

Models M300, M450,
and M600



M-Class Series Amplifiers

DESIGNED FOR RELIABILITY,
FLEXIBILITY, AND POWER!

BOGEN®

M-Class Series Features

- **3 Models: M600, M450, and M300**
- **3 stereo power levels: 600W, 450W, or 300W per channel @ 4 ohms (both channels driven)**
- **3 mono power levels: 1200W, 900W, or 600W for 70V speaker systems**
- **3 modes of operation to choose from: 70V Mono, Dual Mono, or Stereo**
- **Low noise, low distortion, and high slew rate**
- **Flexible modular input capability (2 module capacity)**
- **Professional-quality, balanced, high-impedance input module (included)**
- **3 selectable low-frequency roll-off choices**
- **2x1 mixer function when in mono modes**
- **Prioritized inputs when in mono modes**
- **Insert connectors for outboard equipment (in mono modes)**
- **Post- and Pre-EQ Output Feeds (in mono mode)**
- **DC, overload, and thermal protection circuits**
- **Clip detection and limiting circuits for speaker protection**
- **Power-saving Sleep Mode for intermittent use applications**
- **Signal, Clip, Sleep Mode, and Protect indicators**
- **Back-Slope AC voltage stabilization for dependable performance over varying AC line voltages**
- **Heavy 14-gauge steel chassis with cast aluminum front panel**
- **Recessed volume control knobs with snap-on, protective cover**
- **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**
- **Stable into 2-ohm loads**

Back-Slope™ AC Voltage Stabilization

Bogen's patented Back-Slope circuitry assures consistent performance and reliability by regulating the proper amount of AC energy from the amplifier's power toroid, as AC line voltages rise and fall (up to 10%), thus maintaining maximum performance. This also prevents damage to the amplifier over varying line voltages and load conditions.

Back-Slope provides these advantages:

- **the output voltage of the amplifier is better controlled when the unit is lightly loaded**
- **ensures better low-frequency performance into step-down transformers**
- **prevents component damage to the amplifier if the power line voltage goes above its nominal value and improves the reliability of the unit**
- **regulates the rail voltage of the amplifier efficiently with minimal wasted heat**

Sleep Mode

Energy-saving Sleep Mode feature reduces amplifier power consumption during idle periods. When a signal is absent for more than three minutes, the unit will go into sleep mode. During sleep mode, the unit draws less power. Instant-on wake operation automatically returns the unit to full power when an audio signal is detected, without cutting off the beginning of the signal. (Sleep mode is defeatable.)

Input Options & Priorities

M-Class amplifiers support up to two input modules with up to two priority settings. Either module can be set as a higher priority, making the other module the lower priority. Both module inputs can be mixed together. Each amplifier comes standard with a professional-quality, stereo, high-impedance balanced input module. Other modules can be added as needed.

M-CLASS

Angled Front Panel - The top of the front panel is angled slightly, allowing easy removal of the knob cover and also allowing two units to be stacked on top of each other without empty rack spaces between them.

Clip Limit Indicator - Lights amber when amp enters clipping and limiter circuit activates or when there are excessively low impedance loads.

Recessed Volume Control (shown with cover removed) - 20-position, detented volume control, one for each channel. They are recessed in the cast aluminum front panel and are protected from casual tampering by a snap-on knob cover (not shown).

Removable Fan Grilles - Secure, but easily removable for filter cleaning.



FRONT PANEL

Status Indicator -
Green - On/Normal Operation
Amber - Sleep Mode
Red - Protect (DC, Thermal, Overload)

Signal Indicator - Indicates audio signal is present.

Power Switch - High-quality, magnetic circuit breaker.

70V Speaker Output - For 70V constant voltage speaker systems. Provides a single channel of amplification.

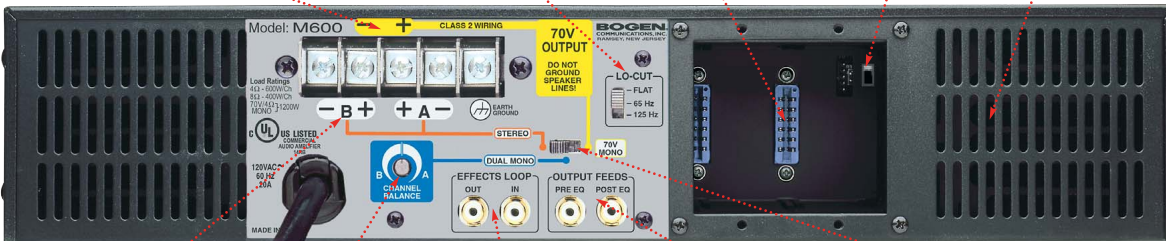
Lo-Cut Filter Switch - Select a low-frequency roll-off of 65Hz or 125Hz for transformer coupled and horn speakers. Flat position allows full low-frequency performance.

