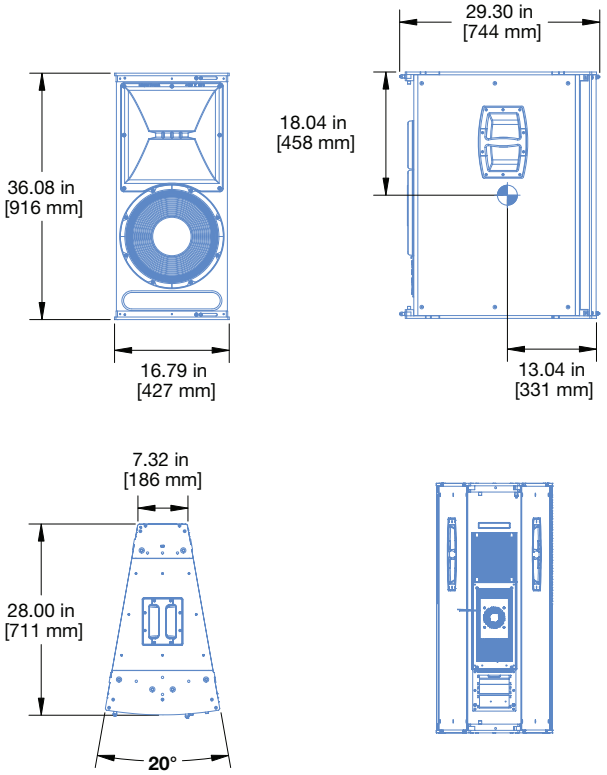
JM-1P Arrayable Loudspeaker



The JM-1P self-powered loudspeaker is a high-Q, arrayable loudspeaker suited for a wide range of applications. Utilizing Meyer Sound's patented REM® technology and trapezoidal cabinet design, the JM-1P can be deployed in tightly-packed array clusters to deliver coverage that is proportional to the number of units in the array. While JM-1P point source arrays are optimized for horizontal installations, they can also be used vertically when necessary. With its scalable coverage and versatile QuickFly® rigging options, the JM-1P loudspeaker can be used for touring, rental, and fixed installations.

Boasting a wide operating frequency range of 53 Hz to 18 kHz, the JM-1P delivers a remarkably smooth sound with ample low-frequency headroom. The JM-1P's drivers include one low-frequency, 15-inch, long-excursion cone driver, and one high-frequency, 4-inch compression driver with an REM manifold coupled to an extremely accurate horn. The JM-1P is distinguished by its Constant-Q horn that provides a coverage of 20° horizontal by 60° vertical. The loudspeaker's consistent polar response and trapezoidal enclosure allow for tightly packed arrays with minimal overlap in high frequencies.

The JM-1P's sophisticated onboard amplification and processing produces consistent and predictable results in any system design. A proprietary two-channel, class AB/H power amplifier with complementary MOSFET output stages yields a total power output of 2550 W peak. Built-in signal processing includes an electronic crossover, driver protection, and correction filters for achieving flat phase and frequency responses. Each amplifier channel has peak and rms limiters that prevent driver overexcursion and regulate voice coil temperatures. Limiting activity is easily monitored with the rear panel limit LEDs.

The optional RMS™ remote monitoring system provides comprehensive monitoring of system parameters on a remote Mac® or Windows-based computer running Compass® Control Software.

The JM-1P's end plates include captive GuideALinks™ and quick-release pins that allow the unit to be easily linked to other JM-1Ps in arrays. The optional MPA-JM1 pickup plate suspends JM-1P horizontal arrays of up to four units with uptilt or downtilt from a single hanging point; two pickup plates can suspend arrays of up to six units from a single hanging point or motor using the MTGSB-4B spreader bar. For additional flexibility, the optional MTG-JM1 vertical grid suspends vertical arrays of up to six units. The optional MDB-JM1 dolly board transports the JM-1P safely and securely; multiple dolly boards can be interlocked to transport up to three linked JM-1Ps.

Constructed of premium multi-ply birch, the durable JM-1P enclosure is coated with a slightly textured black finish. A hex-stamped steel grille with acoustical black mesh protects the unit's drivers. Other options include weather protection and custom color finishes for fixed installations and applications with specific cosmetic requirements.

FEATURES AND BENEFITS

- Tightly controlled coverage is scalable proportional to the number of arrayed units
- Exceptional size to power ratio
- QuickFly rigging offers the flexibility of both horizontal and vertical arrays
- Consistent and predictable array performance ensures accurate system design

APPLICATIONS

- Theatrical sound reinforcement
- Houses of worship
- Portable and installed audio/visual systems
- Centerfill and sidefill in large-scale systems
- Theme parks, stadiums, concert halls, and nightclubs

ACCESSORIES AND ASSOCIATED PRODUCTS

MPA-JM1 Pickup Plate: Suspends JM-1P horizontal arrays of up to four units with uptilt or downtilt from a single hanging point; two pickup plates can suspend arrays of up to six units from a single hanging point or motor using the MTGSB-4B Spreader Bar.

