Black Max™ Amplifiers

Models X600, X450, and X300

Description

Bogen's Black Max amplifiers are designed to provide maximum performance in constant voltage speaker systems. Dual 70V transformerless outputs deliver exceptionally clean audio to speaker systems requiring up to 1200 watts of total power, or separate zones of audio of up to 600W per zone, in a single package. High efficiency class H amplifier design and auto-sleep feature reduce power consumption on continuously-powered systems. Rear-mounted volume controls, independent low-cut filters on each input, and pluggable input terminal strips were specifically designed for the fixed install market. Built-in power sequencing for multiple Black Max amplifiers combats current in-rush problems of large audio systems. Massive power toroid and heat sinks; heavy 14-gauge chassis; Back-Slope™ AC voltage stabilization; clip limiters; and DC voltage, over-current, and thermal protection circuits make this a workhorse amplifier.

Features

- Dual 70V amplifier channels
- 3 power levels: 600W, 450W, or 300W per channel for 70V speaker systems
- Low noise, low distortion, and high slew rate
- High efficiency class H amplifier design
- Transformerless direct drive outputs
- Electronically balanced high-impedance inputs
- Pluggable terminal strips for input connections
- Independent low-cut filters on each input
- Built-in power sequencing of other Black Max amplifiers
- Pluggable terminal strip for sequencing wiring
- Rear-mounted power sequencing status indicator
- DC, overload, short circuit, and thermal protection circuits
- Clip limiting circuits for speaker protection
- Power-saving sleep mode for intermittent use applications
- Status, Signal, and Limit indicators
- Back-Slope AC voltage stabilization for dependable performance over varying AC line voltages
- Heavy-gauge steel chassis with cast aluminum front panel
- Rear-mounted volume controls
- Mounts in 2 rack spaces (3-1/2") directly stackable without need for extra space above or below
- 2 independent, continuously variable, cooling fans for dependable and quiet operation
- Easily removable front fan grilles with filters

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Specifications subject to change without notice.

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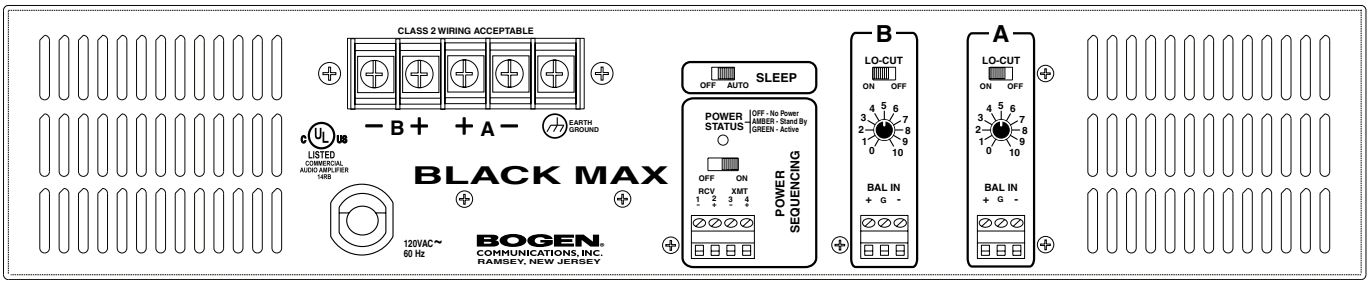

Technical Specifications	X600	X450	X300
Power Output*	600W / Ch @ 70V	450W / Ch @ 70V	300W / Ch @ 70V
Input Sensitivity	1V		
S/N Ratio (20k BW)	104dB ref. 70V, F.P.		
Class of Operation	H		
Product Weight	46 lbs.	44 lbs.	41 lbs.
Connectors: Power	20A line cord	15A line cord	15A line cord
Input	Pluggable 3-pin terminal strips		
Output	5-pin "touch-proof" Barrier Strip		
Power Bandwidth	20-40kHz .5% THD		
THD @ 1kHz rated power	less than .02%		
Rated Load Impedance (per ch)	8 ohms	11 ohms	16 ohms
Frequency Response @ 1 watt	20-20kHz +/- 0.25dB		
Output Regulation (1kHz direct)	1.5dB @ 70V		
Inputs	10k-ohm electronically balanced, 3-pin pluggable terminal strip		
Low-Cut Filter	60Hz, 2nd order roll-off, switch defeatable per channel		
AC Input Voltage Range	95-130V AC, 60 Hz		
Indicators	Status, Limit, Signal, AC Power Status (rear)		
Temperature Range	15 to 105 degrees F		
Cooling	Dual Forced Air Variable Speed Fan		
Physical Dimensions (W x H x D)	17" x 3.5" x 16" (without rack mount brackets attached)		
Protection	RF, DC, Low-frequency, Thermal, Low-impedance, Circuit Breaker, Short Circuit		
Special Features	Sequential Turn-On Circuitry (defeatable), Sleep Mode (defeatable), Back-Slope AC voltage regulation, Toroidal Power Transformer		

* Both channels driven at nominal line voltage 120V AC, 60Hz

Architect and Engineer Specifications

The amplifier shall be a Bogen Black Max Amplifier, Model X600, X450 or X300. The amplifier shall provide two independent channels of 70V output each with the capability of 600, 450 or 300 watts, respectively.

The amplifier shall provide 2 separate electronically balanced inputs available through pluggable 3-pin terminal strips. The input impedance shall be 10k ohms in a balanced configuration. Each input channel shall have a continuously adjustable input level control mounted on the rear panel of the amplifier. The amplifier shall have the ability to be wired to other Black Max amplifiers in such a way as to provide power-up sequencing of all amplifiers so wired. Sequential turn-on connections shall be made through a 4-pin pluggable terminal strip. Sequential turn-on shall be defeatable via a rear-mounted, low-profile switch. A power status indicator on the rear of the unit shall provide information as to the amplifier's current AC power state. The indicator shall indicate either unpowered, standby, or active state of the amplifier.

The amplifier shall drive the 70V speaker loads directly without the use of an output transformer. The amplifier shall allow a user-defeatable low frequency roll-off at 60Hz for each channel independently to protect transformer-coupled speakers from saturation.

The amplifier shall have a defeatable sleep mode that greatly reduces idle power consumption when the amplifier has not received audio for more than 3 minutes. The amplifier shall also include a clip limiting feature that automatically reduces signal clipping.

The amplifier shall have three indicators that correspond to status, signal, and limit.

The amplifier shall include Bogen's patent pending Back-Slope AC voltage regulation that automatically compensates for surges or sags in AC line voltages of up to +/-10%. Additionally, the amplifier shall be protected against over-currents, overloads, excessive thermal dissipation, DC voltage, and short circuits on the outputs.

The amplifier shall be enclosed in a heavy-gauge steel chassis with a cast aluminum front and flexible plastic fan grilles. The amplifier shall be cooled by 2 independent fans with continuously variable speed control and easily replaceable fan filters.

The amplifier shall fit into a 19" rack and use two rack spaces. It shall allow the attachment of feet for tabletop placement.

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