

# UPM-1

UltraSeries™  
Reinforcement  
Loudspeaker



— 6  
—  
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—  
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—  
— 0  
Inches

Designed for sound reinforcement applications requiring minimum size, the UPM-1 delivers high sound pressure levels with very low distortion and extremely even coverage in both axes.

Suitable for a wide range of applications from music playback and delay fill systems to stage monitoring, the UPM-1 features outstanding low-frequency performance in an unusually compact package. Its ultra-flat frequency response simplifies room equalization requirements and ensures high gain-before-feedback.

The loudspeaker consists of two 5-inch low-frequency cone drivers in a vented enclosure, and a 2 by 5-inch horn-loaded piezoelectric high-frequency driver with passive crossover.

The rugged cabinet is easily handled and installed. It has three  $\frac{3}{8}$ "-16 threaded rigging points, and may be mounted on a stand. An optional steel bracket facilitates mounting in permanent installations.

The UPM-1 system requires a high-quality professional power amplifier capable of delivering 125 watts continuously into 16 ohms, with a signal voltage gain of 20 dB (minimum) to 30 dB (maximum).

## Features

Ultra-compact

Lightweight

Efficient high power

Versatile

Uncompromised quality

Even dispersion

Long-term reliability

## Applications

Music playback in small clubs

Multi-channel AV playback

Side fill in live music clubs

Stage monitoring

Delayed fill in installations

Paging and announcing



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M E Y E R S O U N D

# UPM-1 Specifications

## Acoustical – UPM-1/P-1A

Frequency Response <sup>1</sup>	
Half space	60-20,000 Hz ±4 dB
Free air	70-20,000 Hz ±4 dB
Maximum SPL <sup>2</sup>	
Continuous	108 dB
Peak	118 dB
Distribution Pattern (-6dB points)	
Horizontal	80 degrees
Vertical	60 degrees

## UPM-1 Loudspeaker

Driver Complement	
Low-Frequency	(2) MS-5 5-inch cone drivers, 8 ohms per driver
High-Frequency	2" x 5" horn-loaded piezoelectric
Passive Network	
Function	3-way crossover and HF driver protection
Capacitor Type	Polypropylene
Inductor Type	Ferrite core
Cabinet Impedance	16 ohms
Enclosure	0.2 cu. ft. vented, multi-ply Finnish birch
Finish	Black textured
Connector	Cannon EP-4 or 3-pin XLR (male and female)
Protective Grill	Expanded metal screen frame, vinyl damped, charcoal-grey foam covering
Mounting Points	3/8"-16 nut plates
Physical Dimensions	6 3/4" W x 18 1/8" H x 7 1/8" D
Weight	16 lbs. (7.3 kg)

## P-1A Control Electronics Unit

Input Type	Balanced (active), 47k ohms
Output Type	Push-pull (active), 200 ohms source impedance
Maximum Input/Output Level <sup>3</sup>	
Unbalanced	>+20 dBu
Balanced	>+26 dBu
Hum and Noise <sup>4</sup>	<-90 dBV
Dynamic Range <sup>5</sup>	>105 dB
Sense Input	10K ohms true differential, opto-isolated
Driver Protection Circuitry	
Low Frequency	RMS Limiter
High Frequency	RMS and Peak Limiter
Indicators	
Sense	Green LED
Limit	Red LED
Power	Green LED
Controls	Level Control, AC on/off switch, Lo Cut Switch
Connectors	
Balanced Input/Output	3-pin XLR (A-3), 1/4" RTS phone jacks
Sense Input	Banana jacks
Power	120/240V AC, 50/60 Hz (internally switchable)
Physical Dimensions	19" W x 1 3/4" H x 7 3/4" D Standard rack mount
Weight	7 lbs. (3.1 kg)

**Note 1:**  
Measured 1 meter on axis, pink noise input, in third-octave bands.

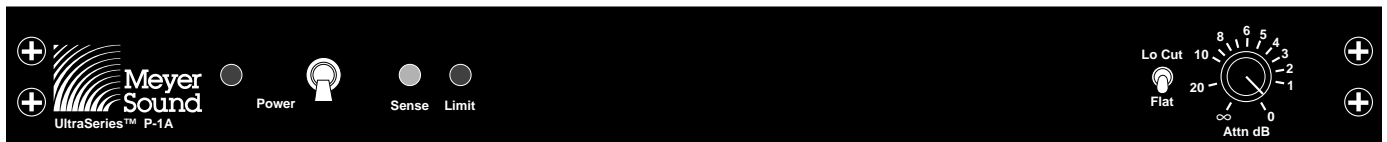
**Note 2:**  
"A"-weighted noise input, loudspeaker driven by 125 watt (16 ohm rating) mono amplifier.

