

## 950-8B

### Duplex® Ceiling Loudspeaker System

- High output capability
- 90° by 90° CD horn
- Pro-circuit protection
- Square floor plan

#### Description

The Altec Lansing **950-8B** Duplex® loudspeaker system is a two-way loudspeaker featuring a rectangular-coverage 90° x 90° horn driven by a 1-inch compression driver coaxially mounted to a 15-inch low frequency cone and high temperature voice-coil assembly. The **950-8B** utilizes a dual section crossover network with a self-resetting protection circuit for the compression driver. An aluminum plate is provided for mounting an optional Altec Lansing 15708, 15716, or 15732 matching transformer in order to operate the loudspeaker from 70.7V/100V distribution lines.

The **950-8B** Duplex® loudspeaker system provides a square coverage pattern, high efficiency, high maximum output, ease of installation, and wide-range reproduction of music and voice for different venues such as churches, auditoriums, hotels and civic centers.

#### Architects' & Engineers' Specifications

The loudspeaker system shall be of the ceiling Duplex® type consisting of a single high-frequency compression driver coaxially mounted to a single 381-mm (15-in.) high

power woofer using a 90° x 90° coverage pattern horn. The system shall be capable of using an optional transformer if so desired. The loudspeaker system shall meet the following performance criteria: Power handling shall be 300 Watts of pink noise with 6-dB crest factor. Frequency response shall be smooth and uniformly usable from 60 Hz to 20 kHz. Pressure sensitivity shall be 99 dB SPL when measured at one meter on axis with one Watt of pink noise. The loudspeaker system shall weigh 10.7 kg (23.5 lb).

The loudspeaker system shall be the Altec Lansing **950-8B**.

#### Uniform Limited Warranty Statement

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 apply to: (a) exterior finish or appearance; (b) certain specific items de-

scribed in the individual product-line 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 Excluded:** 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 in-

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cidental 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 origi-

nal 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. Additional details are included in the Uniform Limited Warranty statement.

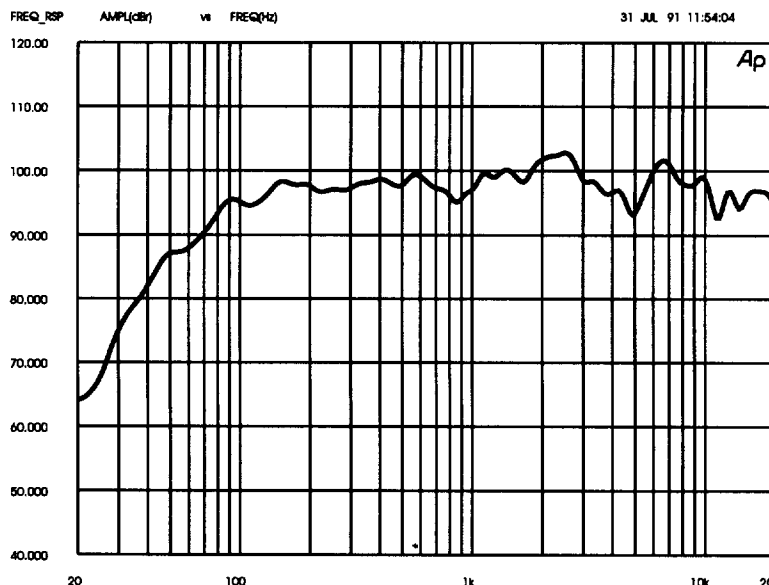
**Altec Lansing Accessories** are guaranteed against malfunction due to defects in materials or workmanship for a period of one (1)

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.

