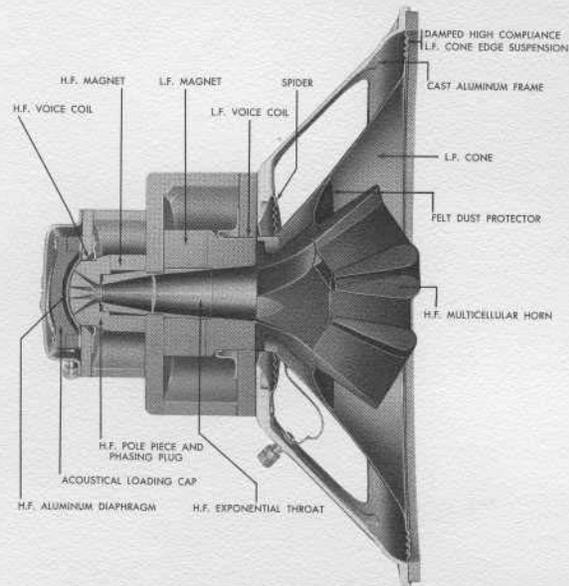
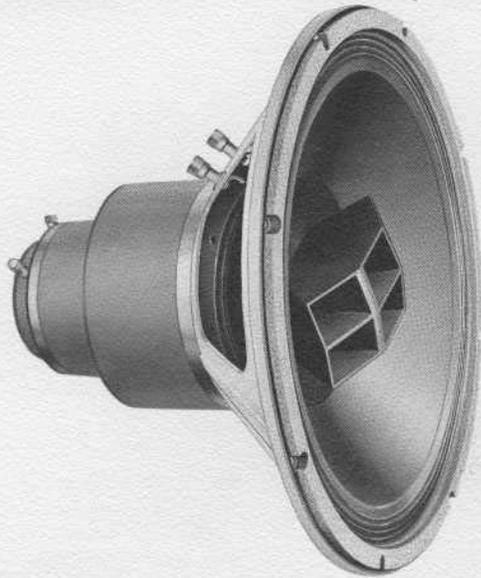


# 604E Super **DUPLEX** Loudspeaker

# 604E



## Features

- Recording and Broadcast  
PLAYBACK Quality
- Excellent Mid-Range  
Frequency Response
- DUPLEX (two-way  
coaxial speaker)
- Highest Efficiency
- From 20 to 22,000 cycles  
Frequency Range
- Dual Magnetic Structures
- Edge-Wound Voice Coils
- High Power Handling Capacity
- Dual Full-Section Precision  
Crossover Network
- Heavy Cast Frame  
Construction
- Smooth Uniform Response
- Low Cone Resonance
- Field Replaceable  
HF Diaphragm and Voice Coil
- Wide Angle 40° x 90°  
Distribution
- Multicellular HF Horn
- Compression HF Driver

**PROFESSIONAL RECORDING AND BROADCASTING STUDIO MONITORING  
PLAYBACK QUALITY SOUND SYSTEMS ... AUDITORIUMS ... RESTAURANTS  
SCHOOLS ... FACTORIES ... SHOPPING CENTERS ... TRANSPORTATION TERMINALS  
NIGHTCLUBS ... PUBLIC ADDRESS SYSTEMS**

For twenty years Altec 604-type Duplex® speakers — long acclaimed by professional sound engineers as THE standard coaxial speaker for the audio industry — have made high fidelity history in recording and broadcasting studios. Now, Altec has incorporated two decades of experience and progress with the most recent research advances, the newest engineering developments, and the latest laboratory refinements to produce a contemporary PLAYBACK version of those famous 604-type speakers: The Altec Super Duplex 604E.

This fifteen-inch, coaxial speaker encompasses frequencies from 20 to 22,000 cycles, a range that extends beyond the normal scope of the human ear. Unlike many speakers which concentrate on extremely high or low frequency reproduction to the detriment of the intervening sound spectrum, particularly the important middle range which contains some 90% of all musical sounds, the Super Duplex provides unusually uniform and pure response throughout the mid-frequency range as well as those frequencies at the edge of hearing. The unique use of a machined phasing plug with two exponential acoustic slots insures a proper phase relationship between the sound emanating from the center and outer edge of the high-frequency diaphragm, resulting in exceptional and smooth mid- and high-frequency range reproduction. The high power capacity (35 watts), minimal distortion, extremely wide range, excellent sound distribution, and smooth response of the Super Duplex will meet the demands of studios so discriminating that they tolerate no compromise between the original performance and the reproduced sound.

