

## KEY SYSTEM FEATURES

### Duplex Technology System (DTS™)

- Vented Bass Duplex® Horn System.

### High Output Capability

- Maximum Output: 133 dB SPL.

### High Sensitivity

- High Frequency: 109 dB SPL.
- Low Frequency: 104 dB SPL.

### Extensive Power Handling

- High Frequency: 300 watts.
- Low Frequency: 800 watts.

### Excellent Directivity Control

- 60° Horizontal by 40° Vertical.

### True Point Source

- Smooth Transition.

### Multiple Arraying Configurations

- Flexible Trapezoidal Cabinet Design.

### Safety Tested Flying System

- 552 lb. Capacity (in excess of 8:1 S.F.)

## DESCRIPTION

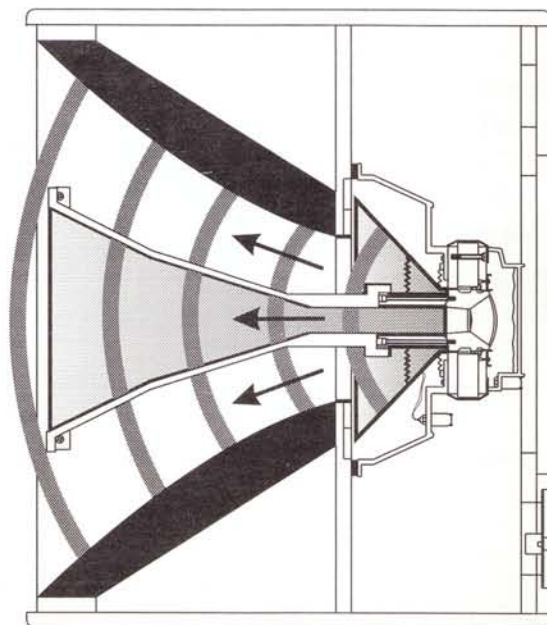
The permanent installation of compact, "packaged" loudspeakers in architectural spaces has grown increasingly popular in recent years. Sound system designers sparked this popularity through their increased creation of high output, concert quality loudspeaker systems. These systems provide a level of quality desired by the performing arts and touring sound industries. The introduction of trapezoidal enclosures enable sound system designers to locate more loudspeakers in a smaller physical space, thereby increasing output and creating an effective "point source" cluster.

While most of these systems reproduce amplified music with the intensity and wide bandwidth suitable for concert quality reproduction, they typically lack the directivity to provide highly intelligible, natural sounding speech with adequate gain-before-feedback. This compromise is completely unacceptable in a performing arts center or house of worship.

The Altec Lansing **DTS645A-F** loudspeaker was created to provide high output levels for full-range music reproduction while offering a very directive output for highly intelligible speech in even the most reverberant architectural spaces. Altec Lansing's engineers have created a new Duplex® coaxial loudspeaker which physically aligns the high and low frequency drivers creating a true point source device. This concept is the driving force behind the

DTS-series of arrayable loudspeaker devices.

Complementing the **DTS645A-F**'s powerful performance is a trapezoidal cabinet which allows for flexible arraying. The integral L-track flying hardware facilitates quick, easy, and repeatable installations.





