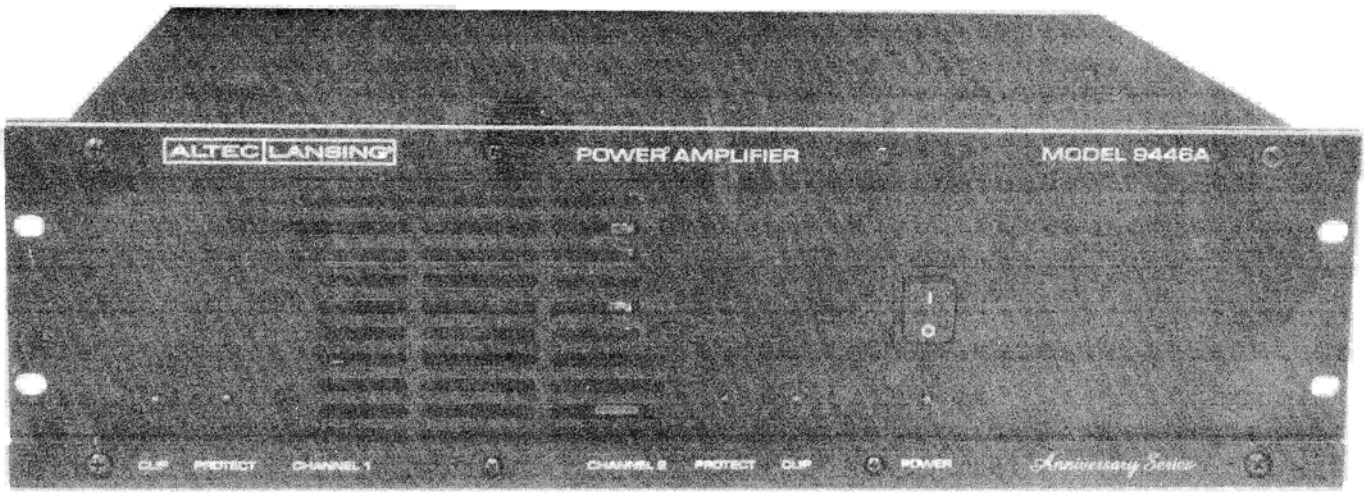
TOUGH

WHEN RELIABILITY IS A PREREQUISITE



9446A Anniversary Series Power Amplifier

• THERMALLY-EQUALIZED DESIGN MINIMIZES THERMAL GRADIENTS ACROSS HEATSINK
• IMMUNE TO THE EFFECTS OF REACTIVE OVERLOADING
• NO "SOFT KNEE" DISTORTION PROBLEMS

APPLICATIONS

- Auditoriums
- Arena/Stadiums
- Concert Sound
- Disco
- Houses of Worship
- Portable Sound

DESCRIPTION

The **9446A** Anniversary Series power amplifier. Each channel delivers 400 watts of continuous average power into 8Ω or 600 watts into 4Ω over the full audio frequency range. In the bridge mode, the amplifier can deliver more than 1200 watts at typically less than 0.01% THD.

Thirty-two metal output transistors are utilized for a total device power dissipation of 8,000 watts. A dual speed fan is incorporated as an added reliability measure for the most thermally stressing situations. The massive heatsink assembly was specially engineered to minimize thermal gradients. As a result, the amplifier runs cooler enabling it to operate under more adverse environmental conditions without failure.

Each channel is independently protected against:

- Over-temperature
- Radio frequency interference
- Shorted output terminals

The load is protected from

- Startup/shutdown transients
- Subsonic signals
- DC faults

The **9446A** has electronically balanced inputs and powered octal accessory sockets for plug-in transformers and electronic modules. The level controls are mounted on the rear panel to reduce the risk of "accidental" changes as well as the bridge switch. Two 70 volt output balancing transformers, models **15524A** (300 watt) and **15525A** (600 watt), and a 300 watt autoformer, model **15567A**, are also available.

