

DTS-212

Duplex® Loudspeaker Low Frequency System

- High output capability
- Excellent directivity control
- Enclosure allows refinishing
- Biamp or parallel capability

Description

The Altec Lansing **DTS-212** low-frequency loudspeaker is a factory assembled system featuring dual 12-inch direct radiators in a vented enclosure. The **DTS-212** is intended to be used as an XLF (extremely low frequencies) to complement the performance of the model **DTS-941** full range system. The **DTS-212** can also use the dual 12-inch drivers in parallel with the existing 12-inch driver on the **DTS-941** for a "tri-twelve" inch, higher Q mid-bass line array for higher intelligibility in the lower mid/upper mid bass. The **DTS-212** can also be used with any large-format horn to provide higher Q than a single 15-inch driver and may be included as the low-frequency component of most multi-way loudspeaker systems.

The **DTS-212** consists of dual 305-mm (12-inch) high-power, long-excursion, low-frequency drivers, each mounted in the enclosure with its own .8-cubic-foot, vented chamber optimally tuned to provide low-frequency response to 50 Hz. When used as a subwoofer with the **DTS-941** system, a 300 Hz crossover frequency is recommended. When used as part of other full-range speaker systems, a higher recom-

1. Speakon® is a registered trademark of Neutrik, Inc.

mended crossover frequency of 600 Hz may be used depending on the polar pattern desired. Each driver used in the **DTS-212** can be electrically connected by separate large screw terminals, able to accept up to 10-gauge wire, or by two paralleled 4-pin Neutrik Speakon® connectors located on the back of the enclosure. With the use of the supplied jumpers located on the input terminals, the drivers are driven in parallel giving the system the means of being driven by a single amp channel into a 4-ohm load. By removing these jumpers, the **DTS-212** is selected as a bi-ampable system utilizing two channels to drive each 8-ohm load separately. The system should be used with the Altec Lansing **DTS-2400A** electronic controller with the recommended crossover frequency of 300 Hz. The trapezoidal-shaped enclosure is constructed of 19-mm (0.75-inch) thick, thoroughly braced, 14-ply birch plywood lined with sound-absorbent glass wool. Two flying hardware mounting points are located on both top and bottom panels to provide safe suspension of the **DTS-212**. The system may then be easily hung as a single unit or as part of a loudspeaker cluster. The finish of the enclosure is textured black paint which can be painted to complement any interior. The removable grille is constructed

from 16-gauge, black powder-coated steel and is backed with weather resistant foam.

The **DTS-212** low-frequency loudspeaker is the ideal accessory system for the model **DTS-941** full range system whenever high-output, full-frequency-range material must be reproduced in churches, auditoriums, hotels and civic centers.

Architects' & Engineers' Specifications

The loudspeaker system shall be of the subwoofer type consisting of dual 305-mm (12-inch) high-power woofers in a vented enclosure. The system shall be capable of being biamped or paralleled using the connectors located on the rear of the enclosure. The loudspeaker system shall meet the following performance criteria: Power handling shall be 600 watts (in parallel) of pink noise with 6-dB crest factor, band-limited from 55 Hz to 800 Hz. Frequency response shall be smooth and uniformly usable from 55 Hz to 800 Hz (biamped). Pressure sensitivity shall be 99 dB SPL when measured at one meter on axis with one watt of band-limited pink noise from 55 Hz to 800 Hz. The enclosure shall be constructed of 19-mm (0.75-inch) 14-ply birch plywood and shall be heavily braced and lined with sound-

Altec Lansing DTS-212 Duplex® Low-Frequency Loudspeaker System

absorbent glass wool. The finish of the enclosure shall be a textured black and a removable black metal grille shall be provided. The dimensions of the enclosure shall be 699 mm (27.5 inches) high by 368 mm (14.5 inches) wide by 368 mm (14.5 inches) deep. The loudspeaker system shall weigh 31.3 kg (69.0 lb). The loudspeaker system shall be the Altec Lansing DTS-212.

