ABOUT OUR CATALOGUE

We at Altec Lansing have long been proud of the heritage we possess—over four decades of leadership in professional sound. Recording studio monitors, theatre sound systems, permanently installed high level sound reinforcement systems, portable sound reinforcement equipment—the list of Altec Lansing leadership goes on. Wherever professionalism in sound is the requirement, Altec Lansing is there.

We have carried our tradition of quality and professionalism into every facet of our involvement—and now with a special emphasis on equipment for the home. We have pooled our traditions, talents, and experience in engineering, design, and manufacturing to produce a most comprehensive line of quality loudspeakers and speaker systems—products of professional quality and heritage, yet products that will enhance any living environment.

In many cases these products are identical or share the same components as products destined for professional application. We, more than anyone, understand the differences and the similarities in requirements for professional products and home high fidelity reproducers. Quite often the home reproducer can pose a completely different set of performance criteria to challenge the creativity of the design team. We have accepted this challenge, and the products displayed in this catalogue exemplify the output of our creative efforts, designed especially for use in the living environment.

This catalogue is not only intended to display our products, but to represent our philosophy as well. That philosophy is one of optimization. Optimization of science, art, talent, and effort, resulting in the optimum in performance, styling, and value. We now bring to you, through this catalogue, a statement of that philosophy interwoven with a display of what we feel is the finest line of high fidelity reproducers available. We trust that this catalogue will make easier one of the most difficult purchasing decisions facing the consuming world: The choice of a high fidelity speaker system.

We are confident that after examining our product line and reviewing the philosophy presented by this catalogue, there will be but one choice open.

ALTEC LANSING
SENIOR II
Second Generation of Altec Lansing's Bookshelf Models

More than any other single audio component, the speaker-on-the-shelf has the power to represent Hi Fi. Its classic design and compact size have made it a favorite the world over. But all bookshelf speakers are far from equal.

Altec Lansing, we have always believed that our speakers should deliver outstanding performance. So we invest years of research and refinement in every product we make. The result of this effort — the Series II Bookshelf Line.

Five speakers — each an exceptional performer. Each made better by subtle changes in acoustic design, construction techniques, material selection. Changes like the new magnet design found in the Models Three through Seven.

Until now, speaker magnet structure design was either the traditional Alnic or ceramic. The Alnic type uses a voice coil that is surrounded by the magnet. It has been found, however, that the interaction with the voice coil will eventually cause the magnet to partially demagnetize. The result is a loss of sensitivity and a muddy bass sound. The ceramic magnet poses a different problem. Here the voice coil moves around a pole piece and is surrounded by the magnet. The thinner magnet, however, creates a clearance problem for the voice coil. The Altec Lansing hybrid magnet design combines the best of both magnet types. The new design still has the magnet around the voice coil, but the new "top hat" design eliminates the clearance problem.

Of course, the one thing we would never change is the quality that Altec Lansing is known for. We still make all our own speaker components and all our bookshelf speakers are finished with real wood veneers.

If you're looking for top performance combined with the classic appearance of a bookshelf speaker, ask your Altec Lansing dealer for a demonstration of the Series II speakers. We don't think you'll have to look further.

**TABLE OF SPEAKER COMPONENTS**

- **LOW FREQUENCY:**
  - MODEL ONE: 8" bass driver
  - MODEL THREE: 10" bass driver
  - MODEL FIVE: 12" bass driver
  - MODEL SEVEN: 12" bass driver
  - MODEL NINE: 12" bass driver

- **MID FREQUENCY:**
  - MODEL ONE: 6½" frame cone driver
  - MODEL THREE: 6½" frame cone driver
  - MODEL FIVE: 6½" frame cone driver
  - MODEL SEVEN: 6½" frame cone driver
  - MODEL NINE: 6½" frame cone driver

- **HIGH FREQUENCY:**
  - MODEL ONE: 2 each 4" frame cone drivers
  - MODEL THREE: 4" frame cone driver
  - MODEL FIVE: 4" frame cone driver
  - MODEL SEVEN: 4" frame cone driver
  - MODEL NINE: 4" frame cone driver

**Nominal Impedance:**
- 8 ohms

**Crossover Frequency:**
- MODEL ONE: 3500 Hz
- MODEL THREE: 1500 Hz
- MODEL FIVE: 1500 Hz
- MODEL SEVEN: 650 Hz, 8 kHz
- MODEL NINE: 600 Hz, 7 kHz

