



# MINA

compact curvilinear array  
loudspeaker

thinking sound





*“MINA is a mature product focusing all of the advances we’ve made since releasing MILO — a new digital amplifier, a new manifold configuration based on the patented REM and new horn design, even improved rigging — into a package that meets the demand for high-quality sound in small spaces.”*

*– John Meyer*

## **MINA**

### **Compact Curvilinear Array Loudspeaker**

With the introduction of MILO in 2003, Meyer Sound started the most accurate, flexible, and usable family of line array products on the market. The subsequent introductions of MICA and M’elodie to the MILO family brought MILO’s renowned sonic signature, self-powering, and high power-to-size ratio to more compact packages, each time satisfying yet more applications and winning more acclaim and awards.

Now, Meyer Sound introduces MINA, the newest and smallest member of the MILO family. Just over a foot and a half long and weighing only 47 lbs yet capable of producing up to 128 dB SPL over its wide 100-degree horizontal coverage area,



MINA will find a place in a variety of applications. Its small footprint makes it an ideal curvilinear array system for low-profile, high-fidelity sound reinforcement, as well as frontfill and under-balcony applications. Installations and theatre tours, where size is a concern, can pose tough challenges to attaining excellent coverage, but MINA rises to the challenge easily. Optional weather protection, custom color cabinets and low-profile rigging pins ensure that MINA will blend into any environment to deliver even coverage and pristine sound.

## Features and Benefits

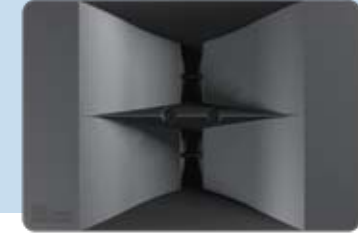
- Very small footprint and narrow width ideal for small venues or fill applications
- Exceptional fidelity and transient response for intelligibility and high impact
- Extremely high power-to-size ratio
- Flexible mounting options
- Wide and even horizontal coverage pattern
- Seamless integration with M'elodie and MICA
- QuickFly rigging with captive GuideALinks simplifies use in flown or groundstacked arrays, alone or with M'elodie and/or 500-HP subwoofer

## Applications

- Smaller theatres
- Houses of worship
- Ballrooms
- Corporate AV
- Theme parks
- Downfill or sidefill in systems using M'elodie and MICA
- Frontfill and under-balcony applications
- Touring theatrical productions



*Innovative component configuration provides great efficiency.*



*MINA's 100 degree constant-directivity horn*

*Meyer Sound's years of research in horn design are apparent in the controlled, narrow vertical dispersion of MINA's horn, which minimizes destructive high-frequency interactions between cabinets.*

## Components

MINA is a two-way system featuring Meyer Sound's new three-channel Class-D power amplifier. Each Meyer Sound-designed and -manufactured driver is powered by its own amplifier channel.

### Low/Mid-Frequency Section

MINA employs two all-new neodymium magnet 6.5-inch cone drivers with 1.5-inch voice coils designed specifically to meet the low frequency requirements of the system. The two drivers' close proximity to each other and the high frequency horn allows them to operate in parallel over their entire frequency range to obtain the greatest acoustic output. This optimal transducer placement in conjunction with sophisticated integral signal processing — including Meyer Sound's complex crossover, driver protection, and frequency and phase correction — extends MINA's remarkably consistent 100° horizontal polar pattern to below 500Hz.

### High-Frequency Section

MINA contains the same 3-inch diaphragm, 1.2-inch exit, neodymium magnet compression driver used in M'elodie to produce the MILO family's well-known smooth, extended, high-frequency response. The driver is mounted on a new acoustical combining manifold derived from the patented REM ribbon emulation manifold and is coupled to a low-distortion, 100-degree horizontal coverage, constant directivity horn. The manifold directs the driver's high output into a wave front with low distortion and radiation behavior similar to that of a ribbon driver, but with the power and durability of a compression driver. Meyer Sound's years of research in horn design are apparent in the controlled, narrow vertical dispersion of MINA's horn, which minimizes destructive high-frequency interactions between cabinets.

