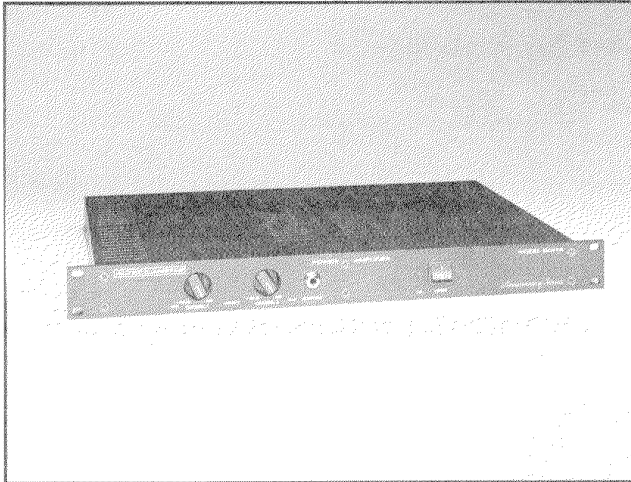




# 9441A 100 Watt Dual Channel Power Amplifier



## KEY FEATURES

- ★ Low Distortion
- ★ Quiet Convection Cooling
- ★ Electronically Balanced Inputs
- ★ Only One Rack Space Required

## PRIMARY SPECIFICATIONS

**Frequency Response:** 10 Hz - 50 kHz  
(Ref. 1 kHz, 1 watt output, +0/-3 dB)

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

**Total Harmonic Distortion:** <0.1% (Typically <0.05%)  
(Any mode, 30 kHz measurement bandwidth)

**Intermodulation Distortion:**  
(SMPTE 4:1): <0.1% (Any mode)

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

Dual mode, 4 ohms: 100 watts per channel  
Bridge mode, 8 ohms: 200 watts  
Dual mode, 8 ohms: 75 watts per channel  
Bridge mode, 16 ohms: 150 watts

**Continuous Rated Output Power to Subwoofer:**  
20 Hz - 1 kHz @ < 0.1% THD

Dual mode, 4 ohms: 130 watts per channel  
Bridge mode, 8 ohms: 260 watts  
Dual mode, 8 ohms: 95 watts per channel  
Bridge mode, 16 ohms: 180 watts

## DESCRIPTION

The 9441A Anniversary Series power Amplifier delivers 75 watts continuous average power into 8 ohms or 100 watts into 4 ohms over the full audio bandwidth.

Convection cooling and associated control systems are optimized together for maximum performance and protection. In typical fixed installations, this provides increased long term reliability.

The universal power transformer is as large as those often used in amplifiers with twice the power rating.

Each channel is protected against over-temperature conditions, radio frequency interference and shorted outputs.

The load is protected against startup/shutdown transients, subsonic signals, low ac line voltage, and DC faults. When a problem is detected, the output relay automatically disconnects the load from both channels and illuminates the "Protect" LED on the front panel. The 9441A has electronically balanced inputs and powered octal accessory sockets for plug-in transformers and electronic modules.

**Measurement 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.

**Maximum Midband Output Power:**

(Ref. 1 kHz, 1% THD, @120 volts ac line voltage)

- Dual mode, 4 ohms: > 145 watts per channel
- Bridge mode, 8 ohms: > 270 watts
- Dual mode, 8 ohms: > 100 watts per channel
- Bridge mode, 16 ohms: > 200 watts

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

- Dual mode, 4 ohms: > 115 watts per channel
- Bridge mode, 8 ohms: > 220 watts
- Dual mode, 8 ohms: > 80 watts per channel
- Bridge mode, 16 ohms: > 155 watts

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

- Dual mode, 4 ohms: > 95 watts/ch
- Bridge mode, 8 ohms: > 185 watts
- Dual mode, 8 ohms: > 70 watts/ch
- Bridge mode, 16 ohms: > 135 watts