**Note 3:**  
1 kHz, 10k  $\Omega$  load, < 0.1% THD.

**Note 4:**  
"A"-weighted.

**Note 5:**  
Noise floor to maximum output.

## The P-1A Control Electronics Unit



The UPM-1 operates as a system with the P-1A Control Electronics Unit. Optimized for the UPM-1 and pre-aligned at the factory, the P-1A contains frequency response and phase response alignment circuitry, and Meyer Sound's exclusive SpeakerSense™ driver protection circuitry, incorporating both peak and RMS signal limiting.

SpeakerSense protects the UPM-1 loudspeaker components from damage due to overheating under high power conditions. This unique circuit continuously monitors the power applied to the UPM-1

drivers, and limits the signal output when the safe operating limits of the drivers are exceeded. Until the onset of overload, the SpeakerSense circuitry has no effect on the signal.

Six stages of Meyer's exclusive complementary phase equalization in the P-1A Control Electronics Unit give the UPM-1 flat frequency response with outstanding phase characteristics.

A single-channel device operating at line level, the P-1A is the final component in the signal chain before the amplifier.



The ultra-compact, high-power reinforcement speaker system shall be a passive 3-way type with two 5-inch low-frequency loudspeakers, front mounted in a ducted brass-reflex hardwood plywood enclosure with a high-frequency piezo-electric driver mounted on a 2" x 5" horn. The enclosure shall be fitted with three  $\frac{3}{8}$ "-16 threaded mounting points, and shall operate with a separate Control Electronics Unit.

The Control Electronics Unit shall contain a power supply capable of operating from a 120/240V AC 50/60 Hz line, equalization circuitry for amplitude and phase alignment, protection circuitry which

automatically activates under high power conditions, RMS limiter which protects the speakers from overheating, active balanced input, active push-pull output, and LED indicators for power on and limiters.

Total harmonic distortion at + 26 dBu at the balanced output loaded with 10k $\Omega$  shall be less than .1% at 1kHz. The "A"-weighted noise level shall be at least 105 dB below maximum rated output of +26 dBu.

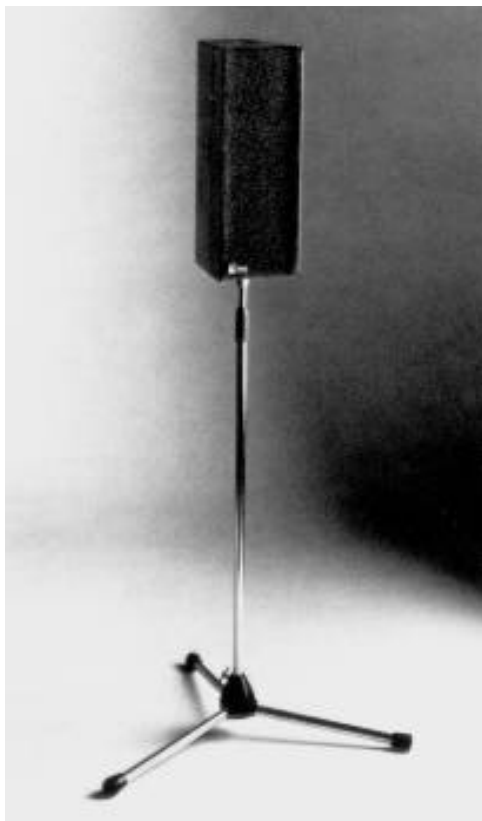
The speaker system combined with a 125W (16 ohm rating) amplifier shall meet the following performance criteria: Frequency response, 60 Hz to 20 kHz plus or minus 4 dB measured in half space at 1 meter on axis with  $\frac{1}{3}$  octave pink noise; output of 108 dB SPL measured at 1 meter on axis with peaks of 118 dB SPL when driven with "A"-weighted noise.

Distribution pattern, 80 degrees horizontal by 60 degrees vertical.

Speaker enclosure dimensions shall be 6 $\frac{3}{4}$ " W x 18 $\frac{1}{8}$ " H x 7 $\frac{1}{8}$ " D, weight 16 lbs (7.3 kg).

Control Electronics Unit dimensions shall be 19" W x 1 $\frac{3}{4}$ " H x 7 $\frac{3}{4}$ " D, weight 7lbs (3.2 kg).

The speaker enclosure shall be the Meyer Sound UPM-1. The Control Electronics Unit shall be the Meyer Sound P-1A.



*Meyer Sound Laboratories has devoted itself to designing, manufacturing, and refining components that deliver superb sonic reproduction. Every part of every component is designed and built to exacting specifications and undergoes rigorous, comprehensive testing in the laboratories.*

*Research remains an integral, driving force behind all production. Meyer strives for sound quality that is predictable and neutral over an extended lifetime and across an extended range.*

**Sound  
engineering  
for the art  
and science  
of sound.**



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