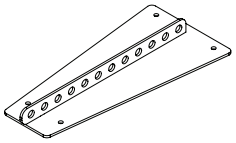
MTGSB-4B Spreader Bar: Facilitates suspension of arrays up to six units from a single hanging point or motor when used with the MPA-JM1 Pickup Plates.

MTG-JM1 Vertical Grid: Suspends vertical arrays of up to six units.

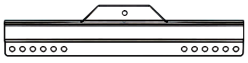
MDB-JM1 Dolly Board: Transports the JM-1P safely and securely; multiple dolly boards can be interlocked to transport up to three linked JM-1P loudspeakers.

Galileo GALAXY Network Platform: The Galileo GALAXY Network Platform provides state-of-the-art audio control technology for loudspeaker systems with multiple zones. With immaculate sonic performance, it provides a powerful tool set for corrective room equalization and creative fine-tuning for a full range of applications.

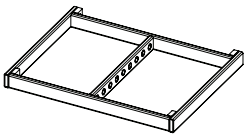
MDM-832 Distribution Module: MDM-832 units conveniently power JM-1P array systems, routing up to eight channels of AC power, balanced audio and RMS signals to the loudspeakers.



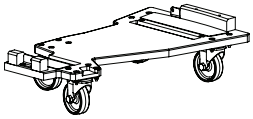
MPA-JM1 Pickup Plate



MTGSB-4B Spreader Bar

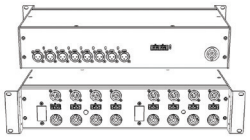


MTG-JM1 Vertical Grid



MDB-JM1 Dolly Board

GALAXY Network Platform



MDM-832 Distribution Module

SPECIFICATIONS

ACOUSTICAL[1]	
Operating Frequency Range[2]	53 Hz – 18 kHz
Frequency Response[3]	56 Hz – 16.5 kHz ±4 dB
Phase Response	580 Hz – 16 kHz ±45°
Linear Peak SPL[4]	**132 dB with crest factor >15.5 dB (M-noise),** 133dB (Pink noise), 136 dB (B-noise)
COVERAGE	
Horizontal Coverage	20°
Vertical Coverage	60°
TRANSDUCERS	
Low Frequency	One high-power, 15-inch cone driver with neodymium magnet; 2 Ω nominal impedance
High Frequency	One 4-inch compression driver; 8 Ω nominal impedance
AUDIO INPUT	
Type	Differential, electronically balanced
Maximum Common Mode Range	±15 V DC, clamped to earth for voltage transient protection
Connectors	XLR 3-pin female input with male loop output; optional XLR 5-pin connector to accommodate both balanced audio and RMS signals.
Input Impedance	10 kΩ differential between pins 2 and 3
Wiring[5]	Pin 1: Chassis/earth through 220 kΩ, 1000 pF, 15 V clamp network to provide virtual ground lift at audio frequencies Pin 2: Signal + Pin 3: Signal – Pin 4: RMS (polarity insensitive) Pin 5: RMS (polarity insensitive) Case: Earth ground and chassis
Nominal Input Sensitivity	0 dBV (1.0 V rms) continuous is typically the onset of limiting for noise and music
Input Level	Audio source must be capable of producing of +20 dBV (10 V rms) into 600 Ω to produce the maximum peak SPL over the operating bandwidth of the loudspeaker.
AMPLIFIER	
Type	Two-channel, complementary MOSFET output stages (class AB/H)
Total Output Power[6]	2550 W peak
THD, IM, TIM	< 0.02%
Cooling[7]	QuietCool™ with convection cooling at low to mid audio levels; fan-assisted only at high audio levels.
AC POWER	
Connector	powerCON 20 input with loop output
Automatic Voltage Selection	Two ranges, each with high-low voltage tap (uninterrupted)
Safety Rated Voltage Range	95–125 V AC; 208–235 V AC, 50/60 Hz
Turn-on and Turn-off Points	85–134 V AC; 165–264 V AC
CURRENT DRAW	
Idle Current	0.50 A rms (115 V AC); 0.28 A rms (230 V AC); 0.56 A rms (100 V AC)
Maximum Long-Term Continuous Current (>10 sec)	4.55 A rms (115 V AC); 2.50 A rms (230 V AC); 5.25 A rms (100 V AC)
Burst Current (<1 sec)[8]	8.0 A rms (115 V AC); 4.1 A rms (230 V AC); 9.2 A rms (100 V AC)
Maximum Instantaneous Peak Current	20.8 A peak (115 V AC); 13.0 A peak (230 V AC); 21.6 A peak (100 V AC)
Inrush Current	7.1 A peak (115 V AC); 8.4 A peak (230 V AC); 7.1 A peak (100 V AC)

SPECIFICATIONS, CONT'D.