**Headroom (Before clip):** 1 dB  
(Ref. 1 kHz, 1% THD, single channel mode)

**Voltage Gain:** (Ref. 1 kHz)

- Dual mode, 4 ohms: 28 dB
- Dual mode, 8 ohms: 30 dB
- Bridge mode, 8 ohms: 34 dB
- Bridge mode, 16 ohms: 36 dB

**Input Sensitivity for Rated Output Power:** (Ref. 1 kHz,  $\pm 0.5$  dB)

- Dual mode, 4 ohms: 0 dBu (0.774 V rms)
- Bridge mode, 8 ohms: -0.25 dBu (0.752 V rms)
- Dual mode, 8 ohms: +1.0 dBu (0.869 V rms)
- Bridge mode, 16 ohms: +1.0 dBu (0.869 V rms)

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

**Input Impedance:** (Ref. 1 kHz)

- Balanced: 30,000 ohms
- Unbalanced: 15,000 ohms

**Polarity:** Positive-going signal applied to pin 2 of XLR or (+)(tip) of ¼" phone jack produces a positive-going signal at (+) output terminal.

**Phase Response:** (Any mode)

- 20 Hz: < +25°
- 20 kHz: > -25°

**Slew Rate:**

- Dual mode, 4 or 8 ohms: > 19 V/ $\mu$ sec
- Bridge mode, 8 or 16 ohms: > 37 V/ $\mu$ sec

**Damping Factor:** (Dual mode, 8 ohms)

- 1 kHz: > 100

**Crosstalk:** < 55 dBr (Ref. 1 kHz, 0 dBu = rated output power into 8 ohms, single channel operating)

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

**Amplifier Protection:** Shorted output terminals, Over-temperature, Radio Frequency interference.

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

**Cooling:** Convection  
Conventional heatsink

**Output Topology:** True complementary symmetry

**Output Type:**

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

**Output Devices:**

- Total number: 4 devices
- Pdmax rating: 130 watts
- Vceo: 180 volts DC
- Ic: 15 amps DC
- Tjmax: 150°C

**Controls and Switches:**

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

**Front Panel Indicators:** Power LED, two Clip LEDs, Protect LED

**Connections:**

- Input: Two ¼" phone jacks, Two female XLR,
- Octal accessory socket: Two, powered with  $\pm 15$  volts DC at 25 ma.
- Output: Barrier strip

**PowerConnection:** IEC Receptacle. 6 ft (1.83 m), 3-wire, 16 GA power cord with NEMA 5-15 plug supplied.

**Fuse Type:** 4 amp/250 volt Slo-Blo or equivalent for 120 V ac use.

**Power Requirements:** 120 V ac, 50/60 Hz, 300 watts. Configurable to 220/240 V ac. 100 V ac, 50/60 Hz model is also available.

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

**Power Consumption and Heat Produced:** (Both channels operating in dual mode with 1 kHz sinewave input signal at stated output power into 4 ohm loads)

Idle: 30 watts / 0.102 kBTU per hr.

1/8th max midband power: 270 watts / 0.833 kBTU per hr.

1/3rd max midband power: 390 watts / 1.099 kBTU per hr.

Rated output power: 600 watts / 1.360 kBTU per hr.

Max midband power: 730 watts / 1.496 kBTU per hr.

**Operating Temperature Range:** Up to 50 °C (122 °F) ambient

**Dimensions:**

**Height:** 1.75 inches (4.44 cm)

**Width:** 19.0 inches (48.26 cm)

**Chassis Depth:** 12.8 inches (32.51 cm)

**Net Weight:** 18 lbs (8.16 kg)

**Shipping Weight:** 22 lbs (9.97 kg)

**Color:** Black

**Enclosure:**

**Chassis:** 16 GA steel.

**Front Panel:** 3/16 inch thick 5052 aluminum alloy.

**Standard Accessories:** 2 - "U" jumper plugs installed in each accessory octal sockets. Operating Instructions and Service Manual. T2 A/250 V fuse for 220/240 volt operation.

