

# Audio Power Amplifier, 250 Watts

Model 1B3-250

## Overview<sup>2</sup>

The 1B3-250 Power Amplifier is rated at 250 Watts continuous (RMS) power and it contains circuitry for 24 Vdc backup. The Amplifier mounts in a standard 19 in (483mm) rack. Output Voltage may be 25 or 70 VRMS. Supply Voltage is 120/240 V, 50/60 Hz, or optionally 24-28 Vdc. The Amplifier contains electronic protection safeguards against overloads or shorted output. A thermal overload protection circuit is also included that opens the primary power circuit if the unit overheats. Both protection circuits are self-restoring. The system may incorporate a Standby Amplifier as a backup against any unit failure.

## Standard Features<sup>4</sup>

- 24 Vdc battery backup
- Broad frequency response
- Low distortion
- Thermal circuit breaker
- Electronic protection
- UL listed under standards 1711, 1480, and 813
- ULC listed

## Application<sup>6</sup>

The 1B3-250 Power Amplifier is used in Banked Amplifier Systems. The system supports up to six audio channels.

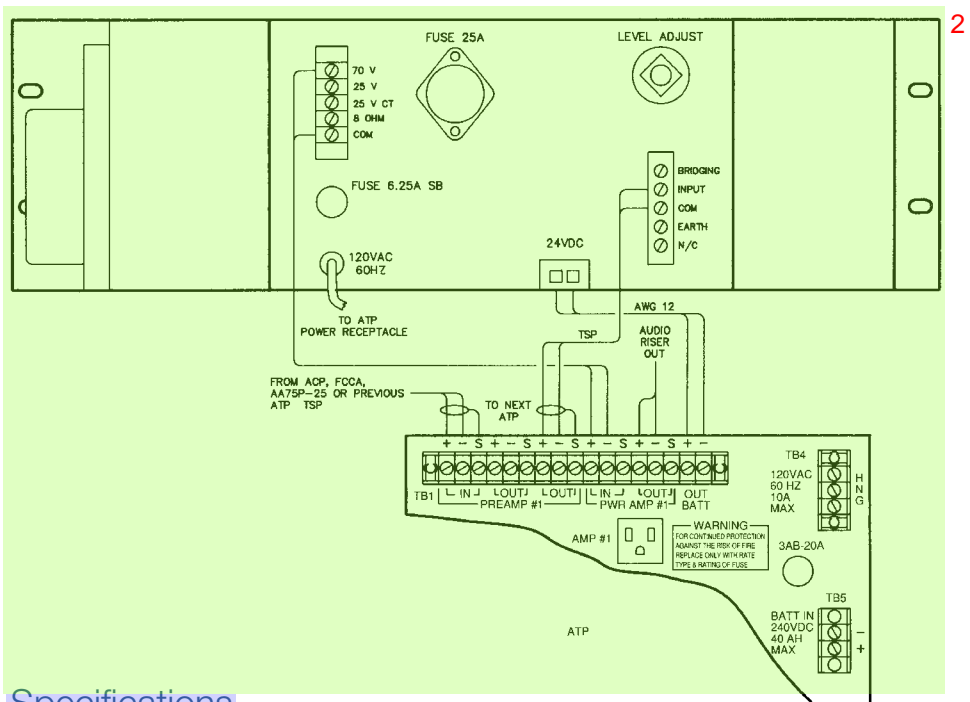
## Engineering Specifications<sup>8</sup>

The Power Amplifier shall be EDWARDS 1B3-250 or an approved equivalent, and it shall be capable of delivering 250 Watts continuous (RMS) power with less than 0.5% harmonic distortion in the 45 Hz to 20 kHz bandwidth (measurements are made at the 70.7V tap). The frequency response shall be 20 Hz to 20 kHz(+0, -1 dB) per EIA Standard SE-101A. The signal-to-noise ratio shall be greater than -90 dB below rated output for the 20 Hz to 20 kHz bandwidth. Input sensitivity shall be 1 VRMS at 1 kHz for rated output, and input impedance shall be 75k Ohms. The output load (voltage) shall be 20 Ohms (70.7 V), 2.5 Ohms (25 V), and 8 Ohms (44.7 V), and there shall be a 25 Volt center tap. Output regulation shall be better than 1 dB (zero load to full load). A rear-mounted input level control shall be provided.

The Amplifier shall have an electronic protection circuit as a safeguard against damage caused by overloads or shorted output. A thermal overload protection circuit shall be provided on the heatsink to open the primary power circuit and illuminate a thermal overload LED whenever the amplifier overheats. Both protective circuits shall be self-restoring. The normal power source shall be 120/240 V 50/60 Hz, and the system shall draw 5.8 Amps at 120 Vdc power required shall be 22 Amps at rated output.

Terminations shall be screw terminal strips with barriers on the output. The Power Amplifier shall be 5-1/4 in (133mm) high, 19 in (483mm) wide, 15 in (381mm) deep, and be finished in charcoal baked enamel. Net weight shall not exceed 50 lbs (22.5 kg). The Amplifier shall be acceptable for Fire Protective Signalling Systems, approved and tested under UL Standards 1711, 1480, and 813. The amplifier shall be listed by ULC.

## Connection Diagram 1



## Specifications 3

Power Output	250 Watts continuous (RMS)
Harmonic Distortion	Less than .5% 45 to 20 kHz at rated output
Frequency Response	20 to 20 kHz (+0, -1 dB) per EIA Standard SE-101-A
Signal to Noise Ratio	Greater than -90 dB below rated output (20 to 20 kHz bandwidth)
Input Sensitivity	1 VRMS at 1 kHz for rated output
Input Impedance	75k Ohms
Output Load (Voltage)	40 Ohms (70.7 V) balanced
	2.5 Ohms (25V) balanced
	25V center tap 8 Ohms (31.6 V) balanced
Output Regulation	Better than 1 dB, zero load to full load
Controls	Input level control, rear panel
Terminations	Screw terminal strips, barriers on output
Indicators	LED power, LED Thermal Overload
Power Source	120/240 Volts, 50/60 Hz; 24-28 Vdc
AC Power Required	5.8 Amps (120 V) / 2.9 Amps (240 V), 0.22 Amps at idle
DC Power Required	22.0 Amps at rated output
Fuse	6.25 Amp, slow blow; 25 Amp (DC)
Finish	Charcoal, baked enamel
Dimensions	5-1/4 in (133mm) high, 19 in (483mm) wide, 15 in (381 mm) deep

## Ordering Information 5

Catalog Number	Description	Shipping Weight
1B3-250	Audio Power Amplifier, 250 Watts	50 lbs (22.5 kg)