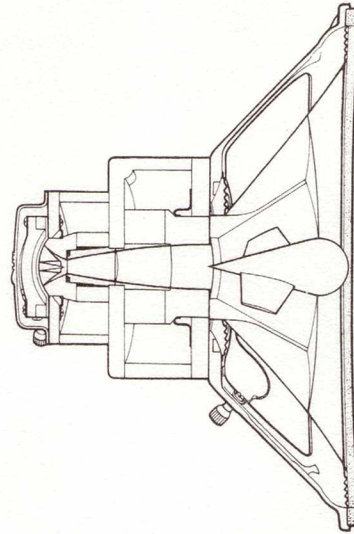


615B/A Duplex® Loudspeaker

615B/A



Features

Designed Specifically to Meet
Boner Equalization
System Requirements
**DUPLEX® (Two-Way
Coaxial Speaker)**
90° Conical Distribution
Guaranteed 20 to 12,000
Cycle Frequency Range
Highest Efficiency
Smooth Uniform Response
Low Cone Resonance
Massive Dual Magnetic
Structures
Edge-Wound Voice Coils
Dual Full-Section Precision
Crossover Network
Excellent Bass Response
Compression High
Frequency Driver
Low Distortion
High Power Handling
Capacity
Heavy Cast Frame
Construction
Field Replaceable HF
Diaphragm And Voice Coil

**HIGH QUALITY WIDE-ANGLE SPEAKER FOR DISTRIBUTED SOUND REINFORCEMENT
SYSTEMS IN • AUDITORIUMS • THEATRES • HOTELS • TRANSPORTATION
TERMINALS • RESTAURANTS • SCHOOLS • ARENAS • CHURCHES
• CLUBS • DISCOTHEQUES • NIGHTCLUBS • SHOPPING CENTERS**

The Altec 615B/A DUPLEX Loudspeaker, an exacting, two-way transducer, is designed specifically to meet the rigorous precision required by the Boner and other Systems of Equalization. It is intended for ceiling installation or in other locations where a wide-angle, conical sound distribution pattern and maximal quality reproduction is desired. Unlike speakers employing a series of domes and multiple van deflectors, the 615B/A utilizes a unique "para-toner" (a tear-shaped diffraction defuser) to attain a uniform 90-degree conical distribution. This prevents the "on-axis" accumulation of high-frequency sound pressure that plagues many radial high-frequency horns and results in an exceptionally uniform response throughout the coverage area.

A full fifteen-inch, wide-range loudspeaker, the 615B/A DUPLEX covers the entire audio spectrum from 20 to 12,000 Hz. It is guaranteed to meet its published specifications stating its capability to reproduce the entire range of sound when it is mounted in the correct enclosure.


The high- and low-frequency units — magnetically, electrically and mechanically independent — are mounted within one physical frame to provide the advantages of a complete two-way speaker system in a compact form. Both units have large edge-wound voice coils producing an exceptional uniformity of response. These voice coils operate in magnetic gaps of high flux density created by large independent Alnico V magnets. The unique machined phasing plug has two exponential acoustic slots ensuring a proper phase relationship between the sound emanating from the center and from the outer edge of the high-frequency diaphragm. The result is exceptionally smooth mid- and high-frequency range reproduction.

The large 2¼-inch aluminum high-frequency tangential compliance diaphragm is coupled to a heavy, high impact horn which, in conjunction with the novel tear-shaped 'para-toner', provides an even 90-degree conical distribution of sound with outstanding clarity and exceptional presence. The high-compliance, low-frequency cone is driven by a large 3-inch edge-wound copper voice coil and will reproduce tones from the lowest audible up to the crossover frequency with minimum distortion even at full rated power.

A special dual, full-section dividing, network, providing a precisely and permanently factory adjusted crossover frequency of 1550 Hz is supplied to ensure proper phasing of the high- and low-frequency components. See accessory transformer sheet for the Altec 15066 or 15065 70-volt line transformers for those installations where one may be required.

Perfect audio reproduction of speech and music is assured by the use of the 615B/A DUPLEX Loudspeaker. Its efficiency, power handling capacity, extremely wide response, and conical distribution make it the prime choice for high-quality distributed sound systems.



A Division of  Ling Altec, Inc.