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 described in the individual product-line statement(s) below, or in the individual prod-

uct 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

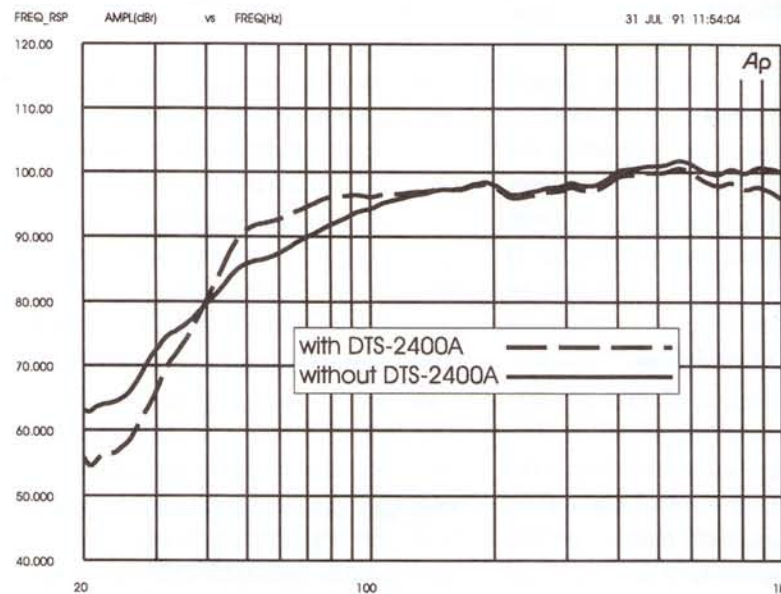
or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you. **Other Rights:** This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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. 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-212 Frequency Response (on axis, 1 watt/1 meter, anechoic environment)



Altec Lansing DTS-212 Duplex[®] Low-Frequency Loudspeaker System

Figure 2—DTS-212 Polar Response (one-third-octave bands of pink noise)

— Horizontal*
 - - Vertical*

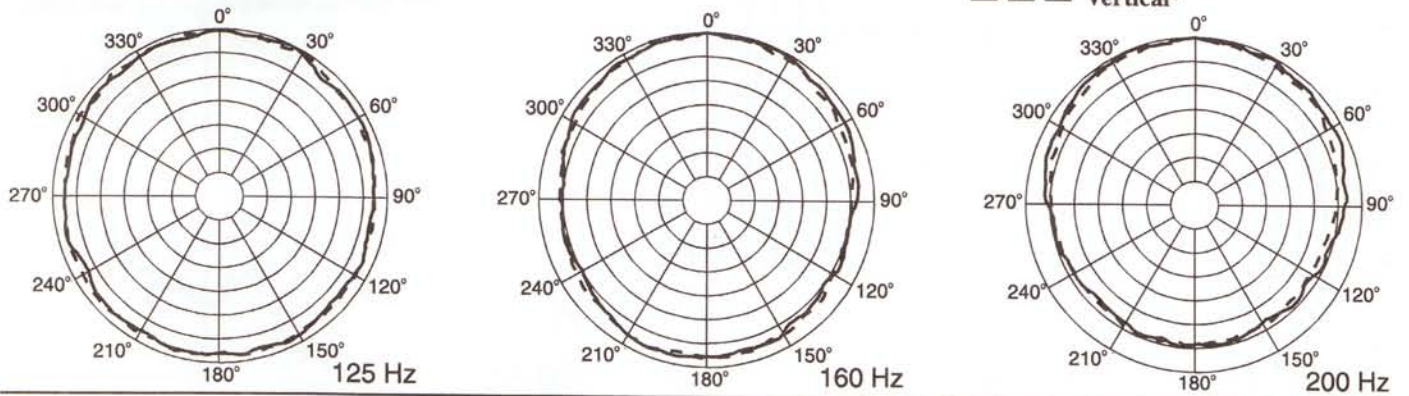


Figure 2—DTS-212 with DTS-941⁶ Polar Response (one-third-octave bands of pink noise)

