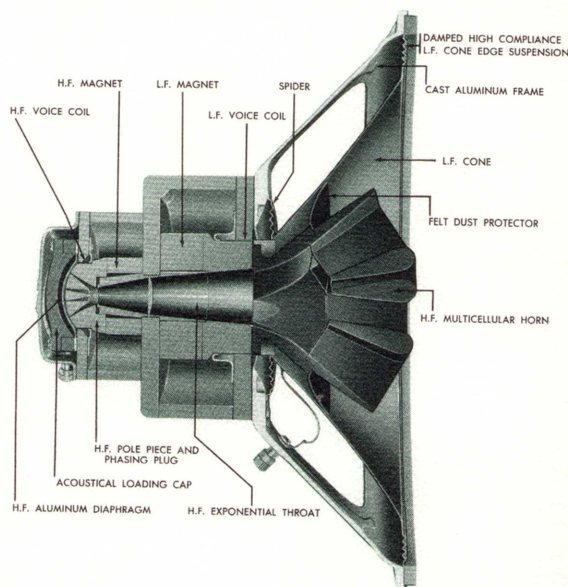
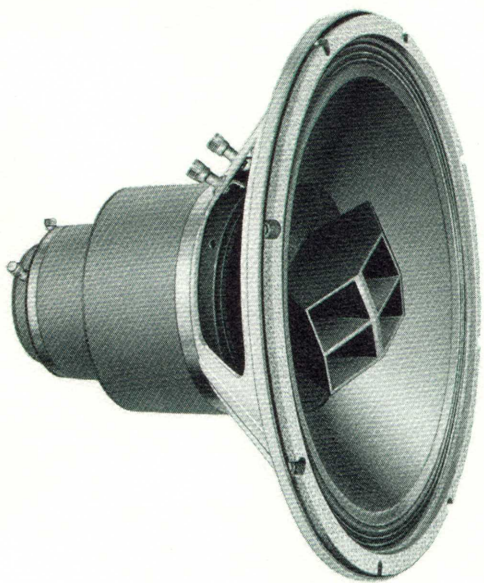


# 604E DUPLEX Loudspeaker

# 604E



## Features:

- Recording and Broadcast Quality
- Excellent Midrange Frequency Response
- DUPLEX (two-way coaxial speaker)
- Frequency Range from 20 to 20,000 Hz
- Dual Magnetic Structures
- Edge-Wound Voice Coils
- 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

## 604E DUPLEX LOUDSPEAKER

This 15-inch coaxial speaker encompasses frequencies from 20 to 20,000 Hz. The Duplex provides unusually uniform response throughout the midfrequency range as well as those frequencies at the edge of hearing. A machined phasing plug with two exponential acoustic slots is used to ensure a proper phase relationship between the sound from the center and the sound from the outer edge of the high-frequency diaphragm resulting in 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 Duplex will meet the demands of studios for "no compromise" between the original performance and the reproduced sound.

The Duplex 604E embodies a two-way, coaxial transducer consisting of a single frame containing both the high- and low-frequency speakers. These speakers are magnetically, electrically and mechanically independent units. The 604E has a dual magnet structure weighing 26 pounds, 13 ounces and contains oversized Alnico V magnets. The high frequency section utilizes an edge-wound aluminum voice coil on a 2¼-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 has high compliance with a cloth surround rim and apex (spider) suspension.

A dual full-section dividing network with a crossover frequency of 1,500 Hz 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.

# ALTEC®

A DIVISION OF ALTEC CORPORATION

1515 S. Manchester Ave., Anaheim, Calif. 92803

# ALTEC 604E

## SPECIFICATIONS

<b>Type:</b>	Duplex loudspeaker	<b>Structure Weight:</b>	(LF) 20.31 pounds (HF) 6.5 pounds
<b>Power:</b>	35 watts (50 watts peak)	<b>Flux:</b>	(LF) 13,000 Gauss (HF) 15,500 Gauss
<b>Frequency Response:</b>	From 20 to 20,000 Hz	<b>Crossover Network:</b>	1,500 Hz dual full-section (furnished with speaker)
<b>Pressure Sensitivity:</b>	101 dB SPL at 4 feet from 1 *watt or 116.4 dB SPL at 4 feet from 35 watts	<b>Terminals:</b>	Binding post (4)
<b>Impedance:</b>	Designed to operate from 8 ohms or 16 ohms	<b>Diameter:</b>	15-5/16 inches
<b>Normal LF Cone Resonance:</b>	25 Hz	<b>Mounting Data:</b>	Baffle opening — 13-3/4 inches Mtg. Bolt. Cntrs. — 14-6/16 inches (8, equally spaced at 45°) Depth — 11-1/8 inches
<b>Voice Coil Diameters:</b>	(LF) 3 inches (HF) 1 1/4 inches	<b>Weight:</b>	34 pounds (including network)
<b>Horizontal Distribution:</b>	90°	<b>Finish:</b>	White and gray
<b>Vertical Distribution:</b>	40°	<b>Accessories:</b>	ALTEC 100A Bass Energizer
<b>Magnets —</b>			
<b>Type:</b>	Alnico V		*equivalent to EIA rating of 54 dB at 30 feet from 1 milliwatt
<b>Weight:</b>	(LF) 4.4 pounds (HF) 1.2 pounds		

## ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The loudspeaker shall be 15-5/16 inches in diameter and shall be of the two-way Duplex type, having a continuous power rating of 35 watts and a peak power rating of 50 watts. The 604E shall be capable of reproducing a frequency range from 20 to 20,000 Hz and shall have a minimum pressure sensitivity of 116.4 dB SPL at 4 feet from 35 watts, measured on axis. A dual full-section dividing network shall be employed having a 1,500 Hz 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 or 16 ohms impedance. Normal free air resonance frequency for the LF cone shall be 25 Hz. 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 complemented by the correct apex suspension (spider) and shall be capable of reproducing the low-frequency response.

The high-frequency section of the speaker shall be a 2 1/4" aluminum diaphragm having tangential compliance and shall be acoustically loaded by a multicellular horn. The HF section shall utilize a machined phasing plug i.e., pole piece having two exponential acoustical slots. This plug shall provide the proper phase relationship between the sound emanating from the center and the sound from the 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 1/4 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 not 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. Self-centering dowels shall be incorporated to ensure proper spacing and alignment of the diaphragm and voice coil assembly.

The loudspeaker shall be the ALTEC Model 604E.