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New York

ALTEC 615B/A

SPECIFICATIONS

Power:	35 watts (50 watts, peak)	Flux:	LF: 11,000 Gauss HF: 14,000 Gauss
Frequency Response:	20 to 12,000 Hz	Crossover Network:	1550 cycle dual full-section (pre-wired and mounted on frame)
Pressure Sensitivity:	97 db SPL at 4 ft. from 1 watt*, or 112.4 db SPL at 4 ft. from 35 watts	Terminals:	Wire leads (2)
Impedance:	16 Ω	Diameter:	15-5/16 inches
Cone Resonance:	25 cycles	Mounting Data:	Baffle Opening: 13 $\frac{1}{4}$ inches Mounting Bolt Centers: 14-9/16 inches (8, equally spaced, at 45°) Depth: 10 inches
Voice Coil Diameters:	LF: 3 inches HF: 1 $\frac{3}{4}$ inches	Weight:	28 pounds with network
Distribution:	90° (conical)	Finish:	Grey enamel
Magnet:		Accessories:	Altec 15065 70-volt Transformer Altec 15066 70-volt Transformer (See "70-volt Transformer" Catalog Sheet for detailed information.)
Type:	Alnico V		
Weight:	LF: 2.25 lb. HF: .531 lb.		
Structure Weight:	LF: 15.13 lb. HF: 5 lb.		

*Equivalent to EIA rating of 50 db at 30 feet from 1 mw

ARCHITECTS AND ENGINEERS SPECIFICATIONS

The loudspeaker shall be 15 $\frac{5}{16}$ -inches in diameter and of the two-way DUPLEX type, having a continuous power rating of 35 watts and a peak power rating of 50 watts. The loudspeaker shall be capable of reproducing a frequency range from 20 to 12,000 Hz and shall have a minimum pressure sensitivity of 112.4 db SPL, at 4 feet from 35 watts, measured on axis. The loudspeaker shall employ a dual full-section dividing network having a 1,550 cycle crossover frequency. This network shall be coded to ensure proper phasing of the high- and low-frequency components.

The loudspeaker shall have a nominal impedance of 16 ohms. The low-frequency cone shall have a free air resonance frequency of 25 cycles per second; the low-frequency voice coil shall be of edge-wound copper ribbon, having a diameter of 3 inches and shall operate in a magnetic gap having a flux density of 11,000 Gauss, derived from an Alnico V magnet having a weight of 2.25 pounds. The outer edge (rim) of the low-frequency cone shall utilize a high-compliance, mechanically-damped, cloth-surround which, complemented by the correct apex suspension (spider), shall be capable of reproducing the stated low-frequency response.

The high frequency diaphragm shall be of aluminum, having tangential compliance, and shall be properly loaded, acoustically, by a conical horn, injection-molded of heavy, high-impact cyclac, and having a 'para-toner' defraction diffuser. The frequency distribution pattern of the loudspeaker, owing to use of this conical horn shall be 90° (conical). The high-frequency section shall utilize a machined phasing plug (i.e., pole piece) having two exponential acoustic slots to provide the proper phase relationship between the sound emanating from the center and outer edge of the diaphragm and voice coil assembly. The high-frequency voice coil shall be of edgewood aluminum ribbon, having a diameter of 1 $\frac{3}{4}$ inches, and shall operate in a magnetic gap having a flux density of 14,000 Gauss derived from an Alnico V magnet having a weight of 0.531 pounds. The combined magnetic structures shall be no less than 20.13 pounds. High frequency diaphragms having annular compliances and/or utilizing horns with rectangular radiation patterns shall be deemed unacceptable under this specification.

The loudspeaker frame shall be of heavy cast construction. The high frequency diaphragm and voice coil assembly shall be field replaceable without the use of special tools or skills; this shall be interpreted to mean that the loudspeaker shall incorporate self-centering dowels to insure proper spacing and alignment of the diaphragm and voice coil assembly.

Any loudspeaker not meeting all of the foregoing requirements shall be deemed unacceptable under this specification.

The loudspeaker shall be Altec Lansing Model 615A.

NOTICE
We recommend that you obtain your Altec products from factory trained authorized Altec Sound Contractors and Distributors. This will assure you of proper installation, a continuing source of knowledgeable advice, service, and quick warranty protection.