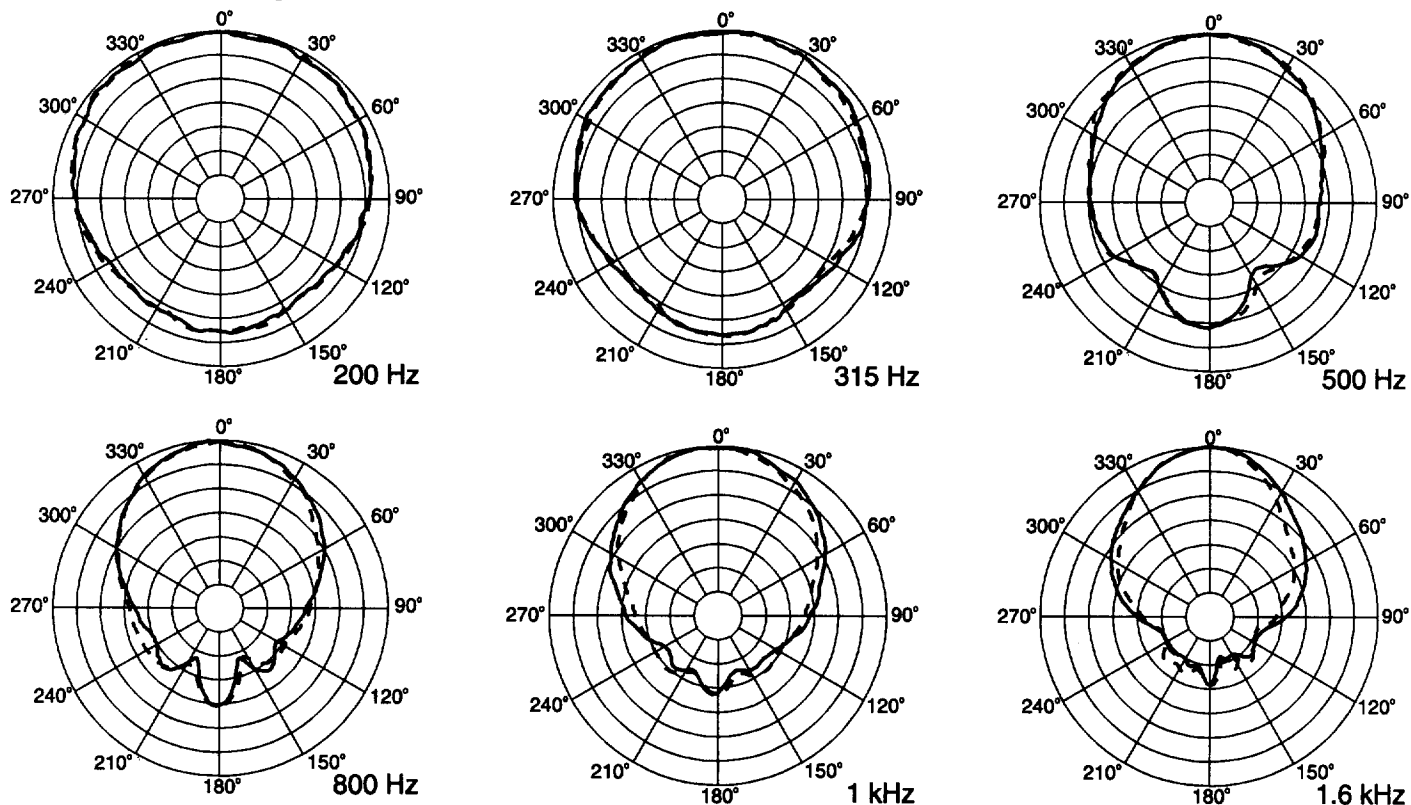
Specifications subject to change without notice.