**Enclosure Type:**
- MODEL ONE: Vented
- MODEL THREE: Vented
- MODEL FIVE: Vented
- MODEL SEVEN: Vented
- MODEL NINE: Vented

**Sensitivity:**
- MODEL ONE: 89 dB SPL (measured at 4 feet, 1 watt input referenced to 8 ohms using pink noise which has been limited to a bandwidth of 500 Hz to 3 kHz)
- MODEL THREE: 90.5 dB SPL
- MODEL FIVE: 91.5 dB SPL
- MODEL SEVEN: 90 dB SPL
- MODEL NINE: 93 dB SPL

**Frequency Response:**
- MODEL ONE: 50 Hz to 20 kHz
- MODEL THREE: 50 Hz to 20 kHz
- MODEL FIVE: 45 Hz to 20 kHz
- MODEL SEVEN: 45 Hz to 20 kHz
- MODEL NINE: 40 Hz to 20 kHz

**Dispersion:**
- MODEL ONE: 120° at -6 dB vertical, 120° at -6 dB horizontal
- MODEL THREE: 120° at -6 dB vertical, 120° at -6 dB horizontal
- MODEL FIVE: 90° at -6 dB vertical, 120° at -6 dB horizontal
- MODEL SEVEN: 120° at -6 dB vertical, 120° at -6 dB horizontal
- MODEL NINE: 120° at -6 dB vertical, 120° at -6 dB horizontal

**Long Term Broad Band Maximum Power:**
- MODEL ONE: 30 watts
- MODEL THREE: 35 watts
- MODEL FIVE: 45 watts
- MODEL SEVEN: 50 watts
- MODEL NINE: 60 watts

**Amplifier Operating Range:**
- MODEL ONE: 10 watts to 75 watts
- MODEL THREE: 10 watts to 150 watts
- MODEL FIVE: 15 watts to 200 watts
- MODEL SEVEN: 12 watts to 250 watts
- MODEL NINE: Recommended minimum and maximum amplifier power.

**Long Term Maximum Acoustic Output:**
- MODEL ONE: 106 dB SPL at 30 watts
- MODEL THREE: 105 dB SPL at 35 watts
- MODEL FIVE: 108 dB SPL at 45 watts
- MODEL SEVEN: 107 dB SPL at 50 watts
- MODEL NINE: 110.5 dB SPL at 60 watts

**Finish:**
- MODEL ONE: Hand-rubbed oiled walnut
- MODEL THREE: Hand-rubbed oiled oak
- MODEL FIVE: Hand-rubbed oiled walnut
- MODEL SEVEN: Hand-rubbed oiled walnut
- MODEL NINE: Hand-rubbed oiled ash

**Grille:**
- MODEL ONE: Acoustically transparent brown knit fabric mounted on removable frame
- MODEL THREE: Acoustically transparent black knit fabric mounted on removable frame
- MODEL FIVE: Acoustically transparent black knit fabric mounted on removable frame
- MODEL SEVEN: Acoustically transparent foam mounted on removable panel. Choice of black or brown
- MODEL NINE: Acoustically transparent panel. Choice of black or brown

**Dimensions:**
- MODEL ONE: 22½" x 12" x 11" D
- MODEL THREE: 24½" x 12½" x 11½" D
- MODEL FIVE: 56.3 cm x 30.5 cm x 29.2 cm D
- MODEL SEVEN: 56.3 cm x 30.5 cm x 29.2 cm D
- MODEL NINE: 56.3 cm x 30.5 cm x 29.2 cm D

**Shipping Weight:**
- MODEL ONE: 30 lbs. — 24 lbs.
- MODEL THREE: 32½ lbs. — 28 lbs.
- MODEL FIVE: 38 lbs. — 18 lbs.
- MODEL SEVEN: 49 lbs. — 22 lbs.
- MODEL NINE: 50 lbs. — 25 lbs.