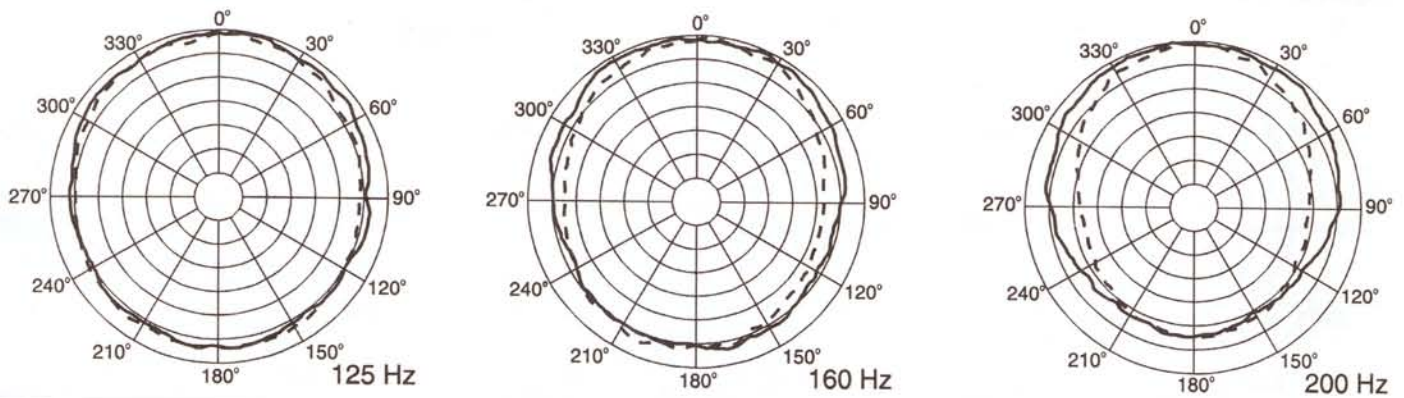


Figure 2—DTS-212 Polar Response (one-third-octave bands of pink noise)

