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Altec Lansing products are guaranteed against malfunction due to defects in materials or workmanship for a specified period, as noted in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual, beginning with the date of original purchase. If such malfunction occurs during the specified period, the product will be repaired or replaced (at our option) without charge. The product will be returned to the customer prepaid. **Exclusions and Limitations:** The Limited Warranty does not ap-

\* OmniMount is a registered trademark of OmniMount Systems, Inc.

# Altec Lansing DTS-99 Duplex<sup>TM</sup> Loudspeaker System

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statement(s) below, or in the individual product data sheet or owner's manual; (c) malfunction resulting from use or operation of the product other than as specified in the product data sheet or owner's manual; (d) malfunction resulting from misuse or abuse of the product; or (e) malfunction occurring at any time after repairs have been made to the product by anyone other than Mark IV Audio Service or any of its authorized service representatives. **Obtaining Warranty Service:** To obtain warranty service, a customer must deliver the product, prepaid, to Mark IV Audio Service or any of its authorized service representatives together with proof of purchase of the product in the form of a bill of sale or receipted invoice. A list of authorized service representatives is available from Mark IV Audio Service at 10500 W. Reno Avenue, Oklahoma, OK 73127 (800/845-8727 or FAX 405/577-3274). **Incidental and Consequential Damages Ex-**

**cluded:** Product repair or replacement and return to the customer are the only remedies provided to the customer. Altec Lansing shall not be liable for any incidental or consequential damages including, without limitation, injury to persons or property or loss of use. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you. **Other Rights:** This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

**Altec Lansing Speakers and Speaker Systems** are guaranteed against malfunction due to defects in materials or workmanship for a period of five (5) years from the date of original purchase. The Limited Warranty does not apply to burned voice coils or malfunctions such as cone and/or coil damage resulting from improperly designed enclosures. Altec Lansing active electronics associated with

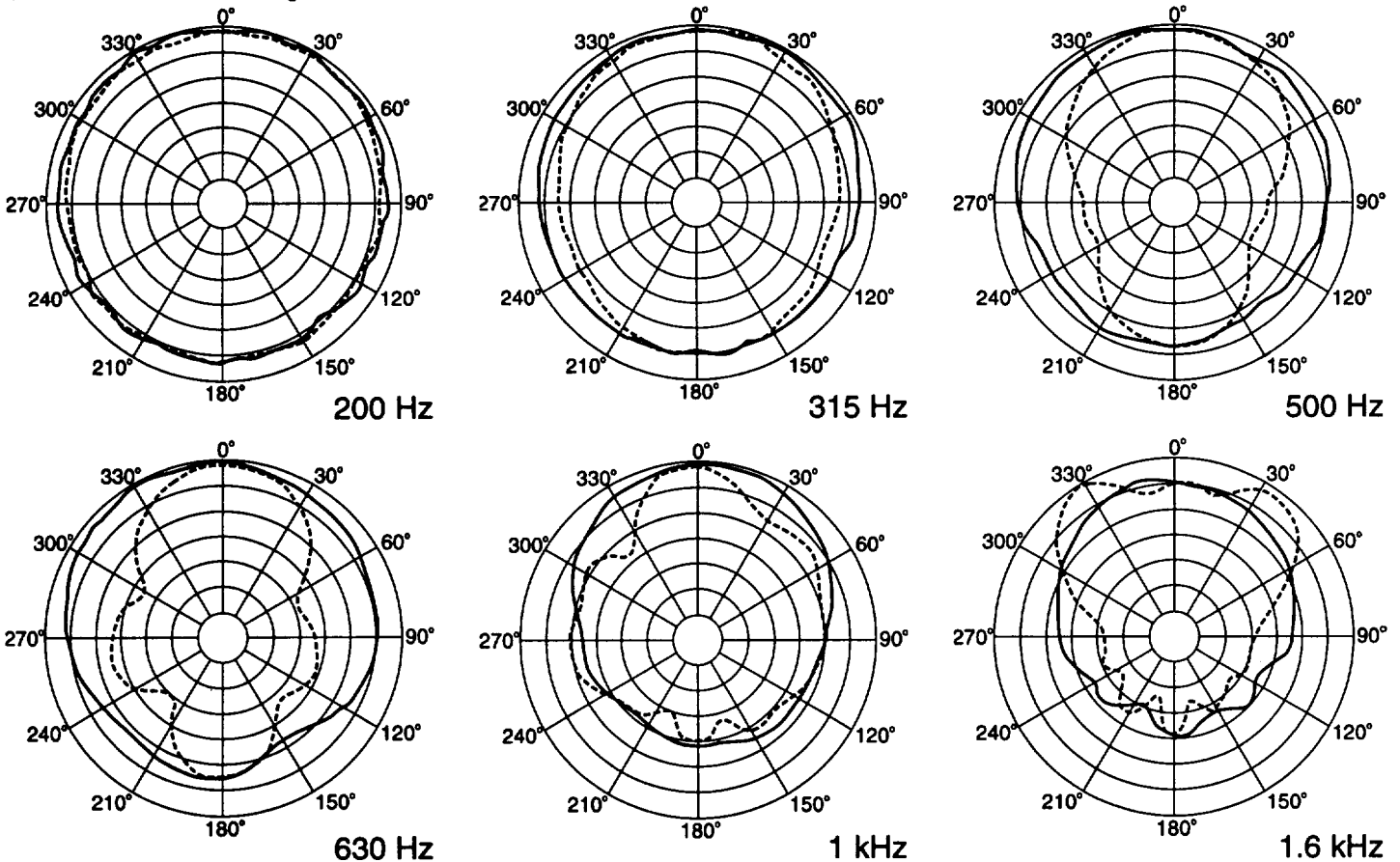
the speaker systems are guaranteed for three (3) years from the date of original purchase. Additional details are included in the Uniform Limited Warranty statement.