**Optional Accessories:** \* 14712A Power Limiter module.  
15505A Input Bridging Transformer.  
15515A Input Bridging Transformer with Pad.  
15170 100 watt Output Transformer.  
\* 15581A 24 dB/oct Linkwitz-Riley Crossover module.  
15594A-xxx 18 dB/octave Low Pass Filter modules. Available in 125, 500, 800 and 1,250 Hz frequencies.  
15595A-xxx 18 dB/octave High Pass Filter modules. Available in 125, 315, 500, 800 and 1,200 Hz frequencies.  
15599A Bass Boost module.

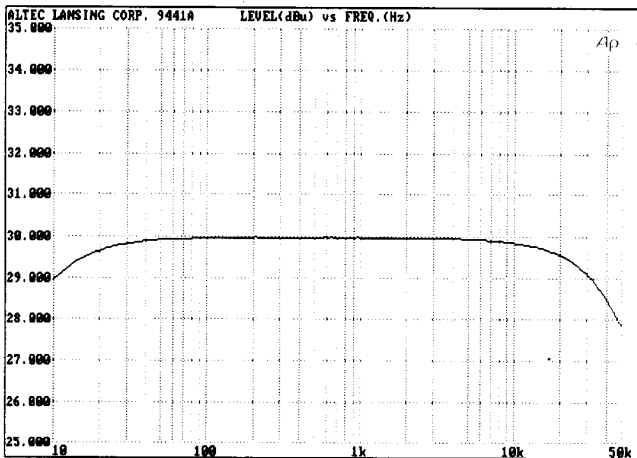
\* **Note:** The 14712A, and the 15581A will extend 0.625 inches (1.58 cm) above and below the chassis back panel when installed.

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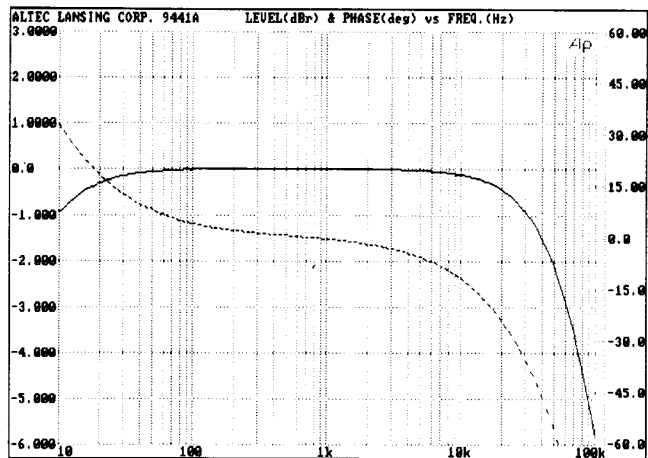
ALTEC LANSING CORPORATION continually strives to improve products and performance. Therefore, the specifications are subject to change without notice.

# 9441A TYPICAL PERFORMANCE CURVES

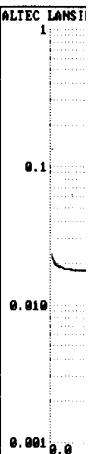
(One channel operating at 75 watts into 8 ohms unless noted)



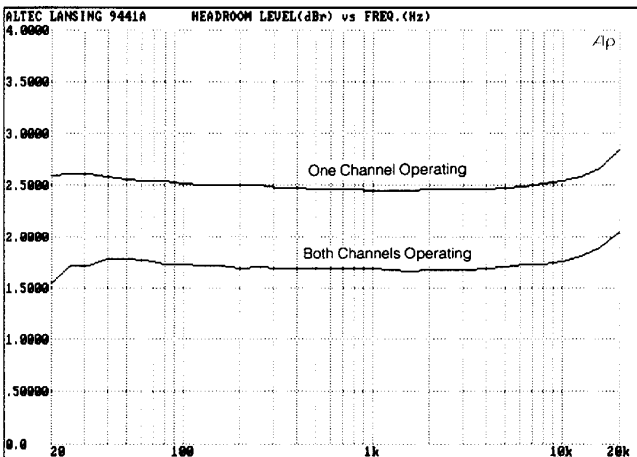
LEVEL(dBu) vs FREQ(Hz)