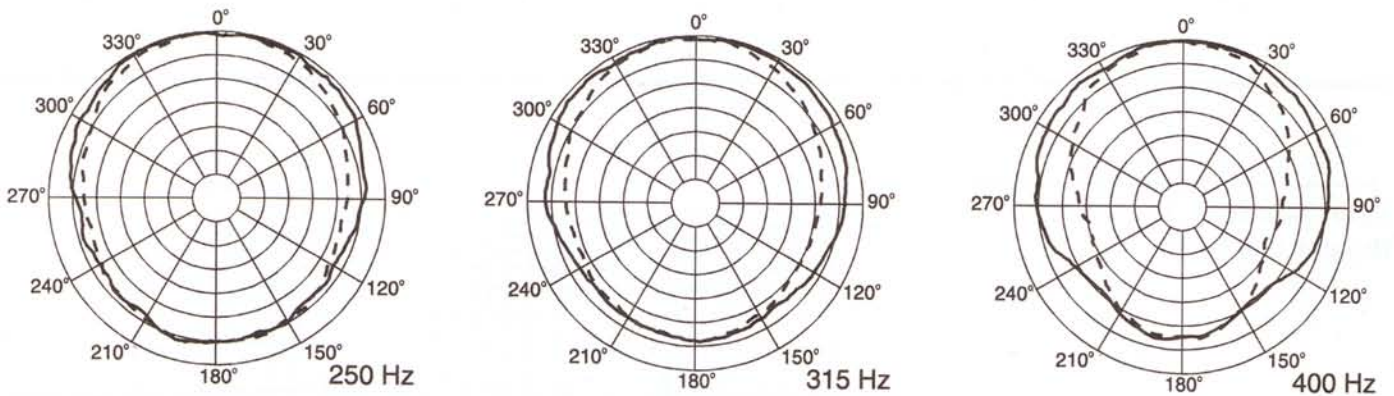
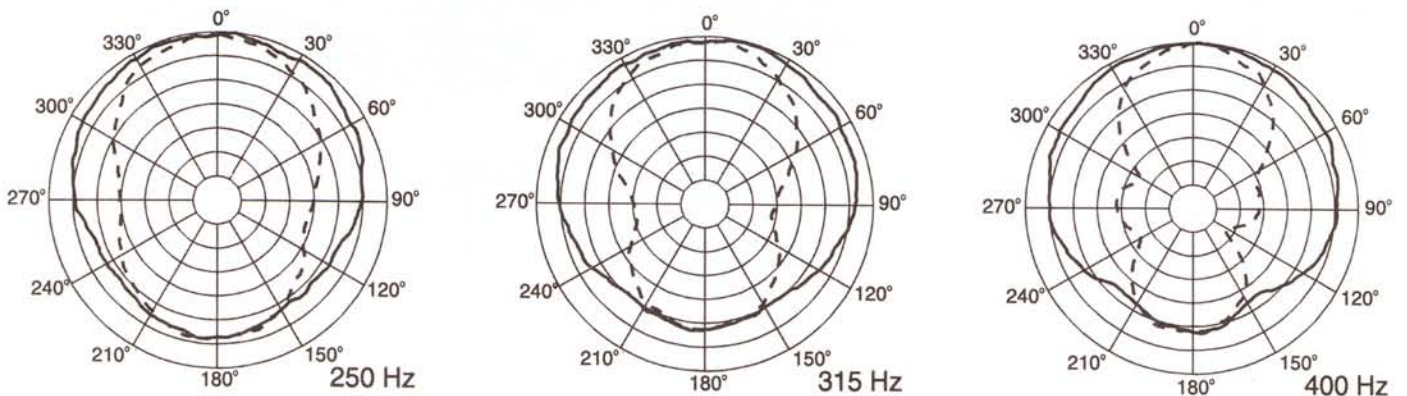


Figure 2—DTS-212 with DTS-941⁶ Polar Response (one-third-octave bands of pink noise)



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Figure 2—DTS-212 Polar Response (one-third-octave bands of pink noise)

— Horizontal*
 - - - Vertical*

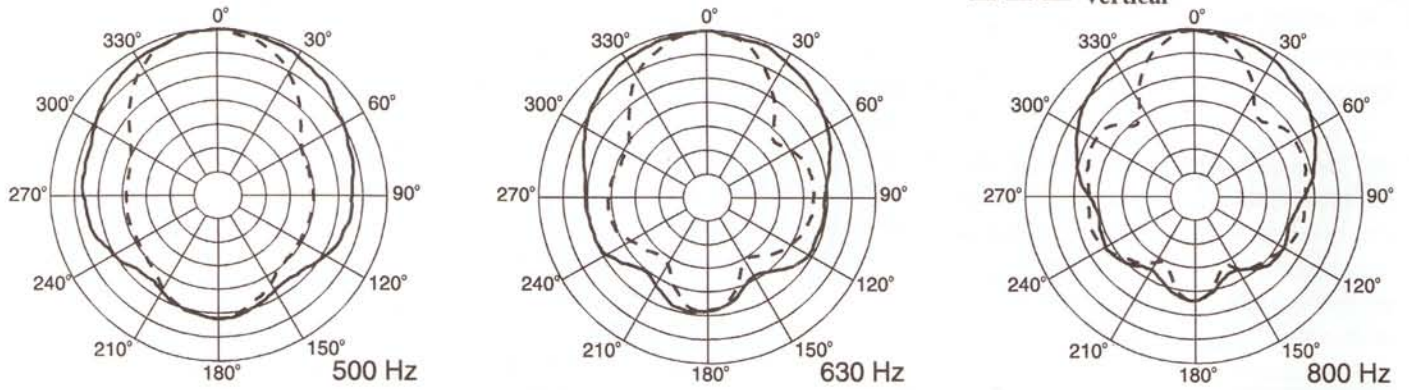


Figure 2—DTS-212 with DTS-941⁶ Polar Response (one-third-octave bands of pink noise)

