

# Power Amplifier



## Model HTA-250A

### Features

- Power MOSFET circuitry
- Capable of continuous operation at rated output power
- Frequency response  $\pm 1$  dB, 20 - 20,000Hz at full rated output
- Distortion less than 0.5% THD, 20 - 20,000Hz
- Multiple output voltages/impedances available
- Automatic overload protection
- UL listed

### Description

The Bogen HTA-250A Power Amplifier is a high-performance unit employing state-of-the-art Power MOSFET technology. The unique characteristics of Power MOSFETS make them ideally suited to power amplifier design, providing far superior performance and reliability compared to other types of transistors. They offer higher efficiency, reduced heat, simpler overall design, reduced size and weight.

The Model HTA-250A supplies 250 watts (rms continuous output) at less than 0.5% total harmonic distortion from 20 to 20,000Hz. An input signal of only 500mV is required for full rated output. The input impedances are: high-impedance (50,000 ohms) unbalanced; low impedance (500/600 ohms, balanced or unbalanced) with optional accessory transformer Model TL-600. Line bridging can be achieved with optional transformer Model TL-100. Residual hum and noise is at least 90dB below rated output and the output regulation is better than 2dB from no load to full load.

The HTA-250A can drive a variety of load impedances. Outputs include 4 ohms, 8 ohms, 25VCT

and 70.7 volts. The amplifier is capable of safely driving any recommended load continuously. The HTA-250A is thermally protected to prevent damage due to excessively high temperatures; however, the amplifier will deliver the full rated output continuously, even at +49°C (+120°F). Additional failure-preventive devices include overload limiting, short circuit protection, and a Slo-Blo fuse.

Electronic shutdown circuitry is automatically activated if an overload or short occurs and a front panel overload shutdown LED illuminates. Once the cause has been rectified, the unit automatically resets. The power on/off switch, located on the front panel, illuminates when power is on. The rear panel contains an input level control, input and output connections, the ac line fuse, and an auxiliary receptacle. A low-cut filter switch is located internally.

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Part No. 54-7773-06 Printed in U.S.A. 9808

## Technical Specifications

<b>Rated Output Power:</b>	250 watts rms
<b>Total Harmonic Distortion:</b>	Less than 0.5%, 20 - 20,000Hz
<b>Frequency Response:</b>	$\pm 1$ dB, 20 - 20,000Hz at full rated output
<b>Input Sensitivity:</b>	High impedance, 500mV; Low impedance balanced, with optional transformer, 150mV
<b>Hum and Noise:</b>	90dB below rated output
<b>Output Loads:</b>	4 ohms, 8 ohms, 25VCT (2.5 ohms), 70.7V (20 ohms)
<b>Output Regulation:</b>	Better than 2dB from no load to full load
<b>Input Impedances:</b>	Hi-Z, 50,000 ohms unbalanced; Lo-Z, 600 ohms, balanced or unbalanced, and 1:1 bridging with optional plug-in transformers
<b>Low-Cut Filter:</b>	-10dB @ 100Hz
<b>Controls &amp; Indicators:</b>	Front panel illuminated power and shutdown LED indicators Rear Panel Input level control, Slo-Blo fuse Internal Low-Cut filter switch
<b>Power Requirements:</b>	120VAC, 60Hz, 520 watts @ Full Rated Output (Idle, 60W)
<b>Overload Protection:</b>	Electronic overload protection Electrical 7A Slo-Blo Fuse Thermal 105 C (220 F) Thermostat
<b>Operating Temperature Range:</b>	-20°C (-4°F) to +49°C (+120°F) at rated output
<b>Auxiliary Receptacle (not switched):</b>	Three-wire grounded*, 300 watts maximum
<b>Dimensions (without removable feet):</b>	19"W x 11"D x 5-1/4"H (48.3 x 27.9 x 13.3 cm)
<b>Front Panel Dimensions:</b>	19"W x 5-1/4"H (48.3 x 13.3 cm)
<b>Finish:</b>	Black
<b>Weight:</b>	50 lbs. (22.7 kg)
<b>Accessories:</b>	Model TL-600, line-matching transformer; Model TL-100, 1:1 line-matching transformer

\*This receptacle will be grounded only if the power amplifier has been grounded properly.

## Architects and Engineers Specifications

The power amplifier shall be a Bogen Model HTA-250A or approved equivalent solid-state amplifier incorporating state-of-the-art MOSFET power transistors. Amplifiers utilizing conventional or bipolar power transistors shall not be acceptable.

The amplifier shall deliver an audio output of 250 watts (rms continuous). Total harmonic distortion shall be less than 0.5% at the 250-watt rating over the frequency range of 20 to 20,000Hz. The rated output shall be obtained with an input that is not greater than 500mV (rms). Hum and noise shall be at least 90dB below rated output. The frequency response, when measured at full rated output, shall be flat within  $\pm 1$  dB, 20 to 20,000Hz.

The amplifier shall provide either balanced or unbalanced constant-voltage outputs of 25 VCT and 70.7 volts, plus 4 and 8 ohm balanced or unbalanced outputs. Output regulation shall be within 2dB from no load to full load.

The amplifier shall provide an input of 50,000 ohms unbalanced high impedance, or 600 ohms balanced or unbalanced low impedance, or line bridging with optional accessory plug-in transformers. Overall gain shall be adjustable by means of a single level control located on the rear panel. An internal low-cut filter (-10dB @ 100Hz) shall also be provided. The front of the amplifier shall contain an illuminated on/off power

switch. The amplifier shall incorporate electronic shutdown circuitry which shall activate whenever an overload or short occurs on the output of the amplifier. A front panel overload shutdown LED shall illuminate to indicate the discontinuance of power output; the circuitry shall automatically restore power output once the cause of the shutdown condition has been removed.

The amplifier shall operate from a 120VAC, 60Hz source and shall consume 60 watts or less at idle and 520 watts at full rated output. The amplifier shall have thermostatic control to prevent operation at excessive ambient temperatures. The amplifier also shall include electronic overload limiting, short-circuit protection and a 7-amp Slo-Blo fuse.

The amplifier shall have a standard EIA 19-inch front panel suitable for rack mounting. The amplifier shall be 19" wide, 5-1/4" high and 11" deep, finished in black and shall weigh 50 lbs.

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