RMS NETWORK (OPTIONAL)	
	Two-conductor twisted-pair network that reports all operating parameters of amplifiers to system operator's host computer.
PHYSICAL	
Dimensions	W: 16.79 in (427 mm) x H: 36.08 in (916 mm) x D: 29.30 in (744 mm)
Weight	147 lb (66.68 kg)
Enclosure	Premium multi-ply birch with slightly textured black finish
Protective Grille	Powder-coated, hex-stamped steel with black mesh
Rigging	Aluminum end plates with side links for arraying units; threaded metric M10 points for rigging accessories; optional pickup plate and vertical grid for suspending arrays with uptilt or downtilt

NOTES

1. Loudspeaker system predictions for coverage and SPL are available in Meyer Sound's MAPP System Design Tool.
2. Recommended maximum operating frequency range. Response depends on loading conditions and room acoustics.
3. Free-field, measured with 1/3 octave frequency resolution at 4 m.
4. **Linear Peak SPL** is measured in free-field at 4 m referred to 1 m. Loudspeaker SPL compression measured with M-noise at the onset of limiting, 2-hour duration, and 50 °C ambient temperature is < 2 dB.

   M-noise is a full bandwidth (10 Hz–22.5 kHz) test signal developed by Meyer Sound to better measure the loudspeaker's music performance. It has a constant instantaneous peak level in octave bands, a crest factor that increases with frequency, and a full bandwidth Peak to RMS ratio of 18 dB. The presence of a greater-than (>) symbol with regard to crest factor indicates it may be higher depending on EQ and boundary loading.

   Pink noise is a full bandwidth test signal with Peak to RMS ratio of 12.5 dB.

   B-noise is a Meyer Sound test signal used to ensure measurements reflect system behavior when reproducing the most common input spectrum, and to verify there is still headroom over pink noise.
5. Pins 4 and 5 (RMS) only included with XLR 5-pin connector that accommodates both balanced audio and RMS signals.
6. Peak power based on the maximum unclipped peak voltage the amplifier will produce into the nominal load impedance.
7. Fan controlled by audio level, remaining off at turn-on and at low to mid audio levels and operating only at high audio levels, making it virtually inaudible.
8. AC power cabling must be of sufficient gauge so that under burst current rms conditions, cable transmission losses do not cause the loudspeaker's voltage to drop below the specified operating range.

ARCHITECTURAL SPECIFICATIONS

The loudspeaker shall be a self-powered, full-range system; the transducers shall consist of a 15-inch diameter cone driver and a 4-inch diaphragm compression driver on a 20° horizontal by 60° vertical horn. The loudspeaker system shall incorporate internal processing electronics and a two-channel amplifier, one channel for each driver. Processing functions shall include equalization, phase correction, signal division, and protection for the high- and low-frequency sections.

Each amplifier channel shall be class AB/H with complementary MOSFET output stages. Peak power shall be 2550 watts. Distortion (THD, IM, TIM) shall not exceed 0.02%.

Performance specifications for a typical production unit shall be as follows, measured at 1/3-octave resolution: operating frequency range shall be 53 Hz to 18 kHz; phase response shall be 580 Hz to 16 kHz ±45°; linear Peak SPL shall be 132 dB with crest factor >15.5 dB, measured with M-noise, free field at 4 m and referred to 1 m.

The audio input shall be electronically balanced with a 10 kΩ impedance and accept a nominal 0 dBV (1.0 V rms) signal. Connector shall be XLR (A-3) type female with parallel looping male.

The internal power supply shall perform automatic voltage selection, EMI filtering, soft current turn-on, and surge suppression. Power requirements shall be nominal 100, 110, or 230 V AC line at 50 or 60 Hz. UL and CE operating voltage range shall be 100 to 240 V AC. Maximum peak current draw during burst shall be 8.0 A at 115 V AC, 4.1 A at 230 V AC, and 9.2 A at 100 V AC. Current inrush during soft turn-on shall not exceed 7.1 A at 115 V AC, 8.4 A at 230 V AC, and 7.1 A at 100 V AC. AC power connectors shall be a PowerCON with loop output.

The loudspeaker system shall provide facilities for installing Meyer Sound's optional Compass RMS remote monitoring system.

All components shall be mounted in an acoustically vented trapezoidal enclosure constructed of premium multi-ply birch with a slightly textured black finish. The enclosure shall include end plates with GuideALinks for linking units in horizontal and vertical arrays; threaded metric M10 points accommodate Meyer Sound proprietary rigging hardware. The front protective grille shall be powder-coated, hex-stamped steel with black mesh screen.

Dimensions shall be W: 16.79 in (427 mm) x H: 36.08 in (916 mm) x D: 29.30 in (744 mm). Weight shall be 147 lbs (66.68 kg).

The loudspeaker shall be the Meyer Sound JM-1P.

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JM-1P Arrayable Loudspeaker
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