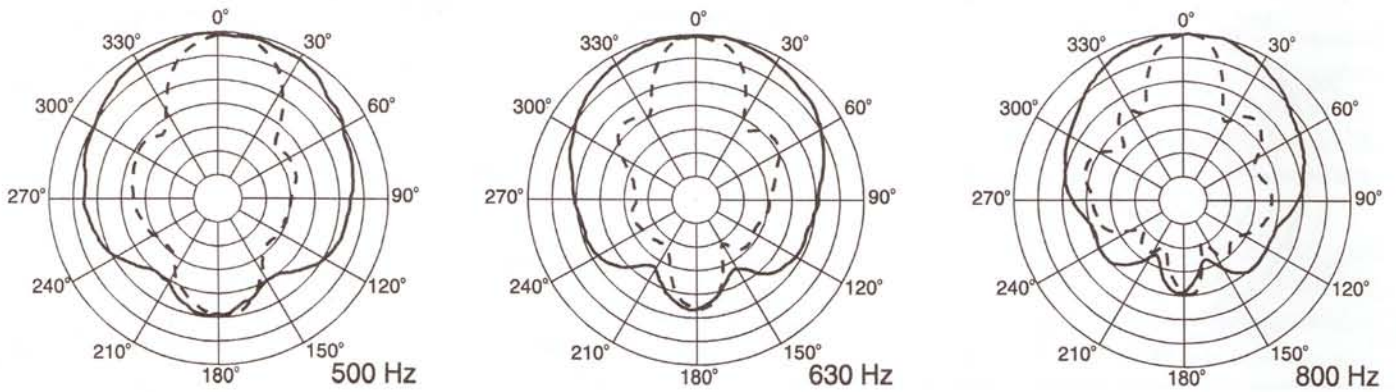
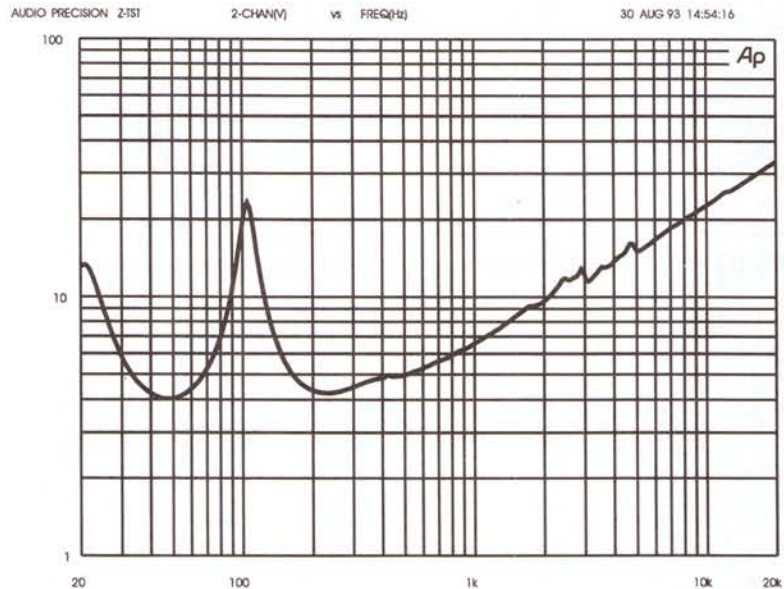


Figure 3—DTS-212 Impedance (Parallel) (Log Scale)



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Figure 4—DTS-212 Harmonic Distortion at 0.1 rated power (60 W)¹