**Net Weight:**
- MODEL ONE: 26 lbs. — 11.6 kg
- MODEL THREE: 26½ lbs. — 12 kg
- MODEL FIVE: 32 lbs. — 14.5 kg
- MODEL SEVEN: 38½ lbs. — 20 kg
- MODEL NINE: 43½ lbs. — 20 kg

*Amplifier operating range is for amplifier selection guidance only. Do not mistake it for the speaker's power capacity. Refer to page 16 for further clarification.
EAST FOR THE EARS
Our Contemporary Floor-Standing Models

In the world of music, recording, and acoustical engineering, Altec Lansing stands out as a leader in designing and manufacturing high-quality floor-standing speakers. Our engineers and designers have dedicated years to researching and developing innovative technologies that provide the ultimate listening experience.

We are proud to present four models from our Contemporary Floor-Standing line, each designed to meet the needs of professional and home enthusiasts alike.

### Model 19
- **Speaker Components**
  - Low Frequency: 15" bass driver (415-8B)
  - High Frequency: Radial Phase Plug driver mounted to 8119 sectoral horn
- **Nominal Impedance**: 8 ohms
- **Crossover Frequency**: 1200 Hz
- **Enclosure Type**: Vented
- **Sensitivity**: 99 dB SPL**
- **Dispersion**: 105° at -6 dB horizontal, 70° at -6 dB vertical
- **Frequency Response**: 30 Hz to 20 kHz
- **Dimensions**: 39"H x 20"W x 21"D
- **Shipping Weight**: 166 lbs. / 72.3 kg
- **Net Weight**: 143 lbs. / 64.9 kg

### Model 18
- **Speaker Components**
  - Low Frequency: 15" driver with coaxially mounted constant-directivity control horn and compression driver (Model 604-8H)
  - High Frequency: Radial Phase Plug driver mounted to curved radial horn
- **Nominal Impedance**: 8 ohms
- **Crossover Frequency**: 1700 Hz
- **Enclosure Type**: Vented
- **Sensitivity**: 103 dB SPL
- **Dispersion**: 120° at -6 dB horizontal
- **Frequency Response**: 30 Hz to 20 kHz
- **Dimensions**: 40"H x 20"W x 10"D
- **Shipping Weight**: 168 lbs. / 77.1 kg
- **Net Weight**: 138 lbs. / 62.6 kg

### Model 15
- **Speaker Components**
  - Low Frequency: 12" bass driver
  - High Frequency: Radial Phase Plug driver mounted to 8119 sectoral horn
- **Nominal Impedance**: 8 ohms
- **Crossover Frequency**: 2500 Hz
- **Enclosure Type**: Vented
- **Sensitivity**: 93 dB SPL
- **Dispersion**: 120° at -6 dB horizontal
- **Frequency Response**: 30 Hz to 20 kHz
- **Dimensions**: 27"H x 22"W x 15½"D
- **Shipping Weight**: 84 lbs. / 38.1 kg
- **Net Weight**: 76 lbs. / 34.5 kg

### Model II
- **Speaker Components**
  - Low Frequency: 12" bass driver
  - High Frequency: 5" frame cone driver
- **Nominal Impedance**: 8 ohms
- **Crossover Frequency**: 2500 Hz
- **Enclosure Type**: Vented
- **Sensitivity**: 89 dB SPL
- **Dispersion**: 120° at -6 dB horizontal
- **Frequency Response**: 30 Hz to 20 kHz
- **Dimensions**: 25½"H x 19"W x 16"D
- **Shipping Weight**: 67 lbs. / 30.4 kg
- **Net Weight**: 57 lbs. / 25.9 kg

*800 Hz — 8 kHz
**Measured with shelving controls set at optimum.
***Amplifier operating range is for amplifier selection guidance only. Do not mistake it for the speaker's power capacity. Refer to page 16 for clarification.
INTRODUCING THE TANGERINE™

High frequency compression drivers used by most companies contain a circumferential type phase plug which was developed by our noble ancestor, Western Electric, in the 1920's.

Our new radial plug, the Tangerine™—looking very much like a peeled tangerine and hence its name—allows far more high-frequency energy to enter the horn than traditional phase plugs. And so high-frequency response is extended.

The super Models 19, 15, A7X, and 18 all feature this remarkably improved element along with an improved equalizer/crossover network that permits smooth, gradual equalization of the mid and high frequencies.