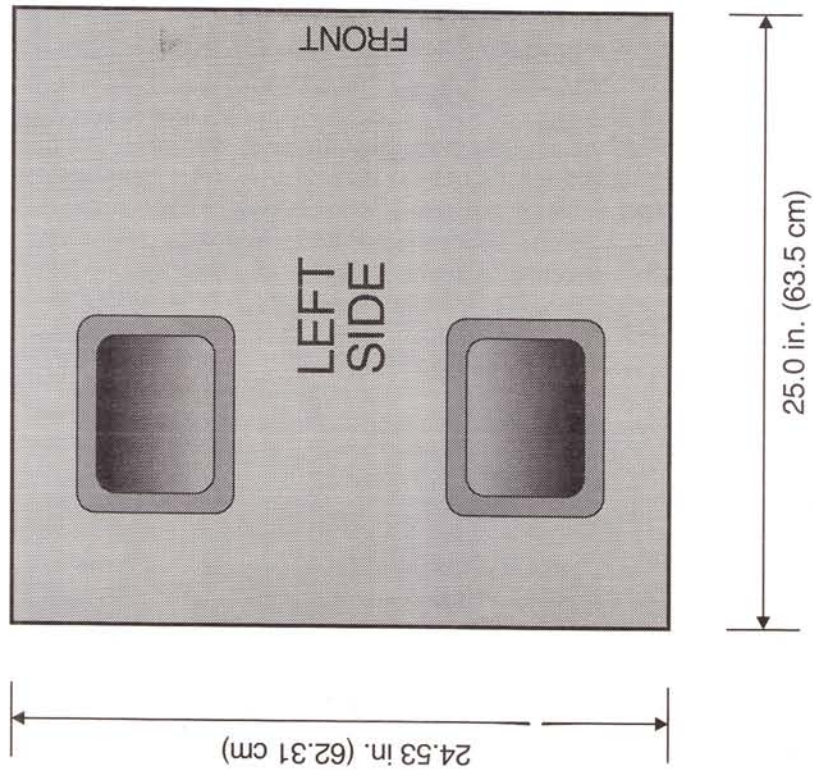
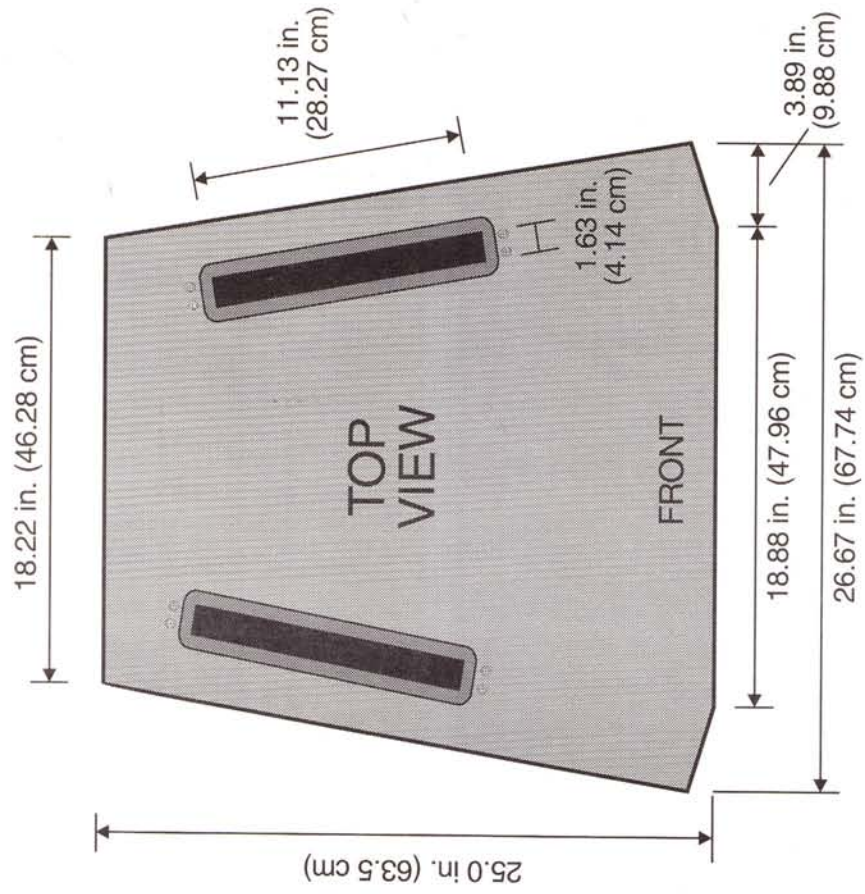
# DTS645A-F SPECIFICATIONS (unprocessed)

<b>System Type:</b>	Vented bass horn type, two-way full-range loudspeaker system.
<b>Pressure Sensitivity:</b>	(see note 1)
H.F.:	109 dB SPL (1 watt, 1 kHz to 10 kHz, re: 20 uPa).
L.F.:	104 dB SPL (1 watt, 125 Hz to 1 kHz, re: 20 uPa).
<b>Frequency Response:</b>	(see note 2)
Useable:	50 Hz - 18 kHz.
<b>Power Handling:</b>	(see note 3)
H.F. (1 kHz to 10 kHz):	300 watts, peak power. 150 watts, continuous program. 75 watts, AES method.
L.F. (50 Hz to 4 kHz):	800 watts, peak power. 400 watts, continuous program. 200 watts, AES method.
<b>Maximum Output:</b>	(see note 4)
H.F.:	134 dB SPL, peak power. 131 dB SPL, continuous program. 128 dB SPL, AES method.
L.F.:	133 dB SPL, peak power. 130 dB SPL, continuous program. 127 dB SPL, AES method.
<b>Crossover Frequency:</b>	1 kHz recommended.
<b>Impedance:</b>	
H.F.:	8.0 ohms minimum.
L.F.:	7.0 ohms minimum. 8.0 ohms nominal.
<b>Components:</b>	16 inch, high-efficiency, Duplex® loudspeaker.
<b>Input Terminals:</b>	Large screw terminals, Speakon™ connector.
<b>Flying System:</b>	L-track accepts Aeroquip 32102 fittings.
<b>Accessory Hardware:</b>	Grid Strap Part # GS-1A, 10" Linkstrap Part # LS-1A, 12" Linkstrap Part # LS-2A.
<b>Suspension Data:</b>	To insure a proper safety factor, Altec Lansing recommends the units not be stacked over four (4) high.
<b>Recone Kit:</b>	R9864-8ALF.
<b>Diaphragm Replacement:</b>	25884.
<b>Replacement Grille:</b>	Model RG039105.
<b>Enclosure:</b>	Vented bass horn type, built of 14-ply birch plywood with appropriate bracing. Lined with glass wool.
<b>Finish:</b>	Black texture paint with black metal grille.
<b>Dimensions:</b>	
Height:	24.53 inches (62.31 centimeters).
Width:	26.67 inches (67.74 centimeters).
Depth:	25.0 inches (63.5 centimeters).
<b>Weight:</b>	
Net:	138.0 pounds (62.60 kilograms).
Shipping:	178.0 pounds (80.74 kilograms).

