



DESCRIPTION

The ALTEC 604-8G Duplex Loudspeaker System is a two-way loudspeaker with high- and low-frequency speakers coaxially mounted in a single frame. The dual magnet structures allow each speaker to be magnetically, electrically and mechanically independent. The system is primarily designed for use in studio monitor applications where no compromise can be tolerated between the original and reproduced performance, and offers very high sensitivity (loudness) from moderate input power. Coaxial arrangement provides the effect of a homogenous source of full-range sound. All frequencies are propagated through a common 'window' to ensure good stereo imagery when multiple 604-8G's are used.

The 604-8G features several improvements over the earlier models:

- Voice-coil impedance has been changed from 16 to 8 ohms to better complement the solid-state amplifiers used today.
- The dividing network, mounted on a cast aluminum frame, ensures a minimum of 8 ohms impedance throughout the operating range, provides

crossover slope functions of 12 dB/octave (low pass) and 18 dB/octave (high pass), and includes continuously variable high-frequency attenuation of up to 20 dB to correctly match the acoustical characteristics to any listening area.

- The new structurally reinforced die-cast aluminum frame is rigid enough to permit front or rear mounting.
- A new high-frequency diaphragm provides extended treble response and greater linearity than previous designs.

The high-frequency section has a voice coil of edge-wound aluminum ribbon, attached to an aluminum diaphragm having tangential compliance and loaded with a sturdy exponentially expanded multicellular horn. A machined phasing plug with two exponential acoustic slots ensures proper phase relationship between the sound emanating from the center and outer edges of the high-frequency diaphragm. The low-frequency cone is driven by a voice coil of edge-wound copper ribbon and is supported by a high-compliance cloth surround.

SPECIFICATIONS

Type:	Duplex coaxial loudspeaker system with dividing network	Frame:	Structurally reinforced die-cast aluminum
Power Rating:	65 watts of continuous pink noise (20-20,000 Hz)	Dividing Network (furnished):	Dual full section with 1500 Hz crossover frequency, 12 dB/octave slope (LF), 18 dB/octave slope (HF) and HF shelving control with 20 dB range
Frequency Response:	Uniform, 20 to 20,000 Hz	Dimensions:	16" (40.6 cm) diameter 11 $\frac{1}{8}$ " (28.3 cm) deep
Pressure Sensitivity:	100 dB SPL at 4' with ALTEC 620A enclosure when measured on axis in the far (free) field with 1 watt input of band-limited pink noise from 100 to 10,000 Hz and calculated to 4' equivalent (Ref.: 0 dB = 0.0002 dyne/cm ²)	Weight:	34 pounds (15.4 kg) (includes dividing network)
Impedance:	8 ohms	Finish:	Dark gray enamel
Nominal Free-Air LF Cone Resonance:	30 Hz	Mounting Data—Baffle Opening:	14 $\frac{1}{8}$ " (35.9 cm) (front or rear mount)
Distribution Pattern:	40°V x 90°H	Mounting Bolt Centers:	8 or 4 bolts equally spaced on 15" (38.1 cm) diameter circle
Voice Coils—		Recommended Enclosures:	ALTEC 612C Speaker Cabinet ALTEC 620A Speaker Cabinet
LF:	3" diameter, edge-wound copper ribbon		
HF:	1 $\frac{3}{4}$ " diameter, edge-wound aluminum ribbon		
Magnets—			
LF:	Alnico, 4.4 pounds, 13,000 gauss flux density		
HF:	Alnico, 1.2 pounds, 15,500 gauss flux density		

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The loudspeaker system shall be a two-way coaxial, with a separate magnet structure for each section and a dual full-section dividing network. The HF section shall have an aluminum diaphragm having tangential compliance and loaded with an exponentially expanded multicellular horn. The loudspeaker system shall meet the following criteria. Power rating, 65 watts of continuous pink noise from 20-20,000 Hz. Frequency response, uniform from 20-20,000 Hz. Pressure sensitivity, 100 dB SPL at 4' when measured on axis with 1 watt input of band-limited pink noise from 100-10,000 Hz. Impedance, 8 ohms. Nominal free-air LF cone resonance, 30 Hz. Distribution pattern, 40°V x 90°H. Crossover frequency, 1500 Hz with 12 dB/octave slope (LF) and 18 dB/octave slope (HF). Voice coils; 3" diameter of edge-wound copper ribbon (LF), 1 $\frac{3}{4}$ " diameter of edge-wound aluminum ribbon (HF). Magnets; Alnico, 4.4 pounds (LF), 1.2 pounds (HF). Flux density, 13,000 gauss (LF), 15,500 gauss (HF). Dimensions, 16" diameter x 11 $\frac{1}{8}$ " deep. Weight, 34 pounds.

The loudspeaker system shall be the ALTEC Model 604-8G.

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