

UPA-1A

UltraSeries™
Loudspeaker

Features

Efficient high power

Ultra-low distortion

Compact and versatile

High clarity and coherence

Arrayable

Rugged

Long-term reliability

Applications

Music playback in discos

Sound reinforcement in live

music clubs

Side fill in large-scale music

reinforcement

Theater PA systems

Controlled coverage of

wide areas

High-power announcing and

paging indoors/outdoors



— 12
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— 9
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inches

Designed for a wide variety of sound reinforcement applications, the compact, arrayable UPA-1A allows for controlled coverage of wide areas in theater, club and concert sound reinforcement. The powerful loudspeaker delivers high sound pressure levels with extremely low distortion, for maximum intelligibility and fidelity.

The bi-amplified loudspeaker consists of a proprietary 12-inch low-frequency cone driver in a vented enclosure with a 90-degree high-frequency horn and driver. The rugged, multiple-ply hardwood cabinet enclosure is fitted with handles and, optionally, aircraft-style rigging pan fittings.

The UPA-1A specifications meet the most demanding professional needs. Yet Meyer specifies conservatively and responsibly, in verifiable terms. Even after extended use, the performance of the UPA-1A remains uncompromised.

The UPA-1A requires a high-quality professional stereo power amplifier capable of delivering 250 watts/channel continuously into 8 ohms, with a signal voltage gain of 20dB (minimum) to 30dB (maximum).



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M E Y E R S O U N D

UPA-1A Specifications

Acoustical – UPA-1A/M-1A System

Frequency Response ¹	60–16,000 Hz ± 4 dB	
Maximum SPL ² with amplifier rated at:	250W/8 ohms/ch	60W/8 ohms/ch
Continuous	125dB	120dB
Peak	132dB	125dB
HF Coverage		
Horizontal	80 degrees	
Vertical	60 degrees	

UPA-1A Loudspeaker

Driver Complement		
Low Frequency Driver	MS-12	
High Frequency Driver	MS-1401A	
High Frequency Horn	Modified radial with foam lens	
HF Network	Y-1PB	
Function	DC blocking and damped band-elimination filter (jumper provided to short filter for peaked response in the 10kHz region)	
Enclosure	0.8 cu. ft. vented, multi-ply Finnish birch plywood	
Finish	Black textured	
Physical Overall Dimensions	14½"W × 22¾"H × 14½"D	
Weight	66 lbs. (30 kg)	
Protective Grill	Expanded metal screen, vinyl damped, charcoal-grey foam covering	
Connector	Cannon EP-4 (male), EP-5 (male, Europe only)	
Rigging	Aircraft pan fittings, or ¾"–16 nut plate	

M-1A Control Electronics Unit

Input Type	Balanced (active), 47K ohms
Output Type	Active push-pull, will drive 600 ohms
Maximum Input/Output Level	
Balanced	+26dBv
Unbalanced	+20dBv
Hum and Noise ³	–90 dBv
Dynamic Range	120 dB
Sense Inputs	10K ohms true differential
Electronic Crossover Frequency	1600 Hz
Low Frequency Delay Type	Active all-pass
Driver Protection Circuitry	
Low Frequency	RMS limiter
High Frequency	RMS limiter
	VHF Peak limiter
Indicators	
Sense; Hi and Lo	Green LEDs
Limit; Hi, Lo, and VHF	Red LEDs
Safe	Green LED
Power Supply, Positive and Negative	Green LEDs
Controls	
Front Panel	Input level control, AC on/off switch
Preset Panel	VHF control (single turn potentiometer)
Connectors	
Balanced Inputs/Outputs	XLR-type (A-3), RTS ¼" phone jacks
Subwoofer Circuit Input	Unbalanced, ¼" phone jack (inserts Lo Cut, disables Level control)
Sense Inputs	Banana jacks

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

Note 2:
Loudspeaker driven with pink noise. Low frequency response dependent on load conditions.

Note 3:
"A"-weighted.

Power	120/240V AC, 50/60 Hz (internally switchable)
Physical Dimensions	19"W × 1¾"H × 7¾"D
Weight	8 lbs. (3.36 kg)

The M-1A Control Electronics Unit



The UPA-1A loudspeaker operates as a system with the M-1A Control Electronics Unit (one per channel). Optimized for the UPA-1A and UM-1A UltraMonitor and pre-aligned at the factory, the M-1A contains an electronic processor with frequency response and phase response alignment circuitry, and Meyer Sound's exclusive SpeakerSense™ driver protection circuitry, incorporating both peak and RMS signal limiting.