## MEASUREMENT NOTES

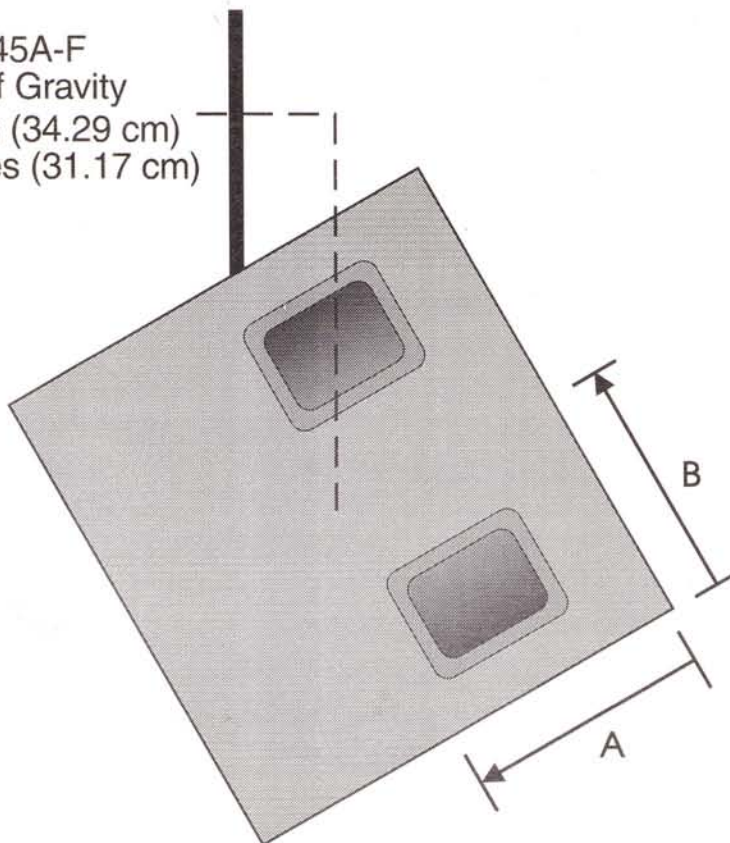
1. Pink noise signal, one Watt calculated using  $E^2/Z_{min}$ , 3.16 meter-measurement distance referred to one meter.
2. On-axis, one Watt calculated using  $E^2/Z_{min}$ , 3.16 meter-measurement distance referred to one meter, low frequencies corrected for anechoic chamber error.
3. This system rating 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. 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:

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





DTS645A-F  
Center of Gravity  
A: 13.5 inches (34.29 cm)  
B: 12.27 inches (31.17 cm)



## ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The loudspeaker system shall be of the vented bass horn type consisting of one 16 inch (40.6 cm) high power Duplex® loudspeaker with a coaxially embedded 1.4 inch compression driver loaded with a 60° by 40° constant directivity horn. The loudspeaker system shall meet the following performance criteria: AES power handling, 275 watts (200 LF + 75 HF) of pink noise with 6 dB crest factor, band limited from 50 Hz - 15 kHz. Frequency response, smooth and uniformly usable from 50 Hz - 18 kHz. Pressure sensitivity, 109 dB SPL from 1 kHz - 10 kHz, and 104 dB SPL from 125 Hz - 1 kHz, one watt at one meter on axis. The enclosure shall be

trapezoidal and constructed of 14-ply birch plywood. The cabinet shall be heavily braced and lined with sound absorbent glass wool. The enclosure shall be fitted with two sets of Aeroquip #34030-3 L-track suspension hardware which will allow the unit to be suspended from either end. The finish of the enclosure shall be a black texture paint with a black metal grille. The dimensions of the enclosure shall be 24.53 inches (62.31 cm) high by 26.67 inches (67.74 cm) wide by 25.0 inches (63.5 cm) deep. The loudspeaker system shall weigh 138.0 lbs (62.6 kg).

The loudspeaker system shall be the Altec Lansing DTS645A-F.



a MARK IV company

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