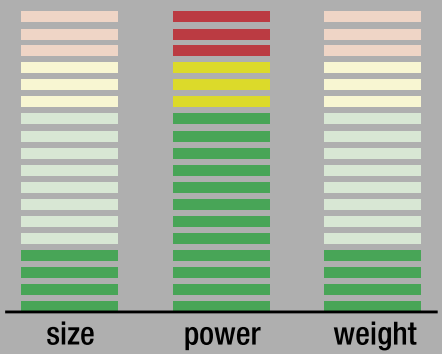


MEET

MILO

Meyer Sound®

MILO: COMPACT SIZE. SURPRISING POWER. LOW WEIGHT. IT'S JUST RIGHT…

The MILO™ high-power curvilinear array is the "light-heavyweight" entry in Meyer Sound's acclaimed M Series of self-powered line arrays. MILO is remarkably compact and lightweight for a self-contained, four-way system — particularly considering that it delivers 140 dB SPL peak output with exceptionally flat phase and frequency response. MILO contains three dedicated very-high frequency transducers that extend its operating range to 18 kHz, increase available high frequency headroom, and result in extraordinary resolution of delicate transients, even in very long throw applications.

MILO is the same width as the M3D-Sub directional subwoofer, though much smaller in other dimensions. This matched width affords seamless configuration of combined MILO/M3D-Sub arrays for extension of low frequency bandwidth and headroom. The combination also exhibits Meyer Sound's proprietary low frequency directional control, so bass energy is effectively steered away from areas behind the array.

MILO can serve as the keystone component in scalable, building block systems comprising combinations of M Series products. For example, MILO can be paired with the M3D line array for very large venue applications, or transition to M2D compact curvilinear array loudspeakers for near field coverage where appropriate. All M Series products have compatible acoustical and performance characteristics. Flexible QuickFly® rigging hardware makes it easy to create MILO-based systems for optimum performance in any medium-to-large venue.

Up to 24 MILOs (or the equivalent weight of MILOs and/or M3Ds, M3D-Subs, MG-2D multipurpose grid and M2Ds) can be suspended from a single MG-3D/M multipurpose grid and the entire array can be angled dramatically without the use of pull-back straps.

MILO's rigid cabinet is constructed from multi-ply hardwood and steel braced for long-term durability in touring applications. Sturdy rigging frames ensure ease of flying or stacking, and also keep stresses outside the enclosure. Integral power amplification and control electronics are optimally matched to transducers to maximize the power-to-size ratio.

INTEGRATED AMPLIFIER AND PROCESSING

MILO's four-channel, class AB/H power amplifier and sophisticated control circuits are all housed within the cabinet, dramatically simplifying set-up or installation. To bring a MILO system online, you simply connect AC power and line-level signal. That's it! Touring companies can quickly configure MILO arrays of various sizes to suit different venues, and do so without having to either reconfigure amplifier racks or haul in unneeded equipment because it's already in the racks. In fixed installations, there's no need to pull long runs of heavy-gauge loudspeaker cable, nor to wire and troubleshoot a room full of amplifiers and loudspeaker processors.

MILO's on-board amplifier delivers a prodigious 3935 watts total burst power. TruPower™ limiting protects the drivers and limits long-term power compression to less than 1 dB, versus 3 – 6 dB for competing systems. The modular, field-replaceable amplifier/processing package also incorporates Meyer Sound's Intelligent AC power supply, which automatically adjusts for any line voltage worldwide and provides both soft turn-on and transient protection. An RMS™ remote monitoring system interface is fitted as standard, allowing engineers to monitor and troubleshoot an entire MILO system from a remote Windows-based computer.

ADVANCED M SERIES TECHNOLOGY IN A VERSATILE NEW PACKAGE

In size and weight, MILO fits into the M Series between the M3D and the M2D, though in output power and operating frequency range it scales more closely to the M3D. MILO was designed specifically to afford more flexibility in designing high power array systems for medium-to-large venues, while at the same time reducing the time and costs associated with rigging, flying and transportation.