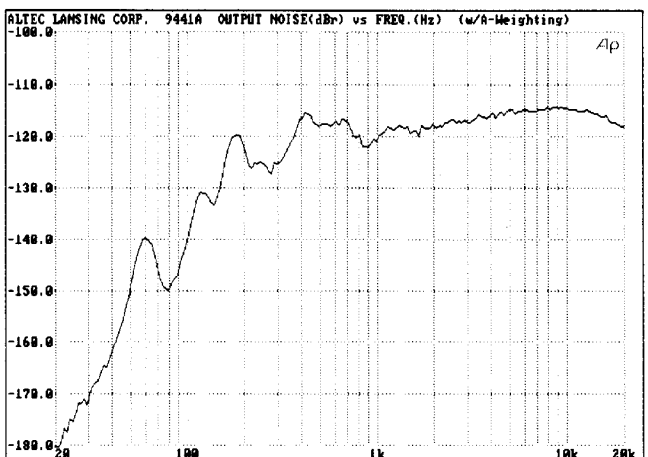
LEVEL(dBr) & PHASE(deg) vs FREQ(Hz)



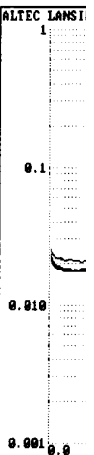
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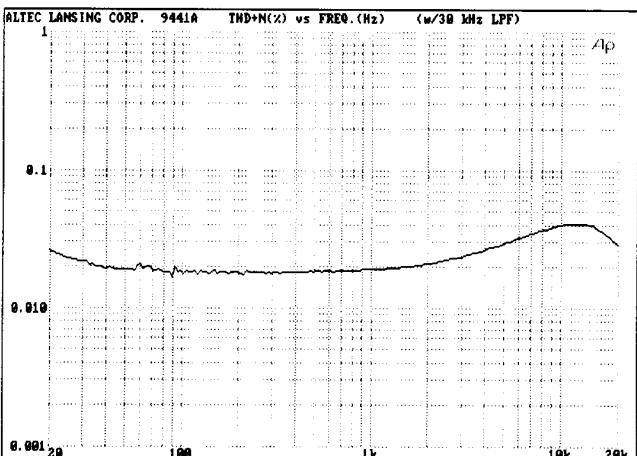
HEADROOM LEVEL(dBr) vs FREQ(Hz)



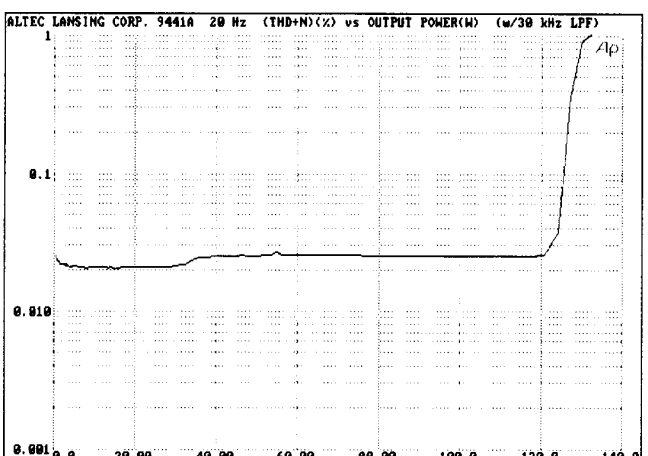
A-weighted Noise(dBr) vs FREQ(Hz)