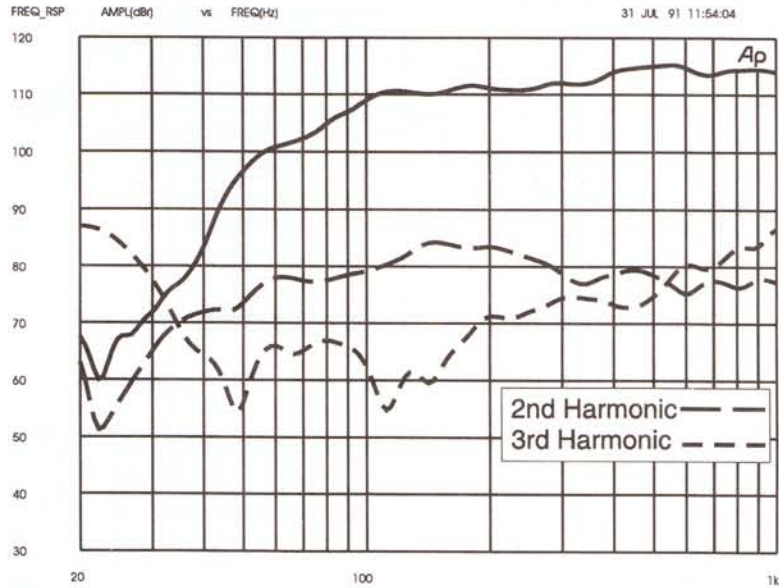


Figure 5—DTS-212 Harmonic Distortion at 0.01 rated power (6 W)¹

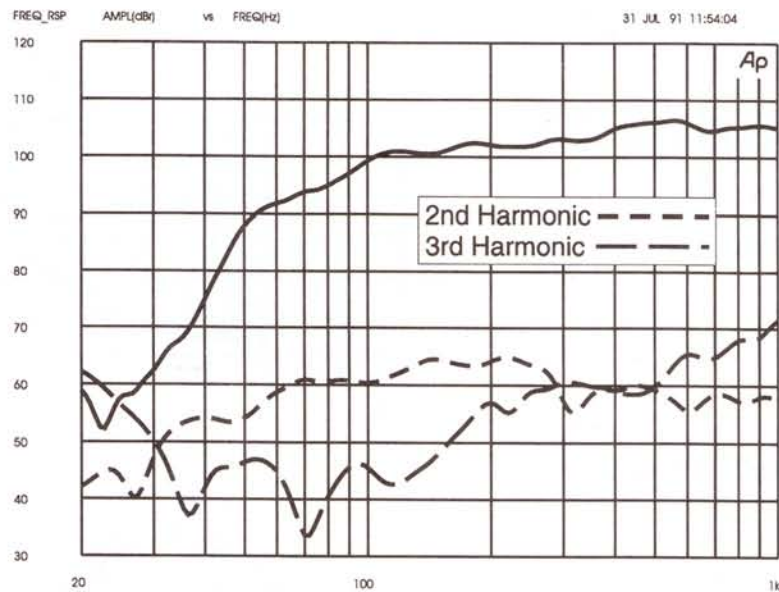
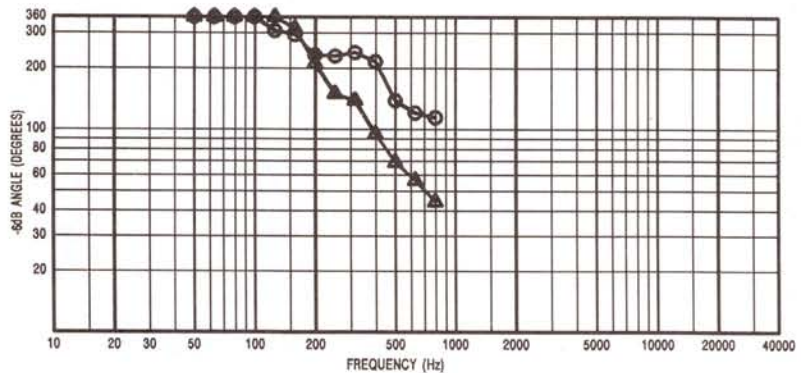