SPECIFICATIONS FOR THE 9446A ANNIVERSARY SERIES POWER AMPLIFIER

Conditions:
1. 0 dBu = 0.775 volts rms.
2. Dual mode ratings are for each channel.
3. Both channels operating at rated output power unless noted.
4. 120 volt ac line input voltage maintained for all tests unless noted.

Continuous Rated Output Power:
(20 Hz - 20 kHz at less than 0.1% THD)

Dual mode, 4 Ω:	600 watts/ch
Bridge mode, 8 Ω:	1200 watts
Dual mode, 8 Ω:	400 watts/ch
Bridge mode, 16 Ω:	800 watts

Continuous Rated Output Power to Subwoofer:
(20 Hz - 1kHz at less than 0.1% THD)

Dual mode, 4 Ω:	650 watts/ch
Bridge mode, 8 Ω:	1300 watts
Dual mode, 8 Ω:	420 watts/ch
Bridge mode, 16 Ω:	840 watts

Maximum Midband Output Power:
(Ref. 1 kHz, 1% THD, @120 volts ac line voltage)

Dual mode, 4 Ω:	725 watts/ch
Bridge mode, 8 Ω:	1450 watts
Dual mode, 8 Ω:	450 watts/ch
Bridge mode, 16 Ω:	900 watts

(Ref. 1 kHz, 1% THD, @108 volts ac (10% sag))

Dual mode, 4 Ω:	575 watts/ch
Bridge mode, 8 Ω:	1150 watts
Dual mode, 8 Ω:	350 watts/ch
Bridge mode, 16 Ω:	700 watts

(Ref. 1 kHz, 1% THD, @100 volts ac (17% sag))

Dual mode, 4 Ω:	500 watts/ch
Bridge mode, 8 Ω:	1000 watts
Dual mode, 8 Ω:	300 watts/ch
Bridge mode, 16 Ω:	600 watts

Headroom (Before clip): ≥0.25 dB
(Ref. 1 kHz, 1% THD, any mode)

Frequency Response: 10 Hz - 90 kHz
(Ref. 1 kHz, 1 watt output, +0/−3 dB)

Power Bandwidth: 20 Hz - 20 kHz
(Ref. 1 kHz, +0/−1 dBr where 0 dBr = rated output power in any mode)

Voltage Gain:
(Ref. 1 kHz)

Dual mode, 4 Ω or 8 Ω:	36 dB
Bridge mode, 8 Ω or 16 Ω:	42 dB

Input Sensitivity for Rated Output Power:
(Ref. 1 kHz, ±0.25 dB)

Dual mode, 4 Ω:	+0.2 dBu (0.79 V rms)
Bridge mode, 8 Ω:	+0.2 dBu (0.79 V rms)
Dual mode, 8 Ω:	+1.4 dBu (0.91 V rms)
Bridge mode, 16 Ω:	+1.4 dBu (0.91 V rms)

Maximum Input Level: +20 dBu (7.75 V rms)
(Ref. 1 kHz)

Input Impedance:
(Ref. 1 kHz)

Balanced:	15 kΩ
Unbalanced:	15 kΩ

Polarity: Positive-going signal applied to pin 2 of XLR or (+) of barrier strip produces positive-going signal at (+) output terminal.

Phase Response:
(Any mode)

20 Hz:	<+25°
20 kHz:	>−15°

THD: <0.1% (Typ. <0.01%)
(Any mode, 30 kHz measurement bandwidth)

IMD (SMPTE 4:1): <0.05% (Typ. <0.01%)
(Any mode)

TIM (DIM 100): <0.05%
(Any mode)

Rise Time: <6 μsec
(Any mode, 10% to 90%)

Slew Rate:

Dual mode, 4 or 8 Ω:	>30 V/μsec
Bridge mode, 8 or 16 Ω:	>60 V/μsec

Damping Factor:
(Dual mode, 8 Ω)

20 Hz - 1 kHz:	>250
20 kHz:	>75

Crosstalk: <80 dBr
(Ref. 1 kHz, 0 dBr = rated output power into 8 ohms, single channel operating)