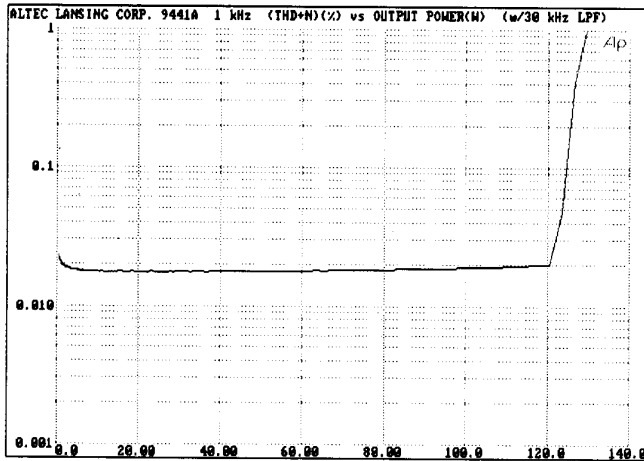
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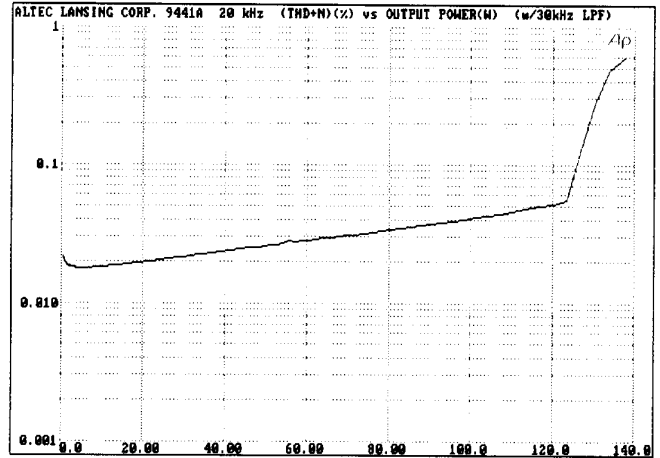
(THD+N)(%) vs FREQ(Hz)



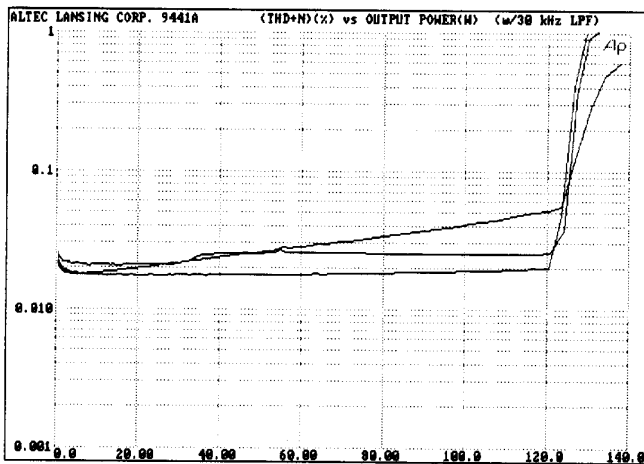
20 Hz (THD+N)(%) vs LEVEL(watts)



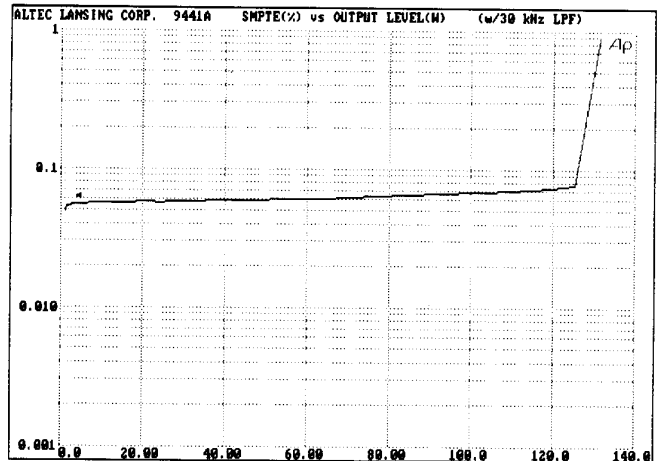
1 kHz (THD+N)(%) vs LEVEL(watts)