MILO is a four-way design, with the operating frequency range divided into the low frequency band (60 Hz – 300 Hz), the low-mid band (300 Hz – 560 Hz), the mid-high band (560 Hz – 4.2 kHz), and the very-high frequency band (4.2 kHz – 18 kHz).

Low/Low-Mid Frequencies: Power and Definition

In MILO, the low/low-mid frequencies are reproduced by 12-inch cone drivers. In the lowest frequency range, from 60 Hz to about 300 Hz, both drivers are operating in tandem for maximum power, with each driven by a dedicated amplifier channel providing 1125 watts of peak output. These drivers are a new, proprietary design incorporating neodymium magnets for higher efficiency and power handling with reduced weight. In common with all other MILO transducers, the 12-inch drivers are made in a new, state-of-the-art manufacturing facility located at Meyer Sound's Berkeley headquarters.

In the critical low-mid band, MILO utilizes a complex active crossover design to assure the smoothest possible response. Above 300 Hz, where less power is required, the crossover feeds full signal to only one of the two 12-inch drivers and rolls off the other. This ingenious technique eliminates interference between the drivers that would otherwise occur at shorter wavelengths, enabling MILO to maintain optimal polar and frequency response characteristics throughout the low and low-mid operating ranges.

Essentially, MILO divides the midrange frequencies into two bands (low-mid and mid-high), with a dedicated driver (cone and compression, respectively) assigned to each band. Because only one driver reproduces each frequency band, MILO avoids the difficulties encountered by other line array systems that attempt to reproduce the same midrange frequencies using separate, multiple cone drivers — in some cases, even cross-firing the drivers. Such techniques risk phase problems due to multiple arrivals, and cross-firing can introduce undesirable combing and lobing, even potentially modulating the high frequency signal.

Because high frequency drivers are critical to overall system performance, all compression drivers in MILO are designed and manufactured in house by Meyer Sound. Rigid manufacturing tolerances and stringent quality control ensure stable, consistent response characteristics.

Mid-high to Very-high Frequencies: Greater Output, Lower Distortion

In their designs for line arrays, most manufacturers recognize that the high frequency vertical pattern of each loudspeaker must be tightly controlled to minimize interference between units in the array. But some common solutions, such as using long waveguides to collimate compression driver output, gain the necessary control only at the cost of increased distortion.

By contrast, MILO employs two REM™ ribbon emulation manifolds for the separate mid-high and very-high frequency sections, each coupled to individual constant-directivity horns. REM is a proprietary coupling device that introduces driver output to the horn throat across a very short path (3 inches for the mid-high section and 1.5 inches for the very-high section), effectively controlling the output but with dramatically reduced distortion in comparison to other techniques.

MILO's mid-high section (560 Hz – 4.2 kHz) employs a single 1.5-inch exit, 4-inch diaphragm compression driver powered by a dedicated 560-watt amplifier channel. The very-high frequency section utilizes three 0.75-inch exit, 2-inch diaphragm compression drivers to produce extraordinary power and clarity, and also extend operating frequency range up to 18 kHz. To provide maximum system headroom, power for the very-high frequency section is supplied by a dedicated 1125-watt amplifier channel.

Two patent-pending REM ribbon emulation manifolds couple the four Meyer Sound compression drivers to the constant directivity horns. REM controls driver output and introduces it to the horn throats within the shortest possible path length, and consequently produces far less distortion than devices in other line arrays that employ longer paths.

QUICKFLY: THE FASTEST, EASIEST RIGGING SYSTEM IN CAPTIVITY

Fitted as standard, MILO's QuickFly rigging employs rugged, reliable and deceptively simple components that remain captive both in use and in transit. Custom front and rear AlignaLinks at the cabinet corners couple the units for either flying or stacking, and allow from 0˚ to 5˚ of cabinet splay adjustable in nine positions (in .5˚ increments from 0˚ to 3˚, and in 1˚ increments from 3˚ to 5˚). Because rigging connections are rigid, the array tilt is easy to adjust — often eliminating the need for a pull-back strap in flown configurations. If circumstances dictate an acute array curve, then a PBF-MILO pull-back frame can be attached to the lowest cabinet (MTB-2D/M transition bars required).