**Altec Lansing Accessories** are guaranteed against malfunction due to defects in materials or workmanship for a period of one (1) year from the date of original purchase. Additional details are included in the Uniform Limited Warranty statement.

**For technical assistance,** contact Technical Support at 800/234-6831 or 616/695-6831, M-F, 8:00 a.m. to 5:00 p.m. eastern standard time.

Specifications subject to change without notice.

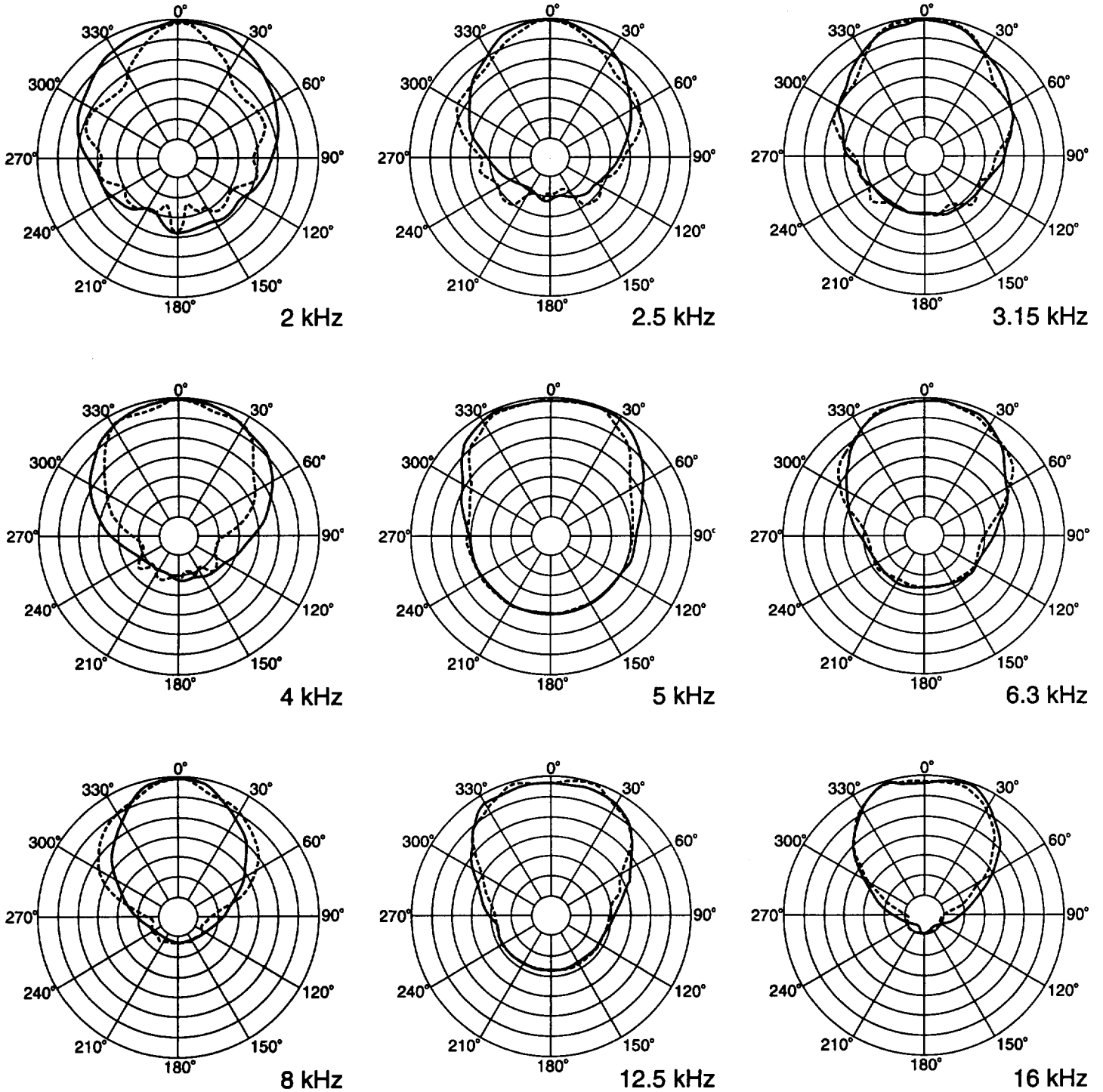
**Figure 1—DTS-99 Polar Response**  
(one-third-octave bands of pink noise)