Noise: >100 dB
(Below rated output power, A-weighting filter, 8 Ω dual mode, 50/60 Hz ac line frequency)

Amplifier Protection: Shorted output terminals, Over-temperature, RF interference

Load Protection: Startup/shutdown transients, DC faults, Subsonic signals

Cooling:
- Heatsink: Thermally equalized 3/16 in aluminum black anodized heatsink, 1 per channel
- Fan: Thermostatically controlled dual speed fan. Approximately 55 CFM at low speed and 105 CFM at high speed. Ball bearing fan has minimum life rating of 50,000 hours at 25°C ambient temperature

Output Topology: True complementary symmetry with grounded collectors (no mica insulators means better heat transfer)

Output Type:
- Dual mode: Unbalanced, each channel
- Bridge mode: Balanced

Output Devices:
- Total number: 32 devices
- Pdmax rating: 250 watts
- Vceo: 250 volts DC
- Ic: 16 amps DC
- Tjmax: 200°C

Controls and Switches:
- Rear: Two input level controls, Mode switch
- Front: Power switch

Front Panel Indicators: Power LED, Clip LED (x2), Protect LED (x2)

Connections:
- Input: 6 terminal barrier strip, Female XLR (x2), Octal accessory socket (x2), powered with ±15 volts DC at 25 ma.
- Output: 4 terminal barrier strip
- Power: 4 ft (1.22 m), 3-wire, 14 GA power cord with NEMA 5-15 plug

Fuse Type: Littelfuse Type 3AB 15 A/250 V Slo-Blo® 326-series ceramic cartridge body, or equivalent

Power Requirements: 120 V ac, 50/60 Hz, 1800 watts (configurable to 240 V ac). 100 V ac, 50/60 Hz model available.

Operating ac Voltage Range: Operates from line voltages as low as 90 volts (at reduced output power) assuming a 120 V ac nominal line.

Power Consumption/Heat Produced:
(Both channels operating in dual mode with 1 kHz sinewave input signal at stated output power into 4 Ω loads)
- idle: 100 watts/0.340 kBTU/h
- 1/8th max midband power: 1440 watts/4.276 kBTU/h
- 1/3rd max midband power: 1800 watts/4.465 kBTU/h
- Rated output power: 2,520 watts/4.488 kBTU/h
- Max midband power: 2,700 watts/4.216 kBTU/h

Operating Temperature Range: Up to 60°C (140°F) ambient

Dimensions (Rear of rack ears to max depth): 5.25 in H x 19 in W x 15.75 in D (13.3 cm H x 48.3 cm W x 40.1 cm D)

Shipping Weight: 62 lbs. (28.1 kg)

Net Weight: 52 lbs. (23.6 kg)

Color: Black

Enclosure: Rack mount chassis, 16 GA steel, 3/16 in 5052 aluminum alloy front panel

Standard Accessories: 4 - "U" jumper plugs for octal sockets (2 per socket, installed)
1 - Operating Instructions and Service Manual

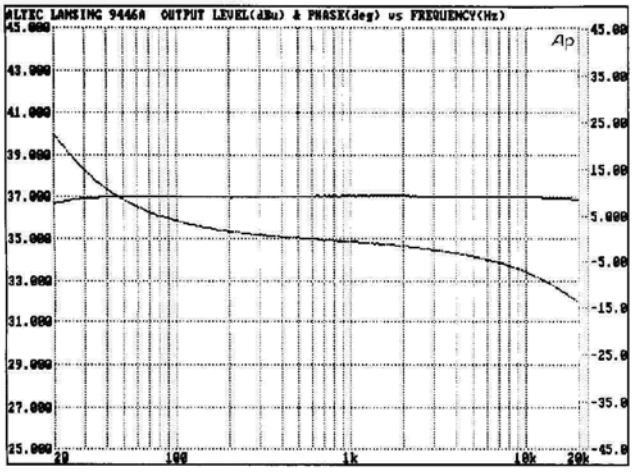
Optional Accessories:
14712A Power Limiter
15515A Input Bridging Transformer with Resistive Pad
15524A 300 watt 70 volt Transformer
15525A 600 watt 70 volt Transformer
15567A 300 watt Autoformer
15581A 24 dB/oct Linkwitz-Riley Crossover
15594A-125 Low Pass Filter, 125 Hz
15594A-500 Low Pass Filter, 500 Hz
15594A-800 Low Pass Filter, 800 Hz

