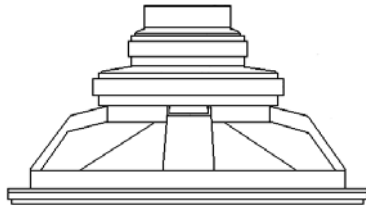


ALTEC LANSING®

PROFESSIONAL

604-8L

15" Duplex® Studio Monitor Component



FEATURES - THE ALTEC LANSING DIFFERENCE

- High Fidelity
- Superior Efficiency
- Accurate Low Frequency Reproduction
- Dual Magnet Construction
- Controlled Dispersion
- 1,500 Hz Dividing Network, with Dual Equalization System

GENERAL PRODUCT DESCRIPTION

Altec Lansing's 604 loudspeaker-based systems are probably the most famous broadcast studio and recording studio monitors of all time. For over a quarter of a century, the 604 was employed by more studios than all other monitor systems combined. The 604 approaches transparent sound reproduction more than any other transducer. As one well-known engineer stated, "When my eyes were closed, the original performance was experienced as though it was not an electromechanical reproduction." The 604 is known worldwide as the original point source standard by which other monitors are referenced. Two of the audio industry's highest compliments were bestowed to this loudspeaker:

- Doug and Sherwood Sax developed a special dividing network for 604-based monitors used at the Mastering Lab (and 800 of the world's most prestigious studios).
- A major loudspeaker manufacturer used the Altec Lansing 604 as original equipment for one of this competitor's most famous studio monitors.

Today's marketplace boasts many 'digital-ready' loudspeaker systems. Most manufacturers suggest that only their newest models can manage the dynamics presented through the digital medium. Nothing could be further from the truth with Altec Lansing's 604! Whether a vintage model, or our newest model, the 604-8L, the digital medium only improves the performance of the 604. In fact, the 604 makes 'digital' sound better!

The Altec Lansing 604-8L includes a two-way loudspeaker and a dividing network. This Duplex® loudspeaker features a 15 inch (381 mm), low frequency cone and a one-inch (25 mm), high frequency compression driver. Both are mounted to a single 16 inch (406 mm) diameter frame. The dual magnet construction allows each driver to be structurally, magnetically, electrically, and mechanically independent of the other. The 604-8L utilizes a dual-section dividing network with dual equalization (mid and high frequency). The division is centered at 1,500Hz and provides 12dB/octave of attenuation for the low frequencies and 18dB/octave of attenuation for the high frequencies.

The low frequency cone driver features a 3.0 inch (76 mm) diameter, edge-wound, copper-ribbon voice-coil and a 5.6 lb. (2.54 kg) ferrite

magnet - producing a gap flux density of 1.3 T. The high frequency compression driver features a 1.75 inch (45 mm) diameter, edge-wound, aluminum-ribbon voice-coil and a 2.5 lb. (1.13 kg) ferrite magnet - producing a gap flux density of 1.6 T. The high frequency driver is channeled through the low frequency magnetic structure and coupled to a 60° x 40° Mantaray™ constant-directivity horn that provides tight control of frequencies above 1,500Hz.

The 604-8L provides high acoustic output level capability while maintaining smooth response, wide bandwidth and constant-directivity control of the critical mid and high frequencies.

FREQUENCY RESPONSE ^{1, 2}

40 Hz – 20 kHz (+/- 3 dB)

USABLE LOW FREQUENCY LIMIT (-10 dB) ^{1, 2}

40 Hz

SENSITIVITY

98.5 dB SPL

POWER HANDLING ⁴

75 W continuous; 300 W peak

PEAK OUTPUT (1 m) ⁵

123 dB SPL

COVERAGE ANGLES ⁶

60° (horizontal) x 40° (vertical)

DIRECTIVITY FACTOR, Q ⁶

15.67

DIRECTIVITY INDEX, DI ⁶

11.95 dB

TRANSDUCER COMPONENTS

LF: 1 x 15 inch, high efficiency, low frequency driver

HF: 1 x 1.0-inch, compression driver and Mantaray™ horn

IMPEDANCE ⁷

Nominal: 8.0 Ohms

Minimum: 8.5 Ohms at 12 kHz

CROSSOVER FREQUENCY

Passive LF - HF: 1,500 Hz

HARMONIC DISTORTION ⁸

THD: 1.25%

INPUT CONNECTIONS

2 x 2 position barrier strip with 0.25 in. blade type terminals

FINISH

Dark gray enamel

REPLACEMENT HF DIAPHRAGM ASSEMBLY

34647

REPLACEMENT LF CONE KIT

R-604-8L

DIMENSIONS

Diameter: 16.0 in. (406 mm)

Depth: 8.82 in. (224 mm)