Figure 6—DTS-212 Beamwidth



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Figure 7—DTS-212 and DTS-941 Beamwidth⁶

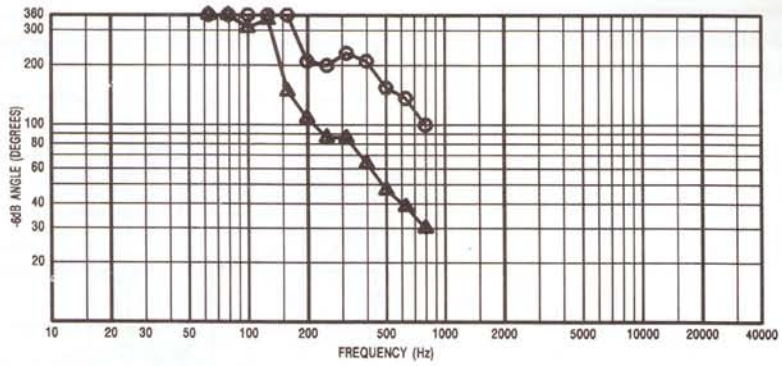


Figure 8—DTS-212 Directivity

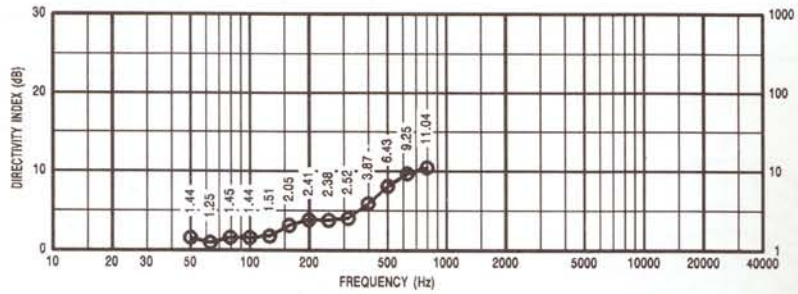


Figure 9—DTS-212 and DTS-941 Directivity

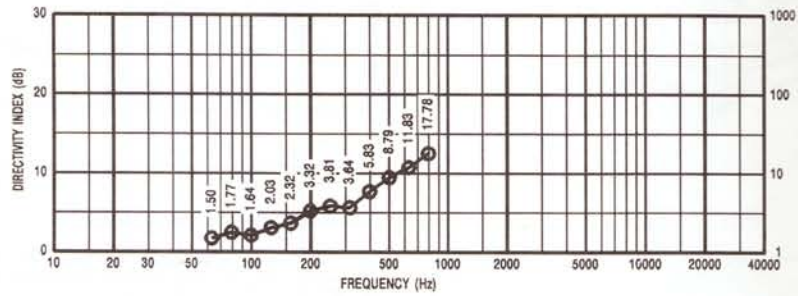
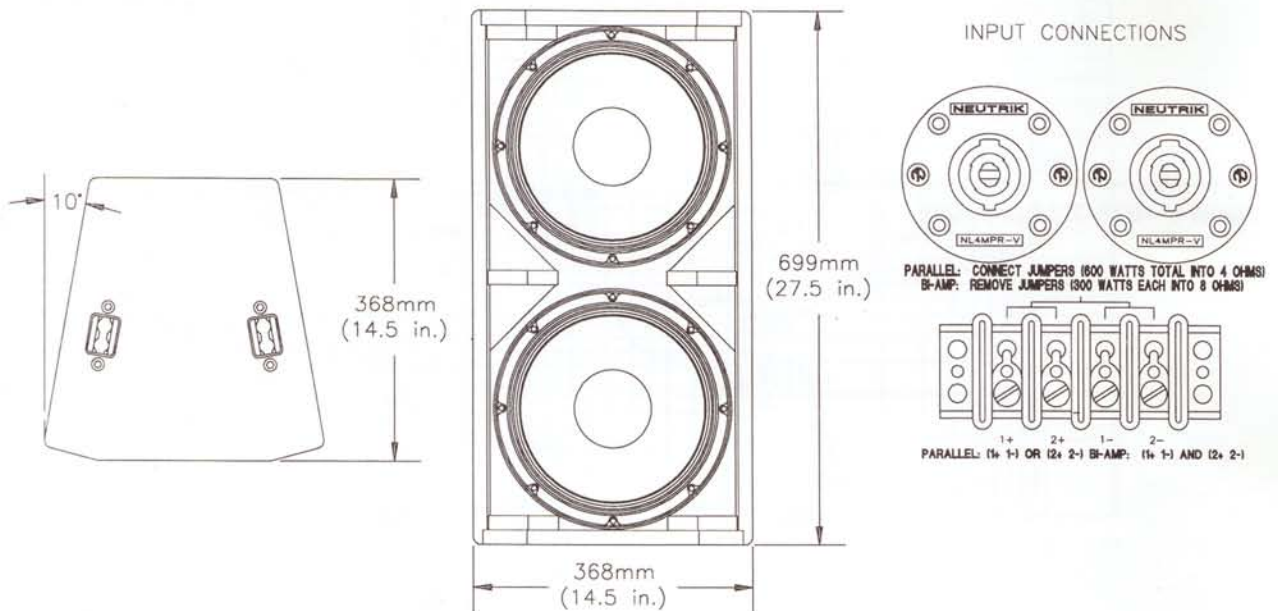


Figure 10—DTS-212 Dimension Diagram



Altec Lansing DTS-212 Duplex® Low-Frequency Loudspeaker System

Specifications

System Type:

Dual 12-inch direct radiating XLF; bi-amp or parallel using supplied jumpers

Pressure Sensitivity, 55-800 Hz:

99 dB²

Frequency Response (see Figure 2):

55-800 Hz³

Beamwidth,

Horizontal, 100-800 Hz:

250° (+110°, -130°)

Vertical, 100-800 Hz:

150° (+210°, -105°)

Directivity Factor, R_θ (Q), 100-800 Hz:

2.4 (+8.6, -1.0)

Directivity Index, D_i, 100-800 Hz:

3.8 dB (+6.6 dB, -2.3 dB)

Power Handling 55-800 Hz:

600 watts⁴ (parallel)

Maximum Long-Term Output,

XLF (55-800 Hz, 600 watts input):

123 dB SPL⁵

Impedance,

XLF (parallel):

3.9 ohms minimum

4.0 ohms nominal

Components:

Dual 305-mm (12-in.), high efficiency woofers

Input Terminals:

Large screw terminal with two 4-pin Neutrik Speakon® connectors

Replacement LF:

812-2364

Replacement Grille:

84054

Enclosure:

Direct radiating vented LF, built of 19-mm (0.75-in.), 14-ply birch plywood with appropriate bracing, lined with glass wool; three-point hanging system included

Dimensions:

699 mm (27.5 in.) high

368 mm (14.5 in.) wide

368 mm (14.5 in.) deep

Net Weight:

31.3 kg (69.0 lb)

Shipping Weight:

34.0 kg (75.0 lb)

Finish:

Black textured primer finish, black 16-gauge powder-coated grille

Accessories:

Two Ancra 42546-10 single-stud tie-down cargo suspension hardware provided with system

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 eight 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.

6. This polar measurement made with the DTS-212 along with the DTS-941 system. All three (3) 12-inch woofers wired in parallel with a crossover frequency of 600 Hz and no mid/high-frequency section from the DTS-941 connected during the measurement.

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