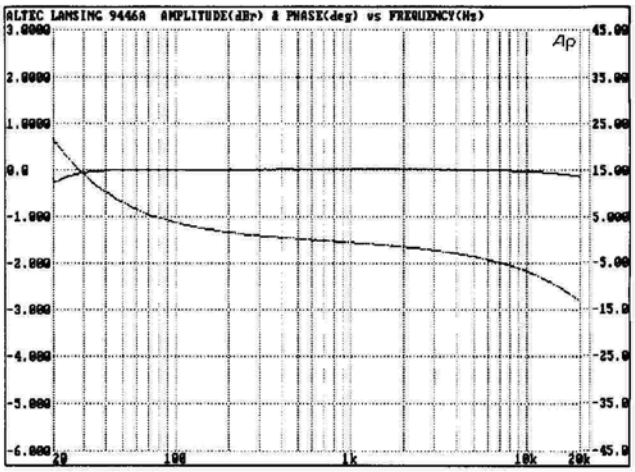
15594A-1250 Low Pass Filter, 1250 Hz
15595A-125 High Pass Filter, 125 Hz
15595A-315 High Pass Filter, 315 Hz
15595A-500 High Pass Filter, 500 Hz
15595A-800 High Pass Filter, 800 Hz
15595A-1250 High Pass Filter, 1250 Hz

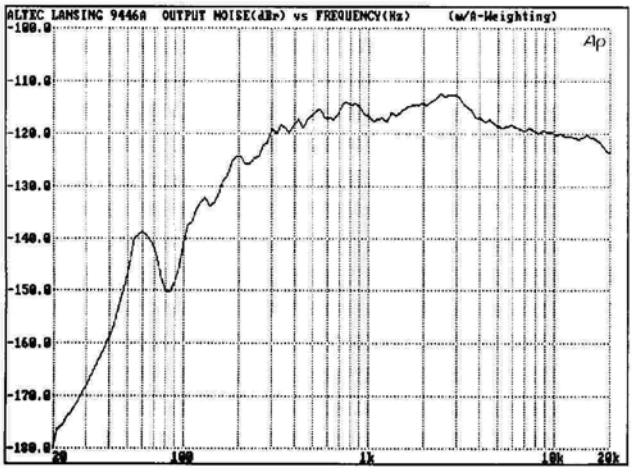
ALTEC LANSING continually strives to improve products and performance. Therefore, the specifications are subject to change without notice.

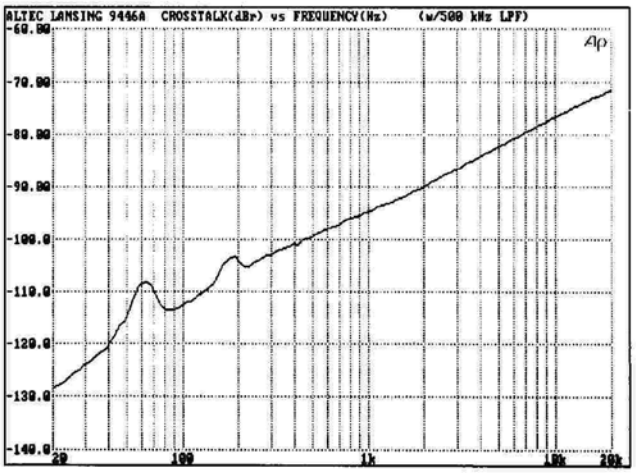
Slo-Blo® is a registered trademark of Littelfuse, Inc.