Standard on all M Series products, the RMS remote monitoring system makes it easy to monitor the vital performance parameters of each MINA loudspeaker in a system.



*MINA's powerful  
three-channel Class-D amplifier*

## The Self-Powered Advantage

Fifteen years ago, Meyer Sound committed to self-powering its sound reinforcement loudspeakers, having pioneered the technology since the company's earliest days. Powerful and reliable, the advantages of self-powered systems quickly became clear: no amplifier racks or loudspeaker cables, no calibration, fast setup and teardown, and efficient truck packs.

Each MINA houses a three-channel Class-D amplifier with 950 Watts of output (1900 W peak). Every Meyer Sound self-powered loudspeaker contains all processing and amplification onboard, including limiting for maximum driver life, and an Intelligent AC power supply that automatically adjusts for any line voltage internationally, protects against transients, and provides soft turn-on.

Meyer Sound loudspeakers are designed as integrated systems: drivers and electronics

are engineered from the beginning to work together. This enables us to optimize performance; eliminate the weight, truck space, and cooling needs of amplifier racks; make signal loss from long loudspeaker cable runs a thing of the past; and greatly reduce setup and teardown time by removing the need to patch and calibrate crossovers and amplifier gains.

Our designs are meticulously manufactured to strict design tolerances in Meyer Sound's Berkeley factory. This level of control enables us to achieve high degrees of consistency and reliability, which pay many benefits. Curvilinear arrays depend on consistency from element to element to achieve optimal results. Consistency also makes it easy to scale array sizes up or down as needed. Reliability means that a MINA array will keep working hard and sounding great long after it has paid itself off.



*A curvilinear array of  
8 MINA cabinets*



The MG-MINA grid can fly up to 12 MINA cabinets.



The MTF-MINA transition grid can be used to fly or groundstack MINA with M'elodie or the 500-HP subwoofer.

## QuickFly Rigging

Meyer Sound's QuickFly rigging system has led the way in safety and ease of use since its introduction, offering rigid rigging that enables smooth transport of stacks of up to five fully rigged cabinets and virtually eliminating the need for pullback cables. With captive GuideALinks, the hardware always travels with the cabinet; there is no need for any risk to fingers or hands between cabinets while rigging. The rear link of the rigging allows settings for 12 different angles from zero to 11 degrees, in one-degree increments. It all adds up to a faster and safer setup.

- The **MG-MINA** grid can fly up to 12 MINA cabinets with a 7:1 safety ratio, or 16 cabinets at a 5:1 ratio. The grid offers multiple and single center pick-up points and can also be used for groundstacking MINA.
- The **MTF-MINA** transition grid facilitates using MINA under M'elodie or the 500-HP subwoofer, or for groundstacking with the 500-HP or M'elodie.
- The **MCF-MINA** caster frame allows up to five cabinets to be transported fully rigged, and is dimensioned for tight packing in both U.S. and European trucks.
- The **MYA-MINA** mounting yoke enables arrays of up to three MINA loudspeakers to be suspended or mounted on a pole or tripod stand.
- The **MUB-MINA** can be used for a single cabinet for frontfill or under-balcony coverage, or pole mounting on a stand.

*Durable nylon covers are also available.*

## Integration

### MILO Family

MINA is an excellent choice for smaller theatres, theme parks, or other venues where size and weight are concerns. Regional sound companies will make MINA a go-to system for corporate AV jobs. But MINA also is designed to combine seamlessly with other members of the MILO family, making it a system that won't be outgrown. Though M'elodie, as the next larger MILO family member, is a natural partner, MINA performs any number of crucial fill or utility roles in the larger jobs using MICA.

### Subwoofer Integration

Low-frequency support for MINA has to have the same powerful yet precise quality exhibited by MINA itself. Meyer Sound's 500-HP compact high-power subwoofer makes the perfect complement to MINA, producing a peak SPL of 135 dB at 1 meter over its 35 Hz – 140 Hz operating frequency range.