...and the improved 802-8G Driver

In addition to the Tangerine™ phase plug design, the 802-8G employs stronger, lighter epoxies for a lighter moving assembly and improved power capacity. This new high-frequency driver also features sub-crossover resonance and equalized pressure loading for lower distortion.
**VOICE OF THE THEATRE — A Legend**

The Voice of The Theatre. Known by name, known by sight, and known by reputation as a legend.

In the 1950’s the Academy of Motion Picture Arts and Sciences officially recognized the Voice of The Theatre as the standard in motion picture theatre sound. Once an exclusively professional product, it became the system demanded by audiophiles who insisted on its unparalleled performance and efficiency for their homes.

Today, the excitement, drama, emotion and realism of movie sound is duplicated by the Voice of The Theatre.

Tight low-frequency response, high-frequency injection and power handling capability, trademarks of the Voice of The Theatre, are refined to new levels of perfection in our all-new ATX.

The ATX utilizes the patented Tangerine™ radial phase plug in the powerful 802-8G driver, and the new model N1201-8A equalizer/dividing network in a crossover frequency of 1200 Hz.

---

**Technical Specifications:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low Frequency:</strong></td>
<td>15&quot; bass driver (415-8A)</td>
</tr>
<tr>
<td><strong>High Frequency:</strong></td>
<td>802-8G compression driver mounted to 511B sectoral horn</td>
</tr>
<tr>
<td><strong>Impedance:</strong></td>
<td>8 ohms</td>
</tr>
<tr>
<td><strong>Crossover Frequency:</strong></td>
<td>1200 Hz (N1201-8A network)</td>
</tr>
<tr>
<td><strong>Horn Type:</strong></td>
<td>Horn-loaded with reflex port</td>
</tr>
<tr>
<td><strong>Sensitivity:</strong></td>
<td>100 dB SPL, measured at 4 feet, 1 watt input referenced to 8 ohms, using pink noise which has been limited to a bandwidth of 500 Hz to 3 kHz.</td>
</tr>
<tr>
<td><strong>Frequency Response:</strong></td>
<td>45 Hz to 20 kHz</td>
</tr>
<tr>
<td><strong>Dispersion:</strong></td>
<td>60° at —6 dB vertical, 90° at —6 dB horizontal</td>
</tr>
<tr>
<td><strong>Continuous Broad Band Maximum Power:</strong></td>
<td>100 watts</td>
</tr>
<tr>
<td><strong>Long Term Maximum Acoustic Output:</strong></td>
<td>120 dB SPL at 56 watts, measured with a source of pink noise limited to the frequency response bandwidth of the system, at a distance of 4 feet.</td>
</tr>
</tbody>
</table>

**Physical Dimensions:**

- Metallic gray color
- 52.4" H x 30" W x 24" D
- 137.8 cm H x 75.2 cm W x 61.2 cm D

**Shipping Weight:**

- 163 lbs. — 73.2 kg
- 142 lbs. — 64.54 kg

---

*Note: Tangerine™ radial phase plug.

Amplifier operating range is for amplifier selection guidance only. Do not mistake it for the speaker's power capacity. Refer to page 16 for further clarification.*
**LOW FREQUENCY LOUDSPEAKERS**

**416-8B (15').**
As the woofer used in the A-7 series Voice of Theatres Systems, the professional quality 416-8B yields smooth response with extraordinary linearity. It combines nicely with an Altec Lansing compression driver, sectoral horn, and dividing network.

**411-8A (15').**
A woofer of medium efficiency, the 411-8A is designed to work in a sealed enclosure having an internal volume range from 4 to 8 cubic feet.

**414-8C (12').**
Used extensively in high accuracy reproduction as well as in professional studios, the 414-8C has the power capacity for excellent high fidelity. It is designed for use in 2 1/2 to 10 cubic feet enclosures.