\* Long enclosure axis horizontal.

# Altec Lansing DTS-99 Duplex<sup>™</sup> Loudspeaker System

Figure 1—DTS-99 Polar Response  
(one-third-octave bands of pink noise)

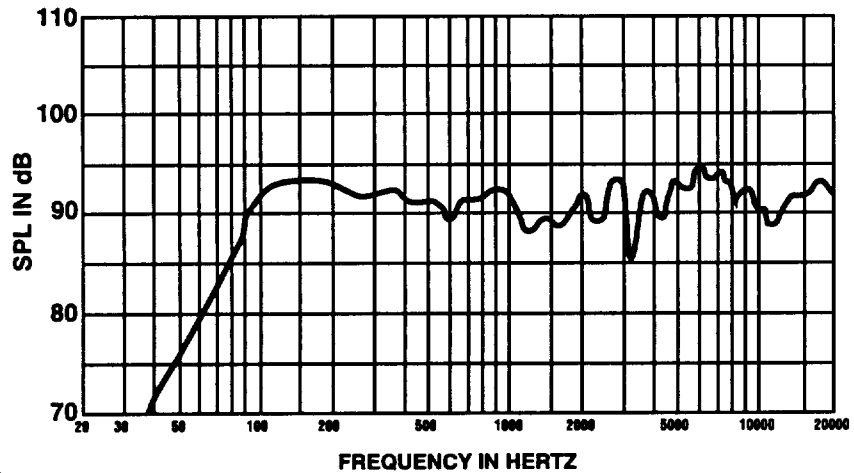


— Horizontal\*  
- - - Vertical\*

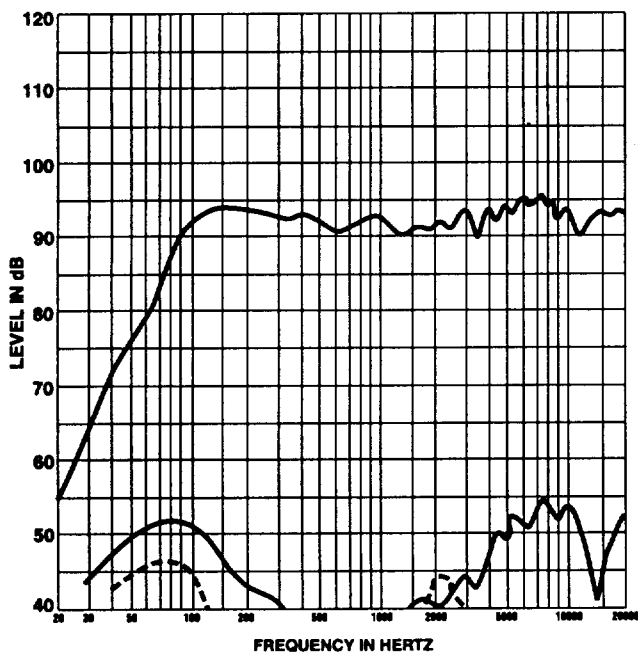