Module Bay - The unit can accept one or two Bogen input modules. Each amplifier comes with a balanced, high-impedance stereo input module.

Sleep Defeat - Turns off the power-saving sleep mode.

Cooling Fans - Two independent, variable-speed fans respond only as needed to keep the amplifiers cool which reduces dust build-up.

REAR PANEL



Low-Impedance Outputs - For 4- to 8-ohm speaker loads. Unit works into loads as low as 2 ohms without overloading.

Channel Balance Control (in Dual Mono operation mode) - Allows the output level of one channel to be lower than the other channel's output level.

Effects Loop - Provides insert point for outboard signal processing equipment when the amplifier is in either 70V Mono or Dual Mono modes (modular inputs are in a 2:1 mixer configuration). (Not used in stereo mode.)

Output Feeds - In mono modes, the connectors provide output signal feeds both before and after any outboard signal processing. In stereo mode, the Pre-EQ connector provides mono mix output of the stereo input signal.

Operational Mode Selector - Choose one of three settings to meet application needs: 70V Mono, Dual Mono, or Stereo. 70V Mono provides one channel of 70V constant voltage output with the two modular inputs combined in a 2:1 mixer. Dual Mono provides 2 identical channels of low-impedance power with modular inputs combined in a 2:1 mixer.



Performance Specifications

Technical Specifications	M600	M450	M300
Power Output 70V Mono 4-ohm 8-ohm	1200W @ 4 ohms 600W per channel* 400W per channel*	900W @ 5.5 ohms 450W per channel* 300W per channel*	600W @ 8 ohms 300W per channel* 200W per channel*
Input Sensitivity At Backplane Connector or using Standard Input Module (incl.)**	1.161V for 600W @ 4 ohms	1.010V for 450W @ 4 ohms	0.840V for 300W @ 4 ohms
S/N Ratio (20K BW)	109 dB ref. 8 ohms, F.P.	106 dB ref. 8 ohms, F.P.	103 dB ref. 8 ohms, F.P.
Class of Operation	H	H	AB
Product Weight	46 lb.	44 lb.	41 lb.
Connectors: Power	Ⓜ 20A line cord***	Ⓜ 15A line cord	Ⓜ 15A line cord
Input	Dependent on Modules installed (stereo, high-impedance balanced module w/screw terminals included)		
Output	5-pin "touch-proof" Barrier Strip, RCA Pre- & Post-EQ Output		
Power Bandwidth	20 Hz - 40 kHz .5% THD		
THD @ 1 kHz rated power	less than .02%		
Load Impedance	4-8 ohms, 70V		
Minimum Load Impedance (Stereo)	2 ohms		
Frequency Response @ 1 watt	20 Hz - 20 kHz +/- 0.25 dB		
Output Regulation, 1 kHz direct	0.5 dB @ 8 ohms		
1 kHz bridged	1.5 dB @ 70V		
Inputs (Plug-in modules)	Electronically balanced, high-impedance module standard, other modular input types available		
AC Input Voltage Range	95-130V AC, 60Hz		
Maximum AC Current	20A***	15A	12A
Indicators	Status (On/Protect/Sleep), Clip/Limit, Signal		
Temperature Range	15 to 105 degrees F		
Cooling	Forced Air Variable Speed Fan		
Physical Dimensions (W x H x D)	17" X 3-1/2" x 16" (19" wide with Rack Ears)		
Protection	RF, DC, Low-frequency, Thermal, Low-Impedance, Circuit-Breaker, Short Circuit		
Special Features	Sleep Mode, Back-Slope regulation, Stereo, Dual Mono, 70V Mono Operation, Toroidal Power Transformer		

* Both channels driven at nominal line voltage 120V AC, 60Hz. ** Module set to Gain of 1. *** Requires 20A, NEMA 5-20R Type Receptacle. Ⓜ

Accessories



RPK86
Rear Rack
Mounting
Kit



PVMC
Module
Security
Cover