<table>
<thead>
<tr>
<th></th>
<th>604-8H</th>
<th>416-8B</th>
<th>411-8A</th>
<th>414-8C</th>
<th>405A</th>
</tr>
</thead>
<tbody>
<tr>
<td>RANGE</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>8 ohms</td>
<td>8 ohms</td>
</tr>
<tr>
<td>OVER</td>
<td>1500 Hz</td>
<td>1500 Hz</td>
<td>1500 Hz</td>
<td>1500 Hz</td>
<td>1500 Hz</td>
</tr>
<tr>
<td>VOLTAGE</td>
<td>1500 Hz</td>
<td>1500 Hz</td>
<td>1500 Hz</td>
<td>1500 Hz</td>
<td>1500 Hz</td>
</tr>
<tr>
<td>DIAMETER</td>
<td>16&quot; (40.6 cm)</td>
<td>16&quot; (40.6 cm)</td>
<td>15 1/2&quot; (38.9 cm)</td>
<td>15 1/4&quot; (38.9 cm)</td>
<td>4 1/4&quot; (11.1 cm)</td>
</tr>
<tr>
<td>DEPTH</td>
<td>11 1/2&quot; (29.3 cm)</td>
<td>7&quot; (17.8 cm)</td>
<td>7 1/2&quot; (19.1 cm)</td>
<td>7 1/2&quot; (19.1 cm)</td>
<td>2 1/8&quot; (5.4 cm)</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>34.0 lb.</td>
<td>15.4 kg</td>
<td>17 1/4 lb.</td>
<td>17 1/4 lb.</td>
<td>2 lb.</td>
</tr>
<tr>
<td>(includes dividing network)</td>
<td>7.9 kg</td>
<td>9.3 kg</td>
<td>6.8 kg</td>
<td>0.9 kg</td>
<td></td>
</tr>
<tr>
<td>COLOR</td>
<td>Dark gray enamel</td>
<td>Dark gray enamel</td>
<td>Dark gray enamel</td>
<td>Dark gray enamel</td>
<td>Gray enamel</td>
</tr>
<tr>
<td>MOUNTING DATA</td>
<td>14 3/8&quot; (35.9 cm) (front or rear mounting)</td>
<td>14 3/8&quot; (35.9 cm) (front or rear mounting)</td>
<td>14 3/8&quot; (35.9 cm) (front or rear mounting)</td>
<td>11 1/4&quot; (28.3 cm) (front or rear mounting)</td>
<td>4 7/8&quot; (12.4 cm) (front or rear mounting)</td>
</tr>
<tr>
<td>FRONT BOLT SLOTS</td>
<td>8 or 4 bolts equally spaced on 15&quot; (38.1 cm) diameter circle</td>
<td>8 or 4 bolts equally spaced on 15&quot; (38.1 cm) diameter circle</td>
<td>8 or 4 bolts equally spaced on 15&quot; (38.1 cm) diameter circle</td>
<td>8 or 4 bolts equally spaced on 11 1/4&quot; (29.4 cm) diameter circle</td>
<td>8 or 4 bolts equally spaced at 90° on 4 1/4&quot; (11.9 cm) diameter circle</td>
</tr>
</tbody>
</table>

Mantaray™ radial phase plug.

*Patents pending.*
HIGH-FREQUENCY LOUDSPEAKERS

511B, 811B Sectoral Horns.
The wide horizontal shaping of the cast aluminum sectoral horn tightly controls the very important dispersion pattern of sound. When equipped with a compression driver, these horns reproduce the full range of frequencies, while maintaining uniform directivity.

802-8G High-Frequency Compression Driver.
Compression drivers are capable of a much wider bandwidth and vastly higher sensitivity than cone-type high frequency reproducers, making possible extremely high sensitivity in two-way systems when coupled with appropriate bass speakers. The Tangerine™ radial phase plug in the 802-8G yields extended frequency response.

Altec Lansing precision crossover networks are designed to optimally match the frequency response of compression drivers and horns to bass drivers. The highly sophisticated Model 19

<table>
<thead>
<tr>
<th>HIGH-FREQUENCY COMPRESSION DRIVER</th>
<th>SECTORAL HORNS</th>
<th>DIVIDING NETWORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPEDANCE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8 ohms</td>
<td>8 ohms</td>
</tr>
<tr>
<td>MINIMUM CROSSOVER FREQUENCY:</td>
<td>1200 Hz*</td>
<td>500 Hz</td>
</tr>
<tr>
<td>DIMENSIONS:</td>
<td></td>
<td>800 Hz</td>
</tr>
<tr>
<td></td>
<td>7½&quot; H x 18½&quot; W x 13½&quot; D</td>
<td>7½&quot; H x 18½&quot; W x 13½&quot; D</td>
</tr>
<tr>
<td></td>
<td>27.0 cm H x 21.9 cm H x 13.7 cm D</td>
<td>27.0 cm H x 21.9 cm H x 13.7 cm D</td>
</tr>
<tr>
<td></td>
<td>59.7 cm W x 47.0 cm W x 22.8 cm D</td>
<td>59.7 cm W x 47.0 cm W x 22.8 cm D</td>
</tr>
<tr>
<td></td>
<td>47.0 cm D</td>
<td>30.3 cm D</td>
</tr>
<tr>
<td>WEIGHT:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 lb.</td>
<td>9 lb.</td>
</tr>
<tr>
<td></td>
<td>3.18 kg</td>
<td>4.1 kg</td>
</tr>
<tr>
<td>FINISH:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dark gray enamel</td>
<td>Flat black</td>
</tr>
<tr>
<td></td>
<td>Flat black</td>
<td>Flat black</td>
</tr>
<tr>
<td>COMPLEMENTARY COMPONENTS:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Tangerine™ radial phase plug.