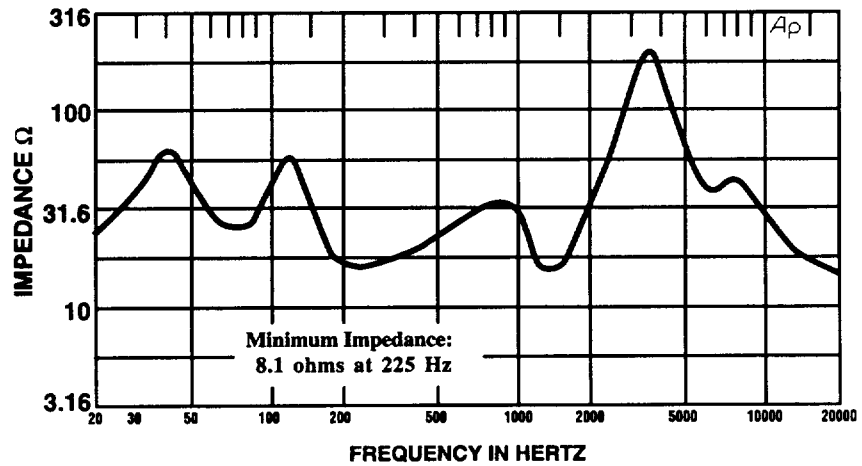
\* Long enclosure axis horizontal.

# Altec Lansing DTS-99 Duplex™ Loudspeaker System

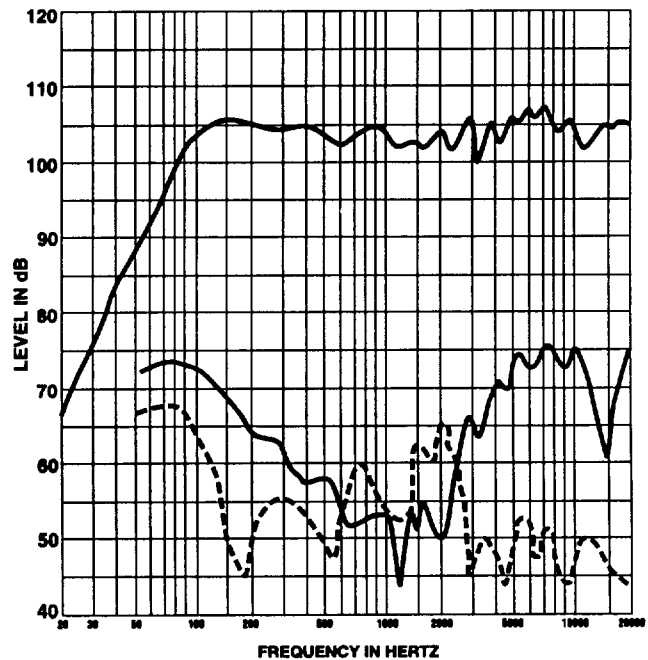
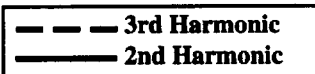
**Figure 2—DTS-99 Frequency Response**  
(on axis, 1 watt/1 meter, anechoic environment)<sup>2</sup>