ALIGNALINK CONNECTORS

MILO utilizes unique, self-seating AlignaLinks for coupling and angling between adjacent cabinets. The front AlignaLinks provide a secure pivoting connection. The rear AlignaLinks allow swift setting of vertical array angles from 0˚ to 5˚ in nine positions.

Both types of connections use custom tapered quick release pins for speedy setup and tear down. All load stresses are transmitted through the rigging frames and associated hardware — not through the wooden cabinets.

The versatile MG-3D/M multi-purpose grid accommodates a variety of hanging configurations (multi-point support, bridles, etc.) allowing flown MILO arrays to be easily created. Up to 24 MILO loudspeakers (or the equivalent weight of MILOs, M3Ds, M3D-Subs, MG-2D and M2Ds) can be included in a single array. (MLK-3D or MLK-MILO link kit required.)

Ground stacked arrays of up to six MILOs (or the equivalent height of MILOs and M3D–Subs) can be built with minimal labor and maximum safety utilizing an inverted MG–3D/M multipurpose grid.

MILO attaches quickly and easily either above or below M3D and M3D–Sub as required. MTR–3D/M transition rails form a stable link between adjacent cabinets.

M2Ds make ideal down– and near–fill loudspeakers under MILO arrays. The MTB–2D/M transition bars connect to the MG–2D multipurpose grid to make this arrangement simple and secure.

MILO READY TO GO

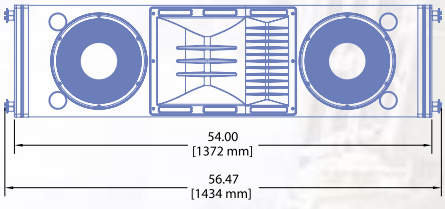
MILO is truck–smart. Exterior cabinet dimensions are ideal for both European and US truck widths. Optional custom MCF–MILO caster frames allow smooth transport of stacks of up to four MILO cabinets and facilitate the use of forklifts. A range of rugged protective transport covers is also available.

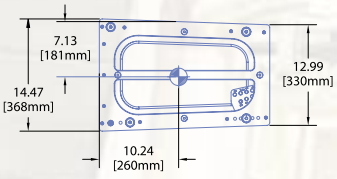
MILO SPECIFICATIONS AND DIMENSIONS

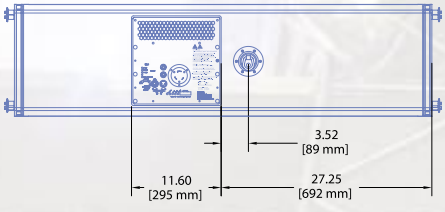
Operating Frequency Range[1]	60 Hz – 18 kHz
Free Field Frequency Response[2]	65 Hz – 17.5 kHz ±4 dB
Maximum Peak SPL	140 dB at 1 m
Coverage	High frequency: 90° Horiz. (vertical varies with array length and configuration)
Transducers: Low/Low-Mid Frequency	Two 12", 4" voice coil cone drivers with neodymium magnets, 1200 W (AES)[3]
Mid-High Frequency	One 1.5" exit, 4" diaphragm compression driver, 250 W (AES)[3] on REM
Very-High Frequency	Three 0.75" exit, 2" diaphragm compression drivers, 100 W (AES)[3] on REM
Amplifier Power	3935 W (four channels: 3 x 1125 W, 1 x 560 W)
Automatic Voltage Selection	85 – 134 V AC; 165 – 264 V AC; 50/60 Hz
Audio Connector	Female XLR input and male XLR loop output or VEAM connector (integrates AC, audio and network)
AC Connector	250 V AC NEMA L6-20 (twist lock), IEC 309 male inlet or VEAM
Max. Long-term Cont. Current Draw (>10 sec)	11.2 A rms (115 V AC); 5.6 A rms (230 V AC); 12.9 A rms (100 V AC)
Dimensions	54.00" W x 14.47" H x 22.00" D (1372 mm x 368 mm x 559 mm)
Weight	235 lbs (106.60 kg); shipping 272 lbs (123.38 kg)