The 802-8G may be used as low as 500 Hz with system input power not exceeding 35 watts.
COMPONENTS AND THEIR MATCHING SYSTEMS

You are planning to build your own enclosures, we have provided for you a set of guide
for completing a variety of systems. For convenience, we have provided this system
guide with which to select the components that will best suit your needs.

System Components for A7X

System Components for Model 19
Nominal Impedance

All of our high fidelity products are now standardized at 8 ohms impedance. It is important to know the impedance when operating more than one set of speakers at a time, since adding speakers in parallel lowers the impedance. If the impedance drops too low, it can endanger the amplifier. "Zero ohms" is a short circuit; potentially, disaster to an amplifier.

Crossover Frequency

The crossover point(s) for each system is specifically selected to optimize the overall performance of that system. The crossover frequency indicates the point at which the response of two speaker components (such as a woofer and midrange) intersect, or cross over. It is important to know that this is not the point at which a driver stops operating; rather, it is the point at which the driver radiates about 50% of its mean output level, and continues to radiate energy below (or above) this point.

Sensitivity

Sensitivity, or efficiency, is one of the most important, yet most overlooked performance parameters. It indicates how efficient a unit is, how much acoustic output it can deliver for a given amount of electrical input. The larger the number, the more sensitive or efficient the unit is. For example, a speaker with a sensitivity rating of 100 dB SPL will deliver 10 times more acoustic output of a speaker with a sensitivity rating of 90 dB SPL given the same amount of input power. This is the difference between a 10-watt and a 100-watt amplifier.

Why consider a speaker of no sensitivity? Sensitivity is expensive either because it costs more, size, response in the low and high ends of the audio spectrum, distortion, or a combination of all these.

<table>
<thead>
<tr>
<th>Sound level in dB</th>
<th>Environmental conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>140</td>
<td>Threshold of pain</td>
</tr>
<tr>
<td>130</td>
<td>Pneumatic chipper</td>
</tr>
<tr>
<td>120</td>
<td>Loud automobile horn</td>
</tr>
<tr>
<td>110</td>
<td>Rock concert</td>
</tr>
<tr>
<td>100</td>
<td>Police siren</td>
</tr>
<tr>
<td>100</td>
<td>Concert level—symphony orchestra</td>
</tr>
<tr>
<td>90</td>
<td>Live jazz performance—5 to 8 pieces</td>
</tr>
<tr>
<td>80</td>
<td>Inside subway train</td>
</tr>
<tr>
<td>70</td>
<td>Live string quartet</td>
</tr>
<tr>
<td>60</td>
<td>Inside motor bus</td>
</tr>
<tr>
<td>50</td>
<td>Live solo guitar</td>
</tr>
<tr>
<td>40</td>
<td>Average traffic on street corner</td>
</tr>
<tr>
<td>30</td>
<td>Conversational speech</td>
</tr>
<tr>
<td>20</td>
<td>Typical business office</td>
</tr>
<tr>
<td>10</td>
<td>Living room, suburban area</td>
</tr>
<tr>
<td>10</td>
<td>Library</td>
</tr>
<tr>
<td>10</td>
<td>Bedroom at night</td>
</tr>
<tr>
<td>10</td>
<td>Empty broadcasting studio</td>
</tr>
<tr>
<td>0</td>
<td>Threshold of hearing</td>
</tr>
</tbody>
</table>

Some common sound pressure levels. References average levels, rather than peak.
**Frequency Response**

Frequency response tells us the practical limits at the extremes of the audio range, and is always measured directly from the center of a speaker, a point you would never sit when listening stereo. And the fact is that frequency response can change drastically with a very slight movement of the measuring point.