**Figure 3—DTS-99 Impedance Curve**



**Figure 4—DTS-99 Harmonic Distortion**  
at 0.01 Rated Power (1.6 W)<sup>1</sup>



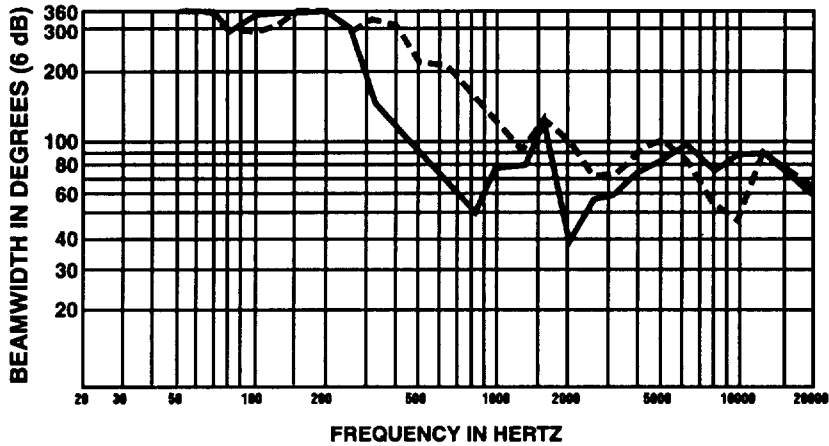
**Figure 5—DTS-99 Harmonic Distortion**  
at 0.1 Rated Power (16 W)<sup>1</sup>

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# Altec Lansing DTS-99 Duplex Loudspeaker System

Figure 6—DTS-99 Beamwidth

— Horizontal\*  
 - - - Vertical\*



\* Long enclosure axis horizontal.

Figure 7—DTS-99  $R_0$  (Q) and Directivity Index,  $D_i$

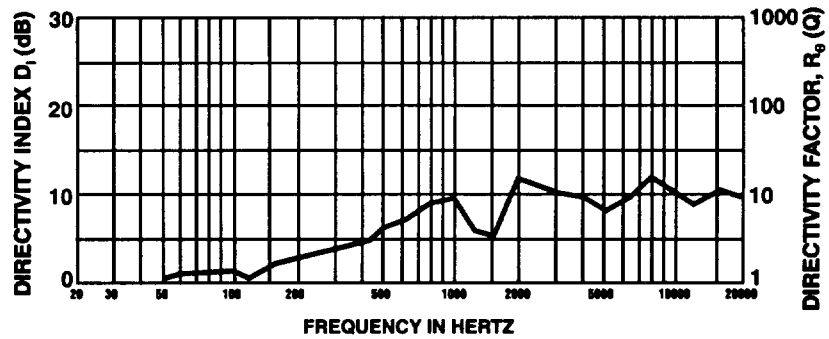
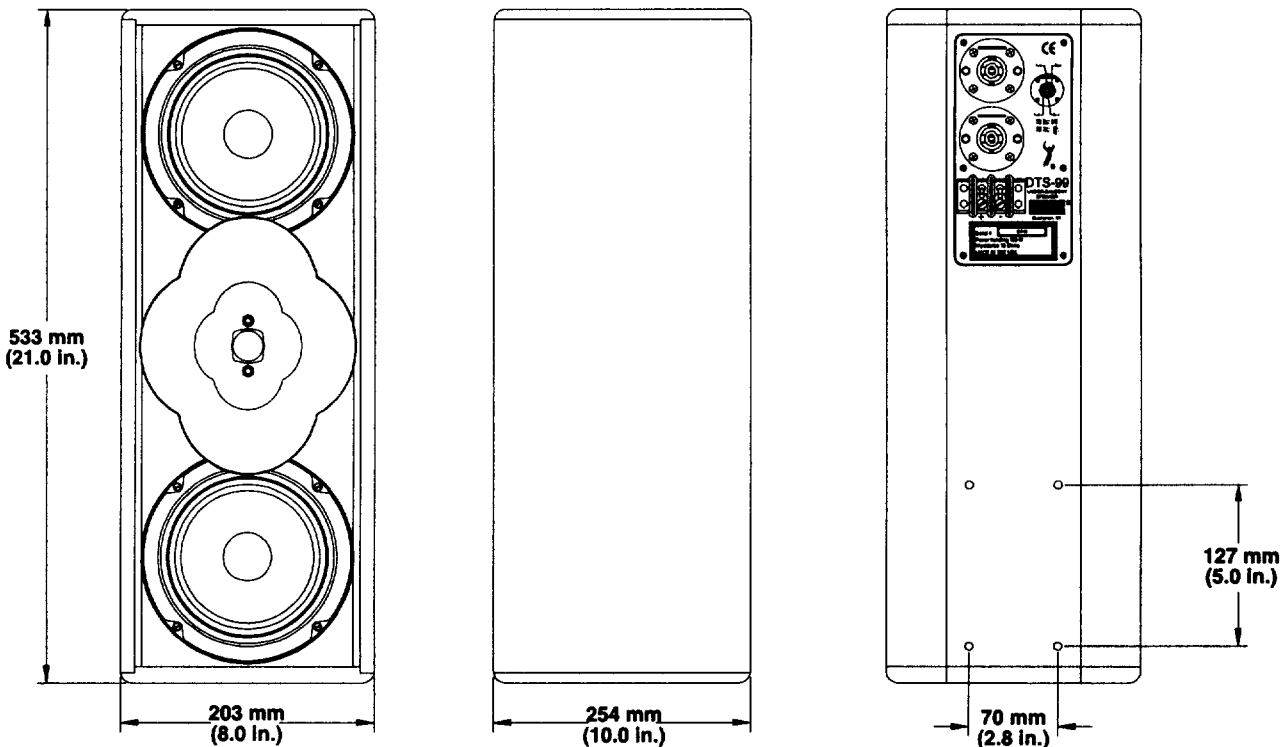