WEIGHT

Net: 34.0 lbs. (15.4 kg), includes network

Shipping: 42.0 lbs. (19.1 kg), includes network

604-8L – THEILE-SMALL PARAMETERS

Free Air Resonance, f_s : 24 Hz

Equivalent Volume Compliance, VAS: 18.0 ft.³

Total Q, QTS: 0.9287

Electrical Q, QES: 0.299

Mechanical Q, QMS: 7.07

Volume Displacement, VD: 19.2 in.³

Reference Efficiency: 2.13%

DIVIDING NETWORK INSTALLATION

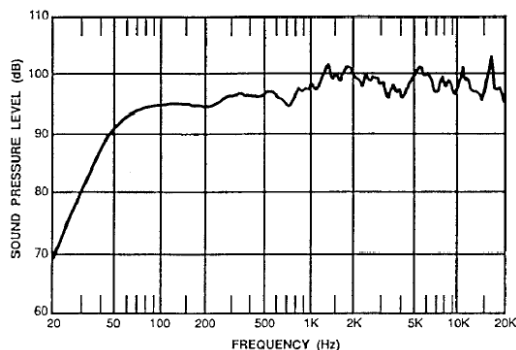
The dividing network is designed to be mounted from the inside of the speaker cabinet to a surface that is at least 0.75 inches (19 mm) thick. Therefore, a 5.125 inches (130 mm) x 5.125 inches (130 mm) cutout is required on one of the speaker cabinet's walls. Be sure to locate this cutout where there is adequate clearance - 3 inches (76 mm) on each side of the cutout, 1 inch (25 mm) on both the top and bottom, and at least 3 inches (76 mm) behind the cabinet wall where the dividing network is to be mounted. Observing polarity, connect the low frequency driver terminals to the "W" wires, and connect the high frequency driver terminals to the "T" wires. Apply two thin lines of RTV Silicon to the front of the dividing network plate. These lines are to be 6 inches (152 mm) long, parallel to and 2.5 inches (64 mm) from each side-edge (one line to the left of the HF EQ control and one line to the right of the MF EQ control). Apply two more thin lines of RTV Silicon to the front of the dividing network plate. These lines are to be 6 inches (152 mm) long, parallel to and 0.25 inches (6 mm) from each top/bottom-edge (one line above the Altec Lansing logo, and one line below the input terminal). Centering the HF EQ and MF EQ controls, the input terminal, and the Altec Lansing logo in the cutout window, firmly press the front of the dividing network plate to the inside of the speaker cabinet wall. Using 4 each #8 x 0.5 inches (13 mm), pan-head wood screws (preferably with a type

17 point), secure the dividing network to the inside of the speaker cabinet wall.

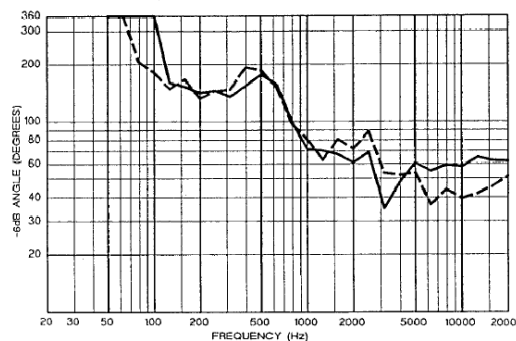
ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The loudspeaker shall be a multi-purpose, combination 15 inch (381 mm) low frequency cone driver and one-inch (25 mm) high frequency compression driver. The high frequency compression driver shall be coupled to a Mantaray™ constant-directivity horn. The dividing network shall be a dual-section, 12dB/octave slope low pass and 18dB/octave slope high pass with an electro-acoustic crossover frequency of 1,500 Hz and dual equalization (mid and high frequency) controls. The Duplex® loudspeaker shall have an operating bandwidth of 40 Hz to 20 kHz with a sensitivity of 98.5 dB when measured at a distance of one meter. The power handling capability shall be 75 watts AES (300 W peak). The nominal impedance shall be 8 Ohms with a minimum impedance of 8.5 Ohms at 12 kHz. The Duplex® loudspeaker shall have nominal coverage angles of 60 degrees in the horizontal plane and 40 degrees in the vertical plane. The Duplex® loudspeaker shall have dimensions of 16.0 inches (406 mm) in diameter and 8.82 inches (224 mm) in depth, and shall weigh 34.0 lbs. (15.4 kg) (including the dividing network). The Duplex® loudspeaker shall be the Altec Lansing model 604-8L.

FREQUENCY RESPONSE



BEAMWIDTH



As we are continually striving to improve Altec Lansing products, specifications are subject to change without notice. Please visit www.altecp.com for the latest information on Altec Lansing Professional products.

SPECIFICATION NOTES

- 1 The frequency response of the loudspeaker is measured at a distance of no less than 3 meters to obtain full range data. The level is then corrected to be equivalent to a 2.83 V 1 m measurement. A near field measurement of the loudspeaker is performed for frequencies below 500 Hz. This data is then combined with the full range measurement to give an accurate composite frequency response curve.
- 2 The limits of the frequency response are referenced to -10 dB of the loudspeaker's rated sensitivity in a 6 ft.3 vented enclosure.
- 3 The sensitivity of the loudspeaker is the log based average SPL taken over the intended bandwidth of operation for the loudspeaker with a 2.83 V swept sine stimulus. The data is measured and level corrected in a manner consistent with note 1.
- 4 The power handling capacity of the loudspeaker is tested using a full range form of AES Standard 2-1984. The test stimulus is band limited (40 Hz - 16 kHz) pink noise with a 6 dB crest factor. The applied RMS voltage is determined using the minimum impedance of the loudspeaker. The amplifier used to drive the loudspeaker has a minimum operating headroom of 6 dB referenced to the RMS voltage.
- 5 The peak output level of the loudspeaker is calculated based on the sensitivity and the peak power handling capabilities of the loudspeaker.
- 6 The coverage angles for the loudspeaker are taken as the -6 dB points of the directivity response and averaged from 500 Hz - 16 kHz.
- 7 The minimum impedance of the loudspeaker is taken over its intended band of operation.
- 8 The distortion measurements of the loudspeaker are performed at a distance of 1 m with RMS input voltages corresponding to 10% of the loudspeaker's rated power handling, calculated using minimum loudspeaker impedance. The distortion percentages are log based averages from 300 Hz - 3 kHz.

VISIT WWW.ALTECP.COM FOR

- Authorized EASE data on all Altec Lansing Professional loudspeakers
- Specification sheets in .pdf format. Download page 1 of the specification sheet for your submittals.
- One paragraph A&E Specifications in .doc format

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