NOTES:

1. *Recommended maximum operating frequency range. Dependent upon loading conditions and room acoustics.*
2. *Measured with 1/3 octave frequency resolution at 4 meters. The low-frequency power response of the system will increase according to the length of the array.*
3. *Power handling is measured under AES standard conditions: transducer driven continuously for two hours with band-limited noise signal having a 6 dB peak-average ratio.*







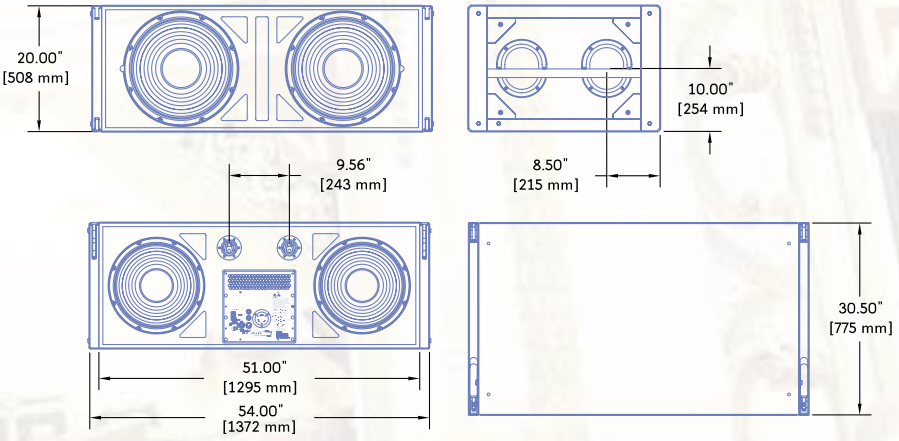
M3D-SUB SPECIFICATIONS AND DIMENSIONS

The MILO cabinet was designed with the same width as both the M3D and M3D–Sub cabinets. This facilitates easy integration of MILO in the same array with ease of rigging and assured safety.

Operating Frequency Range[1]	28 Hz – 100 Hz
Free Field Frequency Response[2]	30 Hz – 88 Hz ±4 dB
Maximum Peak SPL	140 dB at 1 m
Coverage	Horizontal: Cardioid, with active pattern control
	Vertical: Cardioid pattern varies depending on array length and configuration
Transducers: Front	Two 18", 4" voice coil cone drivers with neodymium magnets, 1200 W (AES)[3]
Rear	Two 15", 3" voice coil cone drivers, 600 W (AES)[3, 4]
Amplifier Power	3370 W (four channels: 2 x 1125 W, 2 x 560 W)
Automatic Voltage Selection	85 – 134 V AC; 165 – 264 V AC; 50/60 Hz
Audio Connector	Female XLR input and male XLR loop output or VEAM connector (VEAM integrates AC, audio & network)
AC Connector	250 V AC NEMA L6–20 (twist lock) inlet, IEC 309 male inlet or VEAM
Max. Long-term Cont. Current (>10 sec)	18 A rms (115 V AC); 9 A rms (230 V AC); 20 A rms (100 V AC)
Dimensions	54.00" W x 20.00" H x 30.50" D (1372 mm x 508 mm x 775 mm)
Weight	395 lbs (179.17 kg); shipping 480 lbs (217.70 kg)

NOTES:

1. *Recommended maximum operating frequency range. Dependent upon loading conditions and room acoustics.*
2. *Measured with 1/3 octave frequency resolution at 4 meters.*
3. *Power handling is measured under AES standard conditions: transducer driven continuously for two hours with band–limited noise signal having a 6 dB peak–average ratio.*
4. *The two rear–facing 15" drivers produce a wave front that interacts with, and is additive to, the wave front produced by the two front–facing drivers while reducing sonic energy directed from the rear of the cabinet. The resultant directional low–frequency output extends to 35 Hz, with an increase of up to 3 dB in the front and 25 dB reduction in SPL behind the cabinet.*



M SERIES: AN ARRAY OF SOLUTIONS, SCALED TO SIZE

Meyer Sound's M Series provides system designers with a fully integrated line of loudspeakers that can be scaled to fit any application, specification or budget. Like other line array systems, the M Series draws upon a well-developed foundation of familiar acoustical principles. However, only the M Series incorporates proprietary Meyer Sound technologies, along with the highest levels of precision engineering, to offer significant advantages in performance, reliability and application versatility.