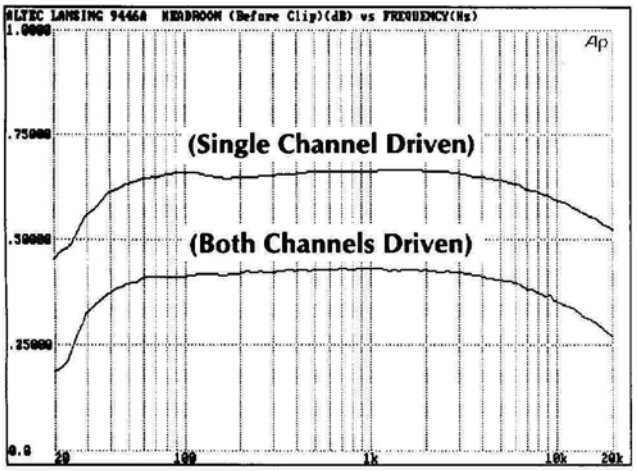
Typical Performance Curves for one channel of 9446A Anniversary Series Power Amplifier

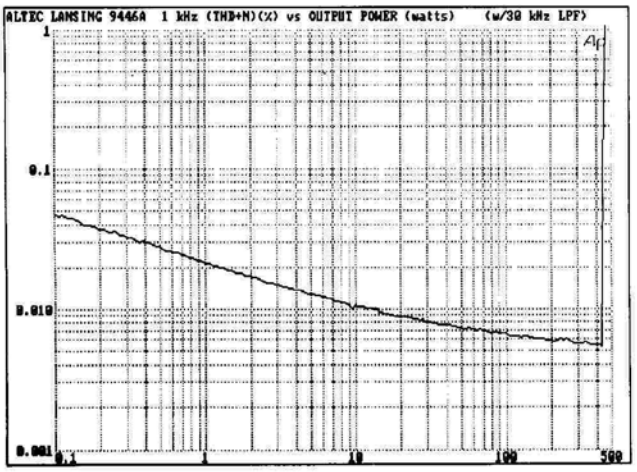


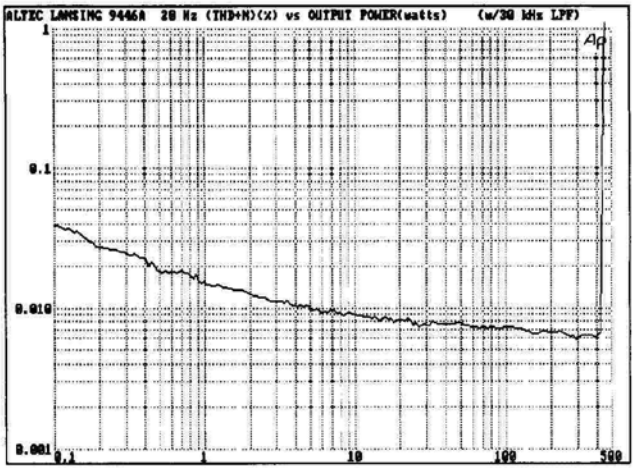