**Figure 1—950-8B Frequency Response** (on axis, 1 watt/1 meter, anechoic environment)



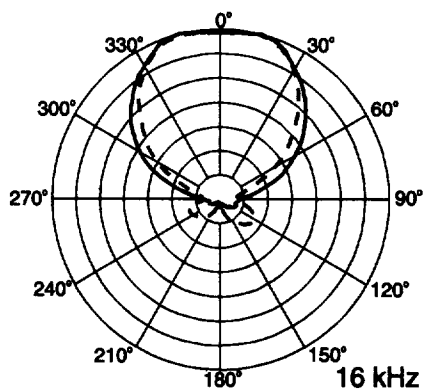
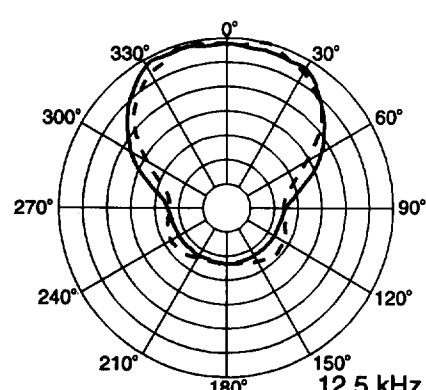
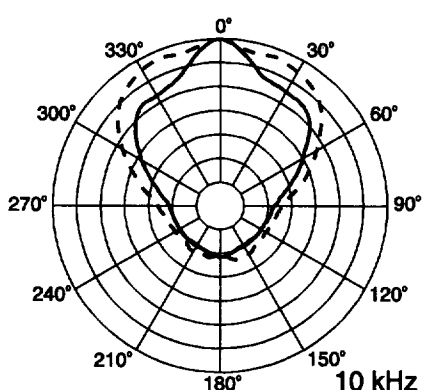
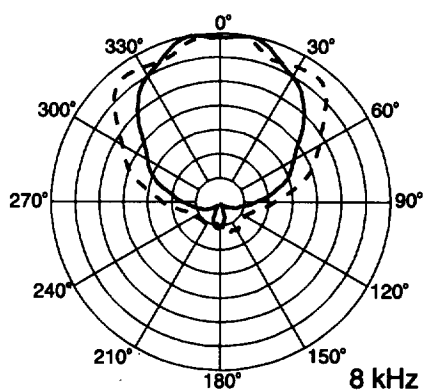
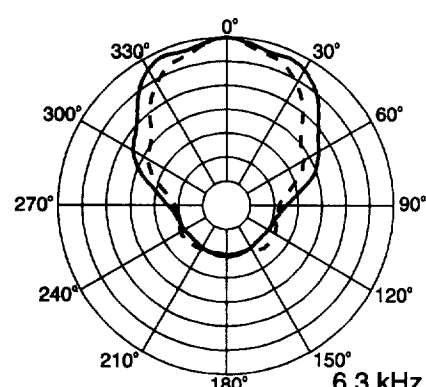
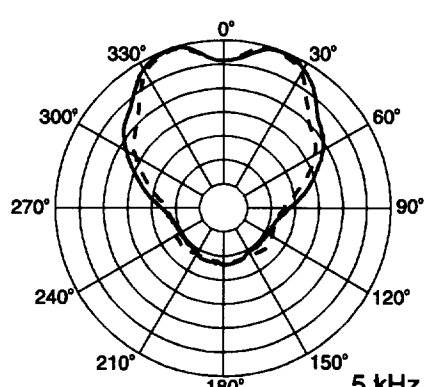
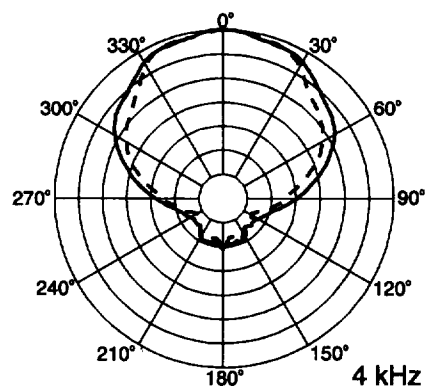
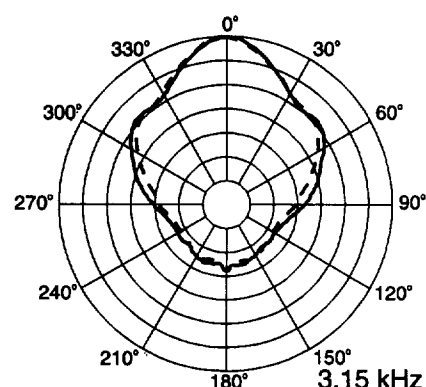
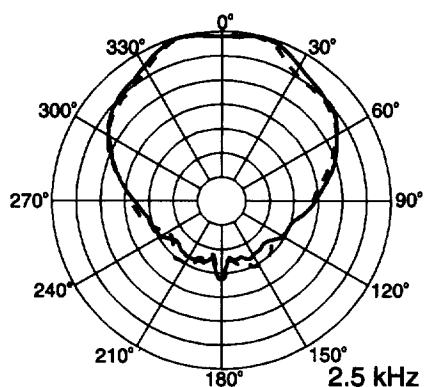
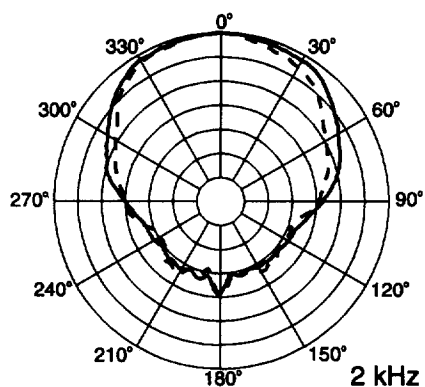
**Figure 2—950-8B Polar Response** (one-third-octave bands of pink noise, 6 dB per division)