Figure 8—DTS-99 Dimensions



Altec Lansing DTS-99 Duplex Loudspeaker System

Altec Lansing DTS-99 Duplex Loudspeaker System

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# Altec Lansing DTS-99 Duplex™ Loudspeaker System

## Specifications

### System Type:

Vented-bass full-range loudspeaker system

### Pressure Sensitivity (100-20,000 Hz):

92 dB SPL<sup>2</sup>

### Frequency Response (see Figure 2):

85-20,000 Hz<sup>3</sup>

### Beamwidth,

**Horizontal, 1,000-16,000 Hz:**

90° (+20°, -50°)

**Vertical, 1,000-16,000 Hz:**

90° (+20°, -42°)

### Directivity Factor, R<sub>v</sub> (Q), 1,000-16,000 Hz:

9.6 (+5.9, -5.8)

### Directivity Index, D<sub>v</sub>, 800-16,000 Hz:

9.8 dB (+2.1 dB, -4.4 dB)

### Power Handling, Long Term:

160 watts<sup>4</sup>

### Maximum Long-Term Output

(160 watts input):

113 dB SPL<sup>5</sup>

### Impedance (at 225 Hz):

17.6 ohms minimum

16.0 ohms nominal

### Components:

Two 165-mm (6.5-inch) high-efficiency, under-hung voice-coil woofers; one 25.4-mm (1.0-inch) exit neodymium compression driver mounted to a 90° x 90° Vari-Intense® horn

### Input Terminals:

Large screw terminals and two paralleled 4-pin Neutrik Speakon® connectors

### Replacement LF:

83980

### Replacement HF:

833-2442

### Replacement Grille:

83984

### Enclosure:

Vented type, built of 12-mm (0.5-inch) birch plywood with appropriate bracing, lined with glass wool; includes mounting points for accessory MB-99 suspension kit

### Dimensions:

203 mm (8.0 in.) high  
533 mm (21.0 in.) wide  
254 mm (10.0 in.) deep

### Net Weight:

12.7 kg (28.0 lb)

### Shipping Weight:

15.5 kg (34.0 lb)

### Finish:

Black textured finish polyurethane paint; black powder-coated metal grille

### Accessories:

Altec Lansing MB-99 suspension kit

## NOTES ON MEASUREMENT CONDITIONS

1. 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 applying the formula:

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

2. Pink-noise signal, one watt calculated using  $E^2/Z_{\min}$ , 3.16-meter measurement distance referred to one meter.

3. 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.

4. This system rating patterned after the ANSI/EIA RS-426-A 1980 method where the test signal is pink noise with a 6-dB crest factor

over the bandwidth of the system, with power calculated using  $E^2/R_E \times 1.15$ , for 8 hours (where E is the RMS test voltage and  $R_E$  is the dc resistance of the woofer voice coil).

5. This measurement made under the same conditions as pressure sensitivity, but at rated power, and takes into account any power-compression effects due to nonlinearities in the system.



a Mark IV company

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800/234-6831, 616/695-6831, Fax 616/695-1304