M3D
M3D-SUB

M3D line array loudspeakers provide ample power reserves for the most demanding high-level applications.

M3D
MILO

Combined M3D and MILO arrays provide high power for stadium and arena-sized applications.

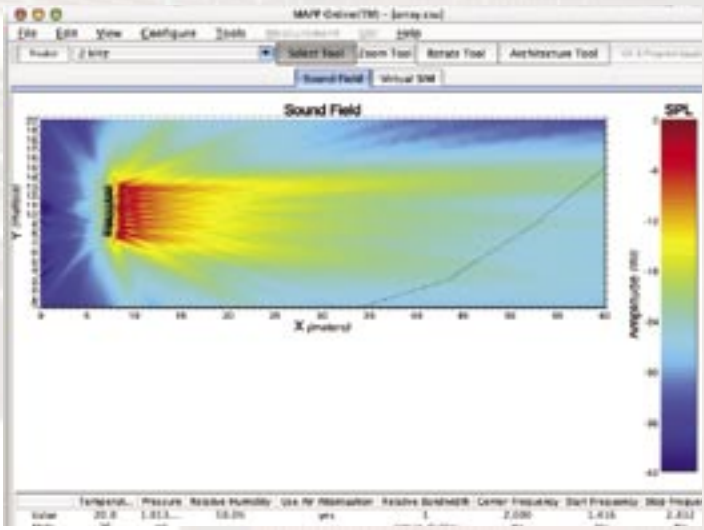
M2D-SUB
M2D

The mid-sized M2D compact curvilinear array is a perfect fit for larger theaters, houses of worship, performing arts centers, and small arenas and music festivals. M2Ds make perfect companion fill systems under M3D/MILO arrays.

M1D-SUB
M1D

When used in arrayed applications, the M1D ultra-compact curvilinear Array loudspeaker is ideal for industrial A/V, clubs, theaters and smaller houses of worship. As a single cabinet, it performs very well as a front fill and under-balcony fill loudspeaker.

MILO AND MEYER SOUND MAPP ONLINE



The Meyer Sound MAPP Online® acoustical prediction program is a powerful, cross-platform, Java-based application for accurately predicting the coverage pattern, frequency response, impulse response and maximum SPL output of single or arrayed Meyer Sound loudspeakers. It is available for free download at www.meyersound.com/mapponline.

MAPP Online is an essential design aid regardless of the application environment. Virtual arrays or loudspeaker arrangements can be quickly configured, with the resulting predictions providing an accurate assessment of how the system will perform. Optionally, the application allows users to define the environment in which systems will operate, including air temperature, pressure and humidity, as well as the location and composition of walls. In flown arrays, MAPP Online also computes how much the system will weigh and how the load will be distributed. No other manufacturer provides such a precise method of verifying system performance.

MAPP Online's Java-based application resides on the local host computer. When a prediction is requested, data are sent over the Internet to a high-powered server computer at Meyer Sound. A sophisticated acoustical prediction algorithm generates high-resolution, complex (magnitude and phase) polar data, and images of the predicted responses are then returned over the Internet for display in color on the local host computer.

With MAPP Online, you can:

- Plan an entire portable or fixed loudspeaker system and determine delay settings for fill loudspeakers
- Clearly see interactions among loudspeakers and minimize destructive interference
- Place microphones anywhere in the sound field and predict the frequency response, impulse response and sound pressure at the microphone position
- Refine your system design to provide the best coverage of the intended audience area
- Use a virtual VX-1 program equalizer to predetermine the correct control settings for best system response
- Gain valuable load information about the array to determine rigging capacities

MAPP Online is compatible with Windows, Linux and Unix, and Macintosh computers running Mac OS X version 10.1.2 or higher. MAPP Online requires Java Web Start version 1.0.1_02 (included with Mac OS X).

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