The 500-HP is ideal when it is desirable to fly subwoofers as part of a MINA array. The MTF-MINA transition grid enables MINA to be flown beneath M'elodie or 500-HP cabinets, or groundstacked with them.

### System Control and Integration Tools

Getting the best sound requires not only the best loudspeakers, but also the best use of them. Meyer Sound supports the use of our loudspeakers with a robust set of tools for users to assure maximum performance for every event:

- **MAPP Online Pro** acoustical prediction software gives users accurate predictions of the coverage, SPL, and frequency response at any spot in a given venue.
- **Galileo** loudspeaker management system, with the Compass control software, provides all of the facilities required to drive a MINA system, including array compensation.
- The **RMS** remote monitoring system delivers extensive status and system performance data directly to the operator from every loudspeaker.
- The **SIM 3** audio analyzer, an integrated hardware and software package, provides real-time system performance analysis of an entire acoustical/electronic systems or individual electronic components.



*500-HP  
compact high-power subwoofer*



*Galileo 616  
loudspeaker management system*

*MINA**M'elodie**MICA**MILO*

## **MILO Family**

MINA comes from a heritage worth boasting about. Since the 2003 introduction of the MILO high-power curvilinear array loudspeaker, products from this family of self-powered loudspeakers have become the “gold standard” for touring and installed line array systems. Now the newest member, MINA, fills a niche by providing a very compact yet powerful package capable of integrating easily with its sibling M'elodie, yet strong enough to stand alone in smaller theatres, houses of worship, ballrooms and corporate AV situations by effortlessly producing up to 128 dB SPL over its wide 100-degree horizontal coverage area.

Featuring drivers and acoustical combining manifolds designed and built by Meyer Sound, all MILO family loudspeakers seamlessly integrate in virtually any combination. Each of these loudspeakers represents a complete solution for fixed installations of any size, and total flexibility for touring or rental applications. Even as the system configuration changes in every show, MILO family loudspeakers can provide the same sound quality as the show before.

With six distinct variations on a successful theme, the MILO family offers a comprehensive solution that allows every audience member to enjoy the power and transparency of MILO in venues of any size.

## Manufacturing Without Compromise

Since its founding, Meyer Sound has been devoted to meeting the needs of sound professionals with the finest products available, the industry's most extensive and knowledgeable customer support, and high-level technical education.

Meyer Sound products are made at its factory in Berkeley, California, where every aspect of manufacturing is supervised and controlled directly by John Meyer and senior engineering and production staff. This constant interaction allows Meyer Sound to continuously analyze production methods and implement improvements immediately.

Consistency is paramount at Meyer Sound, and it can only be guaranteed by exhaustive quality control, including thorough and repeated testing from incoming parts to assembled components, to complete systems. The performance of every unit is individually tested against the reference unit to match precise design specifications. Resulting enclosures are rugged enough to tour the globe with top-name artists and brave treacherous weather conditions in outdoor installations. All Meyer Sound products, including the Cinema Experience systems, carry a three-year warranty.

With our attention to the minutest detail in the manufacturing processes, Meyer Sound guarantees that each product will perform the way it was designed to operate, reproducing soundtracks exactly as the director intended audiences to hear them.



## Preliminary Specifications

### ACOUSTICAL

Operating frequency range <sup>1</sup>	70 Hz –18 kHz
Maximum peak SPL <sup>2</sup>	128 dB
Horizontal coverage	100°
Vertical coverage	Varies, depending on array length and configuration

### TRANSDUCERS

Low/low-mid frequency	Two 6.5" cone drivers with neodymium magnets Nominal impedance: 4 $\Omega$ Voice coil size: 1.5"
High frequency <sup>3</sup>	3" compression driver Nominal impedance: 8 $\Omega$ Voice coil size: 3" Diaphragm size: 3" Exit size: 1.2"