A single-channel device operating at line level, the M-1A is the final component in the signal chain before the amplifier. Its factory-calibrated SpeakerSense circuitry protects the UPA-1A loudspeaker components from damage due to overheating under high power conditions. This unique circuit continuously monitors the power applied to the UPA-1A drivers, and individually limits the high-frequency and low-frequency processor outputs when the safe operating limits of the drivers are exceeded. Until the onset of limiting, the Speaker-Sense™ circuitry has no effect on the signal.

Also provided is a switch-selectable Safe function, which widens the safety margin of the system and is intended to be used when extended periods of overload are anticipated. The Safe switch and other setup controls are located behind a cover plate on the M-1A front panel, providing a means of securing the system installer's presets.

To enhance the effectiveness of the UPA-1A, the M-1A incorporates sliding filters which band-limit the system response under full-power conditions. This has the effect of discriminating for vocal information in the signal to increase clarity, and is particularly useful when sound pressure levels are high and leakage becomes a problem. For this reason, it is recommended that subwoofers be used with the system if it must pass the full audio frequency range at all times. The preferred choice of subwoofer for the UPA-1A is the Meyer Sound USW-1.

The compact sound reinforcement speaker system shall be a two-way type with a 12" low-frequency loudspeaker front-mounted in a ducted bass-reflex hardwood plywood enclosure with a compression driver mounted on a high-frequency horn which has a 1.4" throat, and 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, electronic crossover circuitry, electronic delay for the phase alignment of the low-frequency speaker, low- and high-frequency sliding filters which automatically activate under high power conditions, RMS limiters which protect the speakers from over-heating, equalization circuitry, active balanced input, indicator LED's for power on and limiters. Total harmonic distortion shall be less than .1%. "A" weighted noise level shall be at least 110dB below maximum rated output of +26dBv.

The speaker system, its companion Control Electronics Unit, and a power amplifier rated at 250 watts/channel into 8 ohms shall meet the following performance criteria: Frequency response, 60Hz to 16 kHz plus or minus 4dB measured with 1/3 octave pink noise, 1 meter on axis; output of 125dB SPL measured 1 meter on axis with peaks of 132dB SPL driven with "A"-weighted noise. Total harmonic distortion shall be less than 1% at 110dB SPL and 3% at 120dB SPL one meter on axis. Distribution pattern, 80 degrees horizontal by 60 degrees vertical.

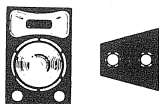
Speaker enclosure dimensions shall be 14 1/2" W x 22 1/2" H x 13" D, weight 66 lbs.

Control Electronics Unit dimensions shall be 19" W x 1 3/4" H x 7 3/4" D, weight 8 lbs.

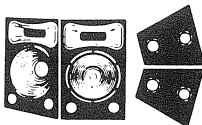
The speaker system shall be the Meyer Sound UPA-1A. The Control Electronics Unit shall be the Meyer Sound M-1A.

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.

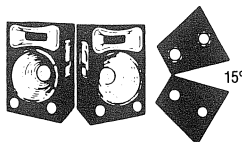
Research remains an integral, driving force behind all production. Meyer strives for sound quality that is predictable and neutral over an extended lifetime and across an extended range.



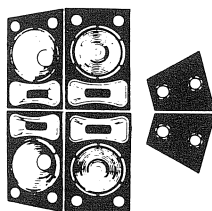
Coverage Angle¹
Vertical 60°
Horizontal 80°
Maximum SPL @ 1 meter
Continuous 125 dB
Peak 135 dB
Total Amplifier power
525 watts



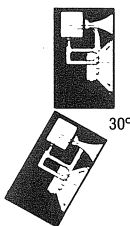
Narrow Horizontal Coverage Array
Coverage Angle¹
Vertical 60°
Horizontal 130°
Maximum SPL @ 1 meter
Continuous 129 dB
Peak 139 dB
Total Amplifier power
1050 watts



Wide Horizontal Coverage Array
Coverage Angle¹
Vertical 60°
Horizontal 140°
Maximum SPL @ 1 meter
Continuous 129 dB
Peak 139 dB
Total Amplifier power
1050 watts



Long Throw High Power Array
Coverage Angle¹
Vertical 30°
Horizontal 130°
Maximum SPL @ 1 meter
Continuous 135 dB
Peak 145 dB
Total Amplifier power
2100 watts



Wide Vertical Coverage Configuration²
Coverage Angle¹
Vertical 100°
Horizontal 80°
Maximum SPL @ 1 meter
Continuous 125 dB
Peak 135 dB
Total Amplifier power
1050 watts

Note 1: Coverage angle is the -6dB average. All measurements made at 24 inches and confirmed at 6 feet (on-axis except where noted) using pink noise source and measured in 1/3rd octave bands. Frequency response 50Hz-16kHz, half-space conditions.

Note 2: This configuration produces smooth response, but is asymmetrical in the vertical plane. (Measurement axis same as for a single UPA-1A.)

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



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