

1609A Biampifier

1609A



The ALTEC 1609A Biampifier improves power handling and reduces distortion without requiring a separate high-power amplifier and crossover network.

Features:

Electronic Crossover with Separate Power Amplifiers

The ALTEC 1609A Biampifier includes electronic crossover circuitry and separate low-frequency and high-frequency amplifiers in a single, compact package. The electronic crossover circuit divides the input signal into separate bass and treble channels. A 100-watt low-frequency amplifier drives the low-frequency speaker and a 50-watt high-frequency amplifier drives the high-frequency driver.

Heavy Low-Frequency Demands Do Not Affect High-Frequency Performance

With separate amplifiers for each speaker, extreme power demand of the LF amplifier does not affect HF reproduction.

Full Amplifier Power and Efficiency

Full amplifier output is distributed to the speakers because the electronic crossover circuitry is placed ahead of the dual power amplifiers. Combined output power is 150 watts, but effective undistorted power capability may be compared to that of a conventional single amplifier having 290 watts output.

Direct or Transformer-Isolated Input Connections

Input connections may be made in either of two ways:

1. High-impedance (15,000 ohms) connections at INPUT terminal board terminals 1 and 2.
2. Optional 600-ohm balanced input by means of INPUT terminal board terminals 2, 3 and 4 and 15095 or 15356 line transformers in octal socket J1 on rear panel.

Fail-Safe Protection for Output Transistors

ALTEC's Active Dissipation Sensing Circuit provides fail-safe protection for the output transistors. The action of the sensing circuit is immediate and effective at all frequencies within the passband of the biampifier, limiting only that portion of the program material that would damage or degrade the performance of the output transistors.

Solid-State Circuitry 100% Silicon

Silicon solid-state circuitry is used throughout the 1609A to provide long life and high reliability.

Selectable Speaker Outputs Transformer Isolated

Each amplifier is equipped with output terminals for 4-, 8- and 16-ohm speaker loads and for 70.7-volt distributed sound systems. The output transformer provides isolation for all output windings. Class II wiring may be used for speaker connections.

AC or Battery Operation

Power for the 1609A may be obtained from any 120 or 240 volt, 50 or 60 Hz line or from 24 to 28 volt batteries. The batteries are connected to a 2-terminal terminal board on the rear panel. An internal charging circuit supplies a 100 mA trickle charge to the battery. The power circuitry provides 'fail-safe' silent automatic transfer to dc operation if ac power fails. This feature makes the 1609A ideally suited for emergency use in applications where a loss of the sound system cannot be tolerated.

Standard 19" Chassis with Hinged Front Panel for Easy Maintenance

The ALTEC 1609A Biampifier is constructed on a standard 19" equipment rack chassis and occupies only 7" of vertical rack space. A cover accessory with a sloping front can be ordered for self-mounting the biampifier. The front panel is hinged and can be opened for rapid access to the chassis interior.

ALTEC[®]

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

ALTEC 1609A

SPECIFICATIONS

Type:	Biampifier with electronic crossover	Controls:	1 VOLUME control, continuously variable 1 HF Shelving Control, adjustable from 0 to 20 dB attenuation. Located inside front panel. Should be adjusted only by an ALTEC Qualified Service Representative. 1 Crossover switch, 500 Hz/800 Hz/1500 Hz (selectable). Located inside front panel.
Gain at Rated Output —		Power Requirements:	120/240V, 50/60 Hz — 20W at zero signal 240W at 33W output 390W at 100W output 24/28V dc. Battery minus (—) is ground. 0.2A at zero signal 7.0A at 33W output 12.0A at 100W output
Bass Amplifier:	64 dB		
Treble Amplifier:	61 dB		
Input Sensitivity:	0.8V rms for rated output		
Bass Amplifier:	100 watts at less than 1% THD, 35 Hz to 2 kHz		
Treble Amplifier:	50 watts at less than 1% THD, 400 Hz to 20 kHz		
Crossover Frequency:	500, 800 or 1500 Hz with 12 dB/octave slope		
Frequency Response:	±1 dB from 20 Hz to 20 kHz (normalized composite output). Each amplifier -3 dB at crossover frequency.		
Input Impedance:	15,000 ohms, direct coupled	Operating Temperature Range:	Up to 55°C (131°F) ambient
Source Impedance:	600 ohms with 15356 or 15095 Line Transformer	Dimensions:	7" H x 19" W x 8½" D
Load Impedance —		Weight:	37 pounds
Bass Amplifier:	4, 8, 16 and 50 ohms (transformer-isolated output)	Color:	ALTEC green
Treble Amplifier:	4, 8, 16 and 100 ohms (transformer-isolated output)	Accessories:	ALTEC 15095 Line Transformer ALTEC 15356 Line Transformer ALTEC 42526 Shelf Mount Cover
Load Voltage —			
Bass Amplifier:	20, 28, 40 and 70.7 volts		
Treble Amplifier:	14, 20, 28 and 70.7 volts		
Output Impedance:	Less than 10% of load impedance		
Noise Level:	85 dB below rated output		

NOTE

Accessories MUST BE ORDERED SEPARATELY.

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The biampifier shall be a solid-state device with all transistors and diodes of the silicon type. It shall be capable of operation from a 120/240V, 50/60 Hz line or from a 24/28V dc battery. Its power supply shall apply a 100 mA trickle charge to the battery and shall automatically transfer the power to dc operation if ac power fails. The biampifier shall contain electronic crossover circuitry, separate bass and treble power amplifiers and fail-safe protective circuitry for the output transistors. The biampifier shall be capable of meeting the following performance criteria. Amplifier outputs; 100 watts bass from 35 Hz to 2 kHz, 50 watts treble from 400 Hz to 20 kHz. Input sensitivity for rated output, 0.8V rms. THD, less than 1% at rated power from 35 Hz to 20 kHz. Crossover frequency; 500, 800 or 1500 Hz, selectable, with 12 dB/octave slope. Input impedance, 15,000 ohms, direct coupled. Source impedance, 600 ohms with accessory line transformer. Load impedance; 4, 8, 16 and 50 ohms for bass amplifier, 4, 8, 16 and 100 ohms for treble amplifier. Load voltage; 20, 28, 40 and 70.7 volts for bass amplifier, 14, 20, 28 and 70.7 volts for treble amplifier. Output impedance, less than 10% of selected load impedance. Noise level, 85 dB below rated output. The biampifier shall be capable of operation in ambient temperatures up to 55°C (131°F). The biampifier shall occupy 7" of vertical space in a standard 19-inch equipment rack. Its dimensions shall be 7" H x 19" W x 8½" D, its weight shall be 37 pounds and its color shall be dark green.

The biampifier shall be the ALTEC Model 1609A Biampifier.

The 1609A shall be furnished with the following ALTEC accessories (select as required and insert quantity):

_____ 15095 Line Transformer _____ 15356 Line Transformer _____ 42526 Shelf Mount Cover

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.