A two-way, coaxial transducer, the Super Duplex 604E consists of a single frame containing both the high- and low-frequency speakers; magnetically, electrically and mechanically independent units. The 604E has a dual magnet structure weighing 26 pounds, 13 ounces which contains oversize Alnico V magnets. The high frequency section utilizes an edge-wound aluminum voice coil on a large (2<sup>1</sup>/<sub>4</sub> inch) aluminum diaphragm with tangential compliance coupled to a heavy, high-impact, multicellular horn with a 40° by 90° distribution angle. The low-frequency cone is driven by an edge-wound 3-inch copper voice coil and is of high compliance with cloth surround rim and apex (spider) suspension.

A dual full-section dividing network with a crossover frequency of 1,500 cycles has a high frequency shelving control with a 0 to -10 db range for correctly matching and adjusting the acoustical characteristics to any listening area.

The 604E may be mounted in a functional studio monitoring enclosure (Altec 857A) for recording and broadcast studio monitoring purposes. For home use the Altec 858A "Carmel"-type cabinet or the new Altec 855A "Malibu" furniture-styled enclosures are recommended. For detailed information on other members of Altec's family of Duplex® speakers, see the descriptive literature on model numbers 601, 602 and 605.



A Division of *LSV* Ling Altec, Inc.

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New York

RECORDING &  
BROADCASTING  
EQUIPMENT

# ALTEC 604E

## SPECIFICATIONS

<b>Power:</b>	35 watts (50 watts peak)	<b>Structure Weight:</b>	(LF) 20.31 pounds (HF) 6.5 pounds
<b>Frequency Response:</b>	From 20 to 22,000 cycles	<b>Flux:</b>	(LF) 13,000 Gauss (HF) 15,000 Gauss
<b>Pressure Sensitivity:</b>	101 db SPL at 4 ft. from 1 watt* or 116.4 db SPL at 4 ft. from 35 watts	<b>Crossover Network:</b>	1,500 cycle, dual full-section (furnished with speaker)
<b>Impedance:</b>	Designed to operate from 8 ohms or 16 ohms	<b>Terminals:</b>	Binding post (4)
<b>Cone Resonance:</b>	25 cycles	<b>Diameter:</b>	15 <sup>5</sup> / <sub>16</sub> "
<b>Voice Coil Diameters:</b>	(LF) 3 inches (HF) 1 <sup>3</sup> / <sub>4</sub> inches	<b>Mounting Data:</b>	Baffle opening —13 <sup>1</sup> / <sub>4</sub> inches Mtg. Bolt. Cntrs.—14 <sup>9</sup> / <sub>16</sub> inches (8, equally spaced at 45°) Depth —11 <sup>1</sup> / <sub>8</sub> inches
<b>Horizontal Distribution:</b>	90	<b>Weight:</b>	34 pounds (including network)
<b>Vertical Distribution:</b>	40°	<b>Finish:</b>	White and Grey
<b>Magnets —</b>		<b>Accessories:</b>	Altec 100A Bass Energizer
<b>Type:</b>	Alnico V	<b>Enclosures:</b>	Altec 855A, 857A, 612A, 614A Cabinets
<b>Weight:</b>	(LF) 4.4 pounds (HF) 1.2 pounds		

\*equivalent to EIA rating of 54 db at 30 feet from 1 milliwatt

## ARCHITECTS AND ENGINEERS SPECIFICATIONS

The loudspeaker shall be 15<sup>5</sup>/<sub>16</sub> 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 22,000 cycles per second and shall have a minimum pressure sensitivity of 116.4 db SPL at 4 feet from 35 watts, measured on axis. The loudspeaker shall employ a dual full-section dividing network having a 1,500 cycle crossover frequency and a continuously adjustable shelving control with a range of 0 to —10 db of high frequency attenuation.

The loudspeaker shall be designed to operate from 8 ohms or 16 ohms impedance. The low frequency cone shall have a free air resonance frequency of 25 cycles per second: the LF 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 13,000 Gauss, produced by a magnetic structure having a weight of 20.31 pounds. The outer edge (rim) of the LF 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 section of the speaker shall be a 2<sup>1</sup>/<sub>4</sub>" aluminum diaphragm having tangential compliance and shall be properly loaded, acoustically, by a multicellular horn, and 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 frequency distribution pattern of the loudspeaker achieved by use of the multicellular horn shall be 90° by 40°. The HF voice coil shall be of edge-wound aluminum ribbon, having a diameter of 1<sup>3</sup>/<sub>4</sub> inches, and shall operate in a magnetic gap having a flux density of 15,500 Gauss, produced by a magnetic structure having a weight of 6.5 pounds. Total magnetic structure weight shall be no less than 26 pounds. High frequency diaphragms having annular compliances and/or utilizing horns with spherical 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 604E.

**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.