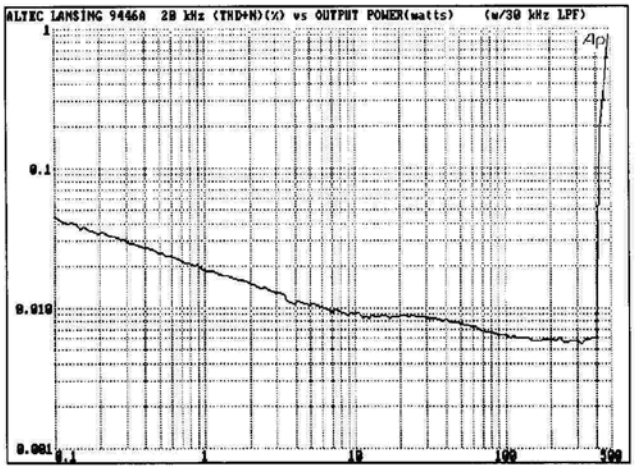


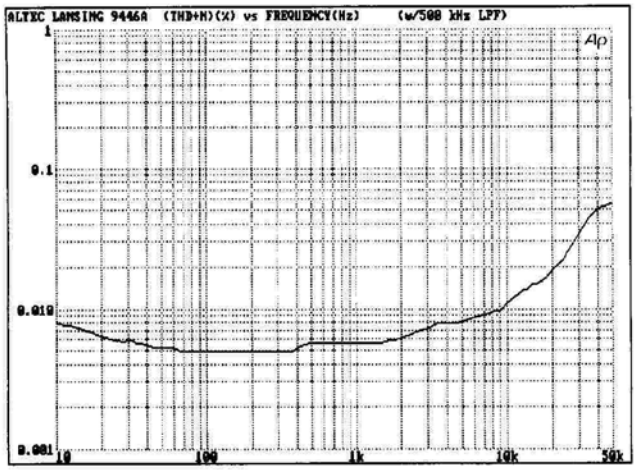


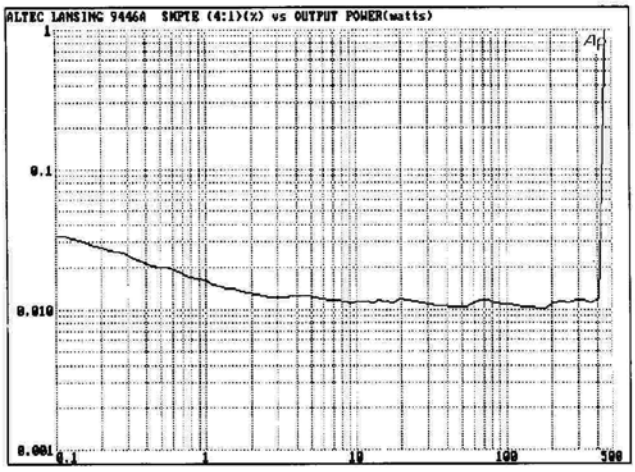

ALTEC LANSING 9446A HEADROOM (Before Clip)(dB) vs FREQUENCY(Hz)
(Single Channel Driven)
(Both Channels Driven)

