

Power Amplifier With Battery Backup Capability



Model MT-250D

- Features**
- 250 watts continuous (rms) output for a duration of 250 hours
 - Listed under UL 1711 for Fire Protective Signaling Systems, registration number S2594(N)
 - Life Safety features provide capability for 24V customer-supplied backup battery when primary power fails
 - Battery-saver circuit reduces idle current to a low value after 20 seconds (minimum) of no signal
 - Protection against line surges, overloads, and abnormal heat buildup
 - LED overload shutdown indicator
 - Switchable low frequency filter
 - Unswitched AC convenience outlet (300 watts)
 - Low impedance balanced input offers two sensitivity levels using accessory transformers
 - Rack mountable in standard 19" EIA rack; 11-gauge metal housing with flat black finish

Description

The MT250D Power Amplifier is a highly versatile, high-power performer. It delivers 250 watts (rms) at less than 2% distortion and is ideal for use where high power and backup capability are required. The unit will operate both from 120/240VAC (50/60Hz), and from a 24-volt battery backup system. It includes a battery saver circuit which reduces idling power requirements after at least 20 seconds of no signal.

The amplifier complies with UL standards for Fire Protective Signaling Equipment (UL1711). The front panel power switch is disabled so that the unit remains on regardless of the position of the switch (an internal jumper enables the switch for applications where this is desired.)

The amplifier can handle input from a high-impedance unbalanced source, balanced low-impedance source (requires accessory transformer), or from a telephone line. The impedance at the Hi-Z input is 50 kilohms, nominal, and 600 ohms for the Lo-Z input (requires an accessory transformer).

The input sensitivity is 1 volt for full rated output (Hi-Z). The Lo-Z input sensitivity is 200mV with the input selector switch in the HIGH LEVEL position, and 70mV with the switch in the TEL LINE position. Provisions are included for bridging input (requires an accessory transformer).

Five output transformer taps are provided on the rear panel: 12.5V, 25V, 8-ohm, 70.7V and 100V. A polarized output receptacle is provided for the 100V output. A low-cut filter switch and input level control are provided. The amplifier is protected from overload by fuses on the AC and DC inputs, and by thermal and electronic circuits (includes a front-panel mounted electronic overload indicator).

The amplifier is housed in a sturdy 11-gauge metal enclosure finished in flat black. The front panel is designed with predrilled mounting holes for installation in standard equipment racks.

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Technical Specifications

Rated Output Power:	250 watts rms
Total Harmonic Distortion:	Less than 2% at rated power, 50 to 15,000Hz
Frequency Response:	±2dB, 20 to 20,000Hz
Hum and Noise:	90dB below rated output
Regulation:	Better than 2dB from no load to full load
Input Sensitivity:	1 volt for rated output, 200mV with Model TL600 transformer 70mV with Model TL600 transformer and HIGH LEVEL switch in TEL LINE position
Input Impedance:	HI-Z 50,000-ohms nominal; LO-Z balanced 500/600 ohms with Model TL600 transformer; 1:1 bridging with TL100 transformer
Controls and Indicators:	INPUT LEVEL control, illuminated POWER switch, LO-CUT filter switch, HIGH LEVEL/TEL LINE sensitivity switch, OVER- LOAD indicator
Constant Voltage Outputs:	12.5V, 25V, 70.7V, 100V
Speaker Impedance Output:	8 ohms
AC Power Consumption:	120VAC, 60Hz/240VAC, 50Hz, 650 watts, 30 watts standby
DC Current Consumption (24 - 28VDC):	18 amp; Standby with battery saver, 55mA; Standby without battery saver, 1.6A
AC Line Fuse, Slo-Blo:	12 amp
DC Battery Fuse:	20 amp
Circuit Protection:	Thermal cutout, electronic overload circuit, power supply fuses on AC & DC inputs
Auxiliary Receptacle (not switched*):	Three-wire grounded, 300 watts @ 120 volts (except in 240V models)
Overall Dimensions (including removable feet):	19"W x 12-1/2"D x 5-1/2"H (48.3 x 31.7 x 13.9cm)
Front Panel Dimensions:	19"W x 5-1/4"H (48.3 x 13.3cm)
Finish:	Flat black
Shipping Weight:	60 lbs. (27.2 kg)
Accessory Equipment:	Model TL600, 600-ohm line matching transformer; Model TL100, 1:1 ratio transformer

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

Architects and Engineers Specifications

The power amplifier shall be a Bogen Model MT250D Power Amplifier. It shall meet UL 1711 standard for Fire Protective Signaling Systems and shall be designed to operate from 120/240VAC (50/60Hz), and from a 24-volt battery backup system. It shall include a battery saver circuit which shall automatically reduce idling power requirements after at least 20 seconds of no signal.

The amplifier shall provide a rated output power of 250 watts with less than 2% total distortion at rated power, 50 to 15,000Hz. Frequency response shall be ±2dB from 20 to 20,000. The noise level shall be 90dB below rated output and regulation shall be better than 2dB from no load to full load.

The front panel power switch shall be disabled such that the amplifier remains "on" regardless of the position of the switch. (An internal jumper shall be provided to enable the switch.) The unit shall be protected against AC line surges, overloads, shorted output terminals, and abnormal heat buildup.

The amplifier shall accept input from a high-impedance unbalanced source or balanced low-impedance source (requires accessory transformer). Input impedance (nominal, Hi-Z) shall be 50 kilohms; input sensitivity shall be 1 volt for full rated output. Input impedance (nominal, Lo-Z) shall be 600 ohms (requires the use of an accessory transformer). Input sensitivity shall be

200mV with the input selector switch in the HIGH LEVEL position, and 70mV with the switch in the TEL LINE position. Provisions shall be included for bridging input (requires accessory transformer).

Five output transformer taps shall be provided on the rear panel: 12.5V, 25V, 8-ohm, 70.7V and 100V. A polarized output receptacle shall be provided for the 100V output. A low-cut filter switch and input level control shall be provided.

The amplifier shall be housed in a sturdy 11-gauge metal enclosure. The front panel shall include predrilled mounting holes for installation in standard equipment racks. Front panel dimensions shall be 19" wide x 5-1/4" high. Shipping weight shall be approximately 60 pounds.



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