— Horizontal\*  
- - - Vertical\*



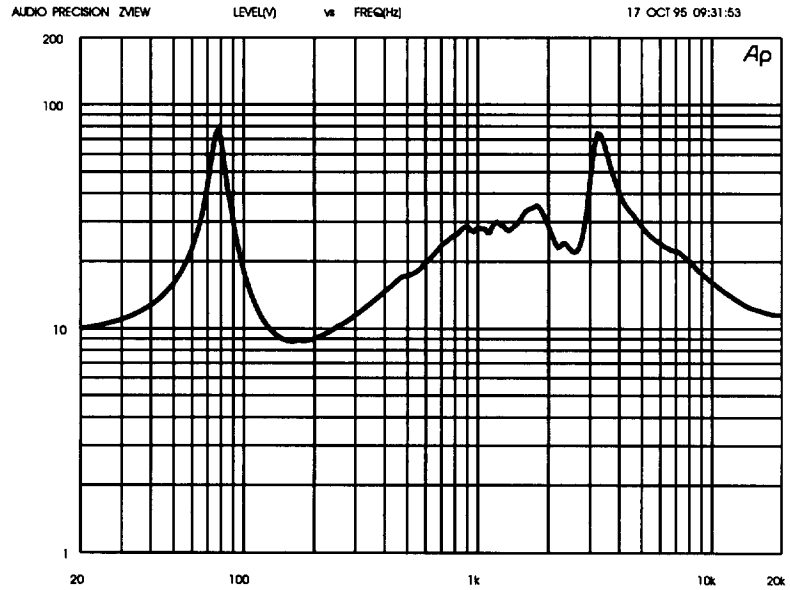
# Altec Lansing 950-8B Duplex™ Ceiling Loudspeaker System