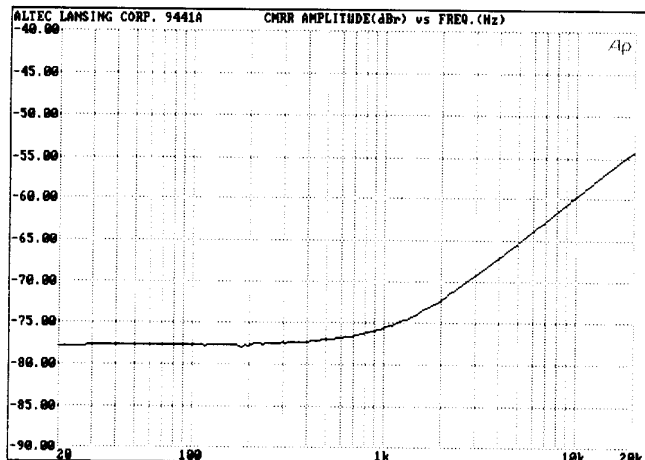
20 kHz (THD+N)(%) vs LEVEL(watts)



COMPOSITE 20 Hz, 1 kHz, 20 kHz (THD+N)(%) vs LEVEL(watts)



SMPTE DISTORTION(%) vs (watts)



Common Mode Rejection Ratio CMRR, (dBr) vs FREQ(Hz)

## ARCHITECT'S and ENGINEER'S SPECIFICATION

The power amplifier shall be a dual channel model of solid state design employing true complementary symmetry output circuitry and capable of operating from 120/ 240 Vac, 50/ 60 Hz line. The amplifier shall contain sensing circuitry to provide protection against over-temperature, shorted outputs, excessive output voltage, radio frequency interference, and excessive output phase shift. The load shall be similarly protected against subsonic signals, startup/shutdown transients, low ac line voltage, 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. Input connections for each channel shall include a powered octal accessory socket for the use with optional plug in accessory modules, a 3-pin XLR connector, and a ¼ inch phone 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 an illuminated protection circuit activation ("PROTECT") indicator. The front panel controls shall include individual input level controls and a power on/off switch.

The power amplifier shall meet the following performance criteria: Maximum input voltage: 7.775 Vrms. Input sensitivity for rated output power into 4 ohms: 0.775 Vrms. Rated output power: 100 watts per channel into 4 ohms from 20 Hz to 20 kHz at less than 0.1% THD; 75 watts per channel into 8 ohms from 20 Hz to 20 kHz at less than 0.1% THD; and 200 watts into 8 ohm bridge load from 20 Hz to 20 kHz at less than 0.1% THD. Voltage gain in dual mode shall be 28 dB. Hum and noise at least 100 dB (A-Weighting) below rated output power. Frequency response: 20 Hz to 20 kHz, ±1 dB at any power up to rated output power. Damping factor: greater than 100 at 1 kHz in dual mode with 8 ohm load. Intermodulation distortion (SMPTE 4:1): less than 0.1%. Crosstalk; less than 55 dB below rated output power. Operating temperature range: up to 50 °C (122 °F) ambient. Dimensions: 1.75 in H × 19 in W × 12.8 in D (4.44 cm H × 48.26 cm W × 32.51 cm D). Net weight: 18 lbs (8.16 kg). Color: Black. Enclosure: rack mounted chassis; 16 GA steel with .1875 inch thick 5052 aluminum alloy front panel.

The power amplifier shall be the ALTEC LANSING Model **9441A**.



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