Frequency response cannot tell you much about bass or treble—a speaker produces; it cannot, nor can any specification or group of specifications, tell you how a speaker will sound—only a measured and careful listening test can do that.

Our recommendation is that you use the ultimate option—the listening test—as the deciding factor for choosing a speaker system. Your Altec dealer will provide the best possible listening environment and aural facilities—use them.

---

**Dispersion**

This specification tells us how much and what pattern a speaker system spreads out its energy. Since, as a general rule, higher frequencies spread their energy less than lower frequencies, we use a high-frequency signal to measure the dispersion of our speakers.

"90° at -6 dB horizontal" means that if we were to look at an arc 90° wide, with the center directly in front of the speaker, the amount of energy at the edges of the arc would be 6 dB less than or about 25% of that at the center.

Is dispersion good or bad? An adequate dispersion pattern is required to convey a good stereo image and prevent "beaming" (concentrating the sound directly in front of the speakers).

But too broad a dispersion pattern can distort the stereo panorama or cause frequency cancellation by environmental surface reflection, a frequent problem with most omnidirectional speakers.

---

**FREQUENCY RANGES OF MUSICAL INSTRUMENTS**

- Piccolo
- Flute
- Clarinet (Bb)
- Bassoon
- French Horn (F)
- Trombone (Bb)
- Bass Tuba
- Kettle Drums
- Cymbals
- Viola
- Violin
- Cello
- Bass Viol

---

**POOR: WIDE ROUGH DISPERSION**

**BETTER: CONTROLLED UNIFORM DISPERSION**
Long-Term Broad-Band Maximum Power

This is the "worst case" rating and is much more severe than normal use. The system is driven using pink noise which has been limited by electronic distortion to its frequency response band- width. It is then driven for several hours. After a successful test, the power is increased in 5-watt increments. The test is repeated until it fails, and the rating is the level of the power used for failure.

Amplifier Operating Range

Amplifier operating range is the range of minimum to maximum amplifier power that should be used with the unit. This allows for a larger amplifier which can easily pass high-level power peaks in the program material—peaks which are often more than 10 times the average program level.

Although a large amplifier can damage speakers, so can a small one. Keep in mind that an amplifier's rating is at or below a given distortion level; this does not mean the amplifier will cease to generate power at this point. Some amplifiers are capable of power greatly exceeding their "rated" power, but it is highly distorted and with greater damaging potential than an undistorted signal at the same level.

Most any amplifier can damage a speaker. To prevent speaker burnout, use common sense, and discuss it with your Altec Lansing dealer. When the signal becomes distorted, you are overdriving the speaker, or amplifier, or both. And remember, the tone controls increase output just as the volume control does, so avoid large amounts of tone compensation at high levels.

Long-Term Maximum Acoustic Output

This is a measure of how loud a system can play. It takes into consideration both power handling and sensitivity. Measurement is made at the long-term, broadband, maximum power level. The larger the number, the higher the level. The system is capable of more output for short term power peaks, just as it is capable of more power input than specified, but not on an extended time basis.

*A Note on "Pink Noise"

Most of our specifications are measured with pink noise as opposed to white noise because pink noise most closely duplicates the effect of music on speaker components under controlled test conditions. Pink noise is a constant amount of energy per octave, while white noise, sometimes used by other manufacturers, is a constant amount of energy per cycle. Due to the extreme difference in Hertz from octave to octave, white noise measurements can distort the specification's meaning.

Your Altec Lansing Dealer is:
FULL 5-YEAR WARRANTY

Altec Lansing has always been a manufacturer of fine audio equipment. And we are one of only a few manufacturers who back up their products with a full five-year warranty.

Altec Lansing warrants all loudspeaker systems to be free from defects in materials and workmanship for a period of five years from the date of purchase. For warranty repair, the defective product should be delivered to an authorized Altec Lansing Servicing Dealer, authorized warranty station, or Altec Lansing factory repair center. In addition, the warranty may be transferred to any subsequent owners during the five-year warranty period.

A thorough Warranty Protection statement is enclosed with each Altec Lansing unit purchased.