### AUDIO INPUT

Type	Differential, electronically balanced
Connectors	Female XLR input with male XLR loop output
Input impedance	10 k $\Omega$ differential between pins 2 and 3
Wiring	Pin 1: Chassis/earth through 220 k $\Omega$ , 1000 pF, 15 V clamp network to provide virtual ground lift at audio frequencies Pin 2: Signal + Pin 3: Signal – Case: Earth ground and chassis
Nominal input sensitivity	0 dB V (1 V rms, 1.4 V pk) continuous is typically the onset of limiting for noise and music.
Input level	Audio source must be capable of producing +20 dBV (10 V rms, 14 V pk) into 600 $\Omega$ in order to produce maximum peak SPL over the operating bandwidth of the loudspeaker

### AMPLIFIERS

Amplifier type	Three-channel class D amplifier
Output power <sup>4</sup>	950 W (three channels; 2 x 380 W, 1 x 190 W); 1900 W peak
THD, IM TIM	< .02%
Load capacity	4 $\Omega$ low and mid; 8 $\Omega$ high channel
Cooling	Convection cooled

### AC POWER

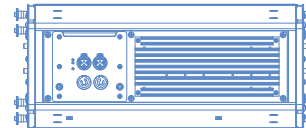
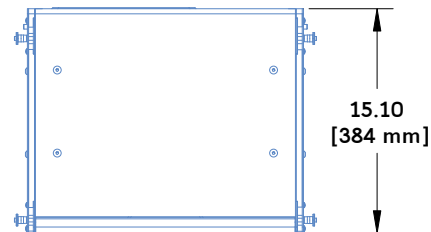
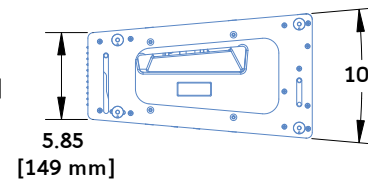
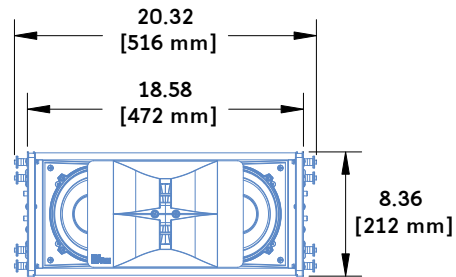
AC power connector	PowerCon with looping output
Voltage selection	Automatic
Safety agency rated operating voltage	100 V AC –240 V AC, 50/60 Hz
Turn on/turn off points	90 V AC –264 V AC, 50/60 Hz
Avg Current Draw	3 A rms (115 V AC), 1.5 A rms (230 V AC), 3.5 A rms (100 V AC)

**RMS NETWORK**

Equipped with two-conductor twisted-pair network, reporting all operating parameters of amplifiers to system operator's host computer.

**PHYSICAL**

<b>Enclosure</b>	Premium birch plywood
<b>Finish</b>	Black textured
<b>Protective grille</b>	Powder-coated, hex-stamped steel, black mesh
<b>Rigging</b>	QuickFly rigging with four captive GuideALinks in the bottom corners of two end frames, secured with quick-release pins
<b>Dimensions</b>	18.58" w x 8.36" h x 15.1" d (472 mm x 212 mm x 384 mm)
<b>Weight</b>	47 lbs (21.32 kg)



- 1 Recommended maximum operating frequency range. Response depends upon loading conditions and room acoustics.
- 2 Free field, calculated referred to 1 meter.
- 3 The driver is coupled to a 100-degree-horizontal constant-directivity horn through a proprietary acoustical combining manifold
- 4 Amplifier wattage rating based on the maximum unclipped burst sine-wave rms voltage that the amplifier will produce for at least 0.5 seconds into the nominal load impedance: 39 V rms. Peak power based on the maximum unclipped peak voltage that the amplifier will produce for at least 100 milliseconds into the nominal load impedance: 55 V peak.

# MINA

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loudspeaker



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