— Horizontal\*  
- - Vertical\*



# Altec Lansing 950-8B Duplex<sup>™</sup> Ceiling Loudspeaker System

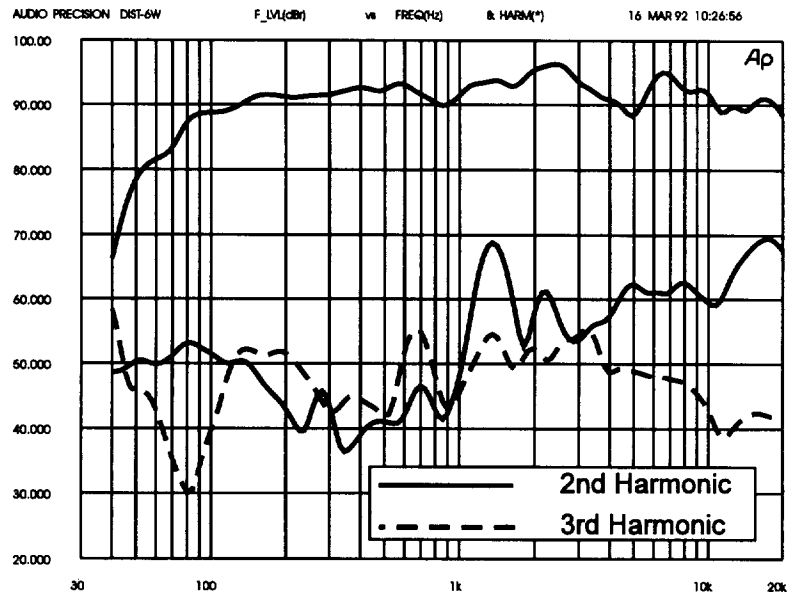
**Figure 3—950-8B Impedance (Log Scale)**



**Figure 4—950-8B Harmonic Distortion at 0.1 rated power (25 W)<sup>5</sup>**



**Figure 5—950-8B Harmonic Distortion at 0.01 rated power (2.5 W)<sup>5</sup>**



# Altec Lansing 950-8B Duplex<sup>™</sup> Ceiling Loudspeaker System

Figure 6—950-8B Beamwidth

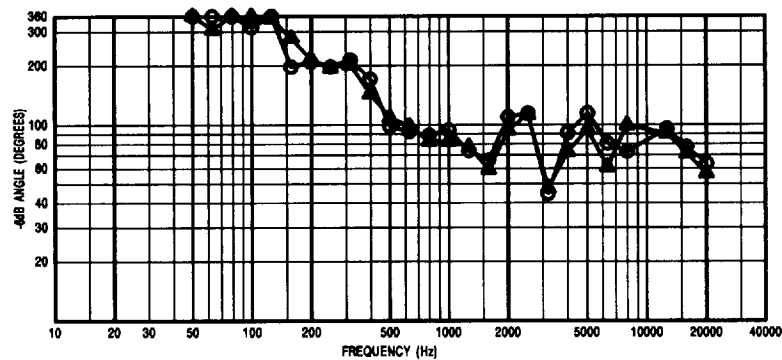


Figure 7—950-8B Directivity

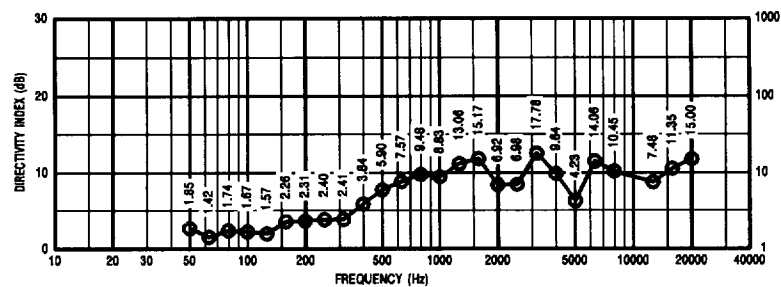
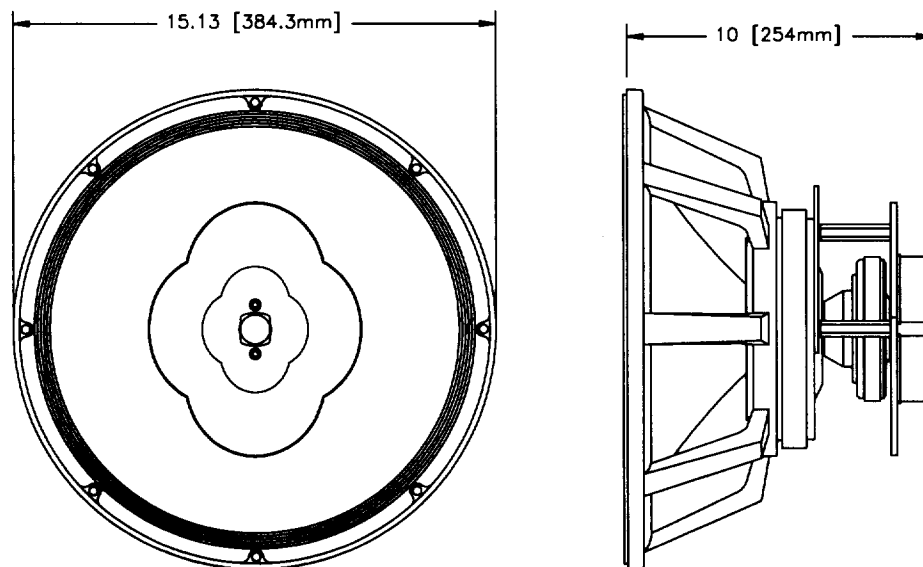


Figure 8—950-8B Dimension Diagram



# Altec Lansing 950-8B Duplex® Ceiling Loudspeaker System

## Specifications

### System Type:

Two-way, full-range Duplex® loudspeaker system employing compression driver and horn with passive crossover

### Frequency Response (see Figure 1):<sup>6</sup>

60-20,000 Hz<sup>2</sup>

### Pressure Sensitivity,<sup>6</sup>

60-20,000 Hz:

99 dB SPL<sup>1</sup>

### Beamwidth,

Horizontal, 500-20,000 Hz:

90° (+15°, -40°)

Vertical, 500-20,000 Hz:

90° (+15°, -40°)

### Directivity Factor, $R_g(Q)$ , 500-20,000 Hz:

10.4 (+7.4, -6.2)

### Directivity Index, $D_i$ , 500-20,000 Hz:

10.2 dB (+2.3 dB, -3.9 dB)

### Power Handling:

300 watts<sup>3</sup>

### Maximum Long-Term Output,

LF (60-20,000 Hz, 250 watts input):

122 dB SPL<sup>4</sup>

### Impedance:

7.0 ohms minimum

8.0 ohms nominal

### Components,

#### LF:

381-mm (15-in.), high efficiency woofer

#### Tiele-Small LF Driver Parameters

$f_s$  (free-air resonance frequency):

40 Hz

$Q_{ES}$  (electromagnetic Q at  $f_s$ ):

0.285

$Q_{MS}$  (mechanical Q at  $f_s$ ):

7.35

$Q_{TS}$  (total Q at  $f_s$ ):

0.275

$V_{AS}$  (volume of air having same acoustic compliance as driver suspension):

251.45 liters (8.88 ft<sup>3</sup>)

$\eta_o$  (half-space reference efficiency):

5.38%

$V_D$  (peak displacement volume of diaphragm:  $S_D \times X_{max}$ ):

0.368 liters (0.013 ft<sup>3</sup>)

$S_D$  (effective diaphragm area):

0.369 m<sup>2</sup> (143.1 in.<sup>2</sup>)

$X_{max}$  (peak linear displacement of diaphragm):

4.06 mm (0.16 in.)

$R_g$  (dc resistance of voice coil):

6.0 ohms  $\pm 10\%$

### HF:

25.4-mm (1-in.) exit high-frequency driver

### Input Terminals:

Dual .205-series spade terminals

### Replacement LF:

815-2841

### Replacement HF:

833-990

### Dimensions:

381 mm (15 in.) dia.

254 mm (10 in.) depth

### Net Weight:

10.7 kg (23.5 lb)

### Shipping Weight:

13.8 kg (30.4 lb)

### Finish:

Altec grey

## 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 ANSI/EIA RS-426-A method where the test signal is pink noise with a 6-dB crest factor over the bandwidth of the system, with power calculated using  $E^2/RE \times 1.15$ , for 24 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 nonlinearities in the system.

5. 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:

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

6. This measurement made with a standard 3.0 cubic foot non-vented enclosure.

