FORSYTHE SERIES

MS63 & MS103

Ultimate Fidelity Nearfield Systems

STUDIO MONITOR PERFORMANCE IN A RUGGED, RELIABLE INDUSTRIAL SYSTEM

Over years of research into the problems of high level reproduction in the near field, EAW Director of Engineering Kenton G. Forsythe became increasingly critical of the myth that studio monitoring and sound reinforcement are incompatible. The MS103 and MS63 stand as proof that a highly refined speaker system can also be totally reliable. From their extensive design innovations to the advanced materials used to carry them out, these speakers break new ground. At the same time, they follow established EAW design principles—principles that have proven their effectiveness around the world in the most demanding applications.

EAW

EASTERN ACOUSTIC WORKS, INC. One Main Street, Whitinsville, MA 01588 ▪ (508) 234 - 6158 ▪ FAX (508) 234 - 8251

True Three-Way Design