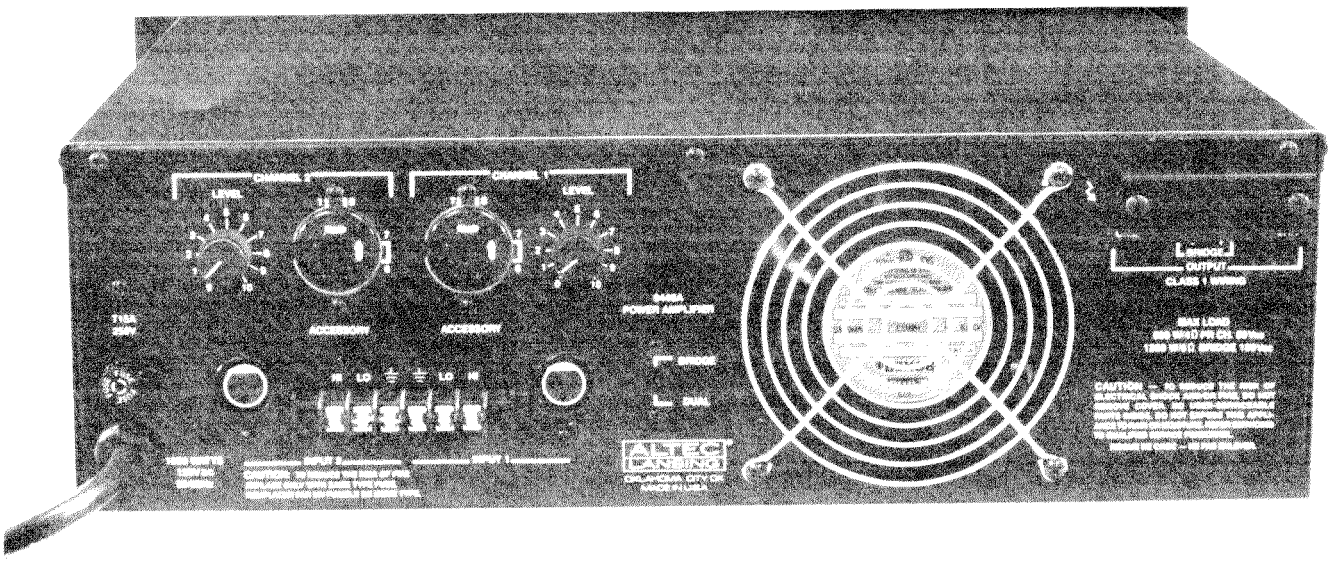

ALTEC LANSING 9446A 1 kHz (THD+N)(%) vs OUTPUT POWER (watts) (w/30 kHz LPF)


ALTEC LANSING 9446A 20 Hz (THD+N)(%) vs OUTPUT POWER(watts) (w/30 kHz LPF)


ALTEC LANSING 9446A 20 kHz (THD+N)(%) vs OUTPUT POWER(watts) (w/30 kHz LPF)


ALTEC LANSING 9446A (THD+N)(%) vs FREQUENCY(Hz) (w/500 kHz LPF)


ALTEC LANSING 9446A SMPTE (4:1)(%) vs OUTPUT POWER(watts)



ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The power amplifier shall be a dual channel model of solid state design employing true complementary symmetry output circuitry with grounded collectors and capable of operating from a 120/240 volts ac, 50/60 Hz line. The amplifier shall contain sensing circuitry to provide protection against over-temperature, shorted output terminals, and radio frequency interference. The load shall be similarly protected against subsonic signals, startup/shutdown transients, and DC faults.

Rear mounted panel controls shall include a two position mode switch for selecting between the dual monophonic mode or the bridged monophonic mode, and individual input level controls. Input connections for each channel shall include a powered octal accessory socket for use with optional plug-in accessory modules, a 3-pin female XLR connector, and a barrier strip connector. Output terminals shall be a barrier strip connector.

Front panel indicators shall include an illuminated power on/off indicator, individually illuminated clipping ("CLIP") indicators, and individually illuminated protection circuit activation ("PROTECT") indicators. The front panel control shall be the power on/off switch.

The power amplifier shall meet the following performance criteria. Maximum input voltage: 7.75 V rms. Input sensitivity for rated output power into 4 ohms: 0.775 V rms. Rated output power: 600 watts per channel into 4 ohms from 20 Hz to 20 kHz at less than 0.1% THD; 400 watts per channel into 8 ohms from 20 Hz to 20 kHz at less than 0.1% THD; 800 watts into 16 ohm bridged load from 20 Hz to 20 kHz at less than 0.1% THD; and 1200 watts into 8 ohm bridged load from 20 Hz to 20 kHz at less than 0.1% THD. Voltage gain in dual mode shall be 36 dB. Hum and noise: at least 100 dB (A-wtd) below rated output power. Frequency response: 20 Hz to 20 kHz, +0/−1 dB at any power up to rated output power. Damping factor: greater than 250 at any frequency up to 1 kHz in dual mode with 8 ohm loads. Intermodulation distortion (SMPTE 4:1): less than 0.05%. Transient intermodulation distortion (DIM 100): less than 0.05%. Crosstalk: less than 80 dB below rated output power. Operating temperature range: up to 60°C (140°F) ambient. Dimensions: 5.25 in H x 19 in W x 15.75 in D. Net weight: 52 pounds. Color: Black. Enclosure: rack mounted chassis, 16 GA steel; 3/16 in 5052 aluminum alloy front panel.

The power amplifier shall be the ALTEC LANSING Model 9446A.

ALTEC LANSING®

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PRINTED IN U.S.A. 12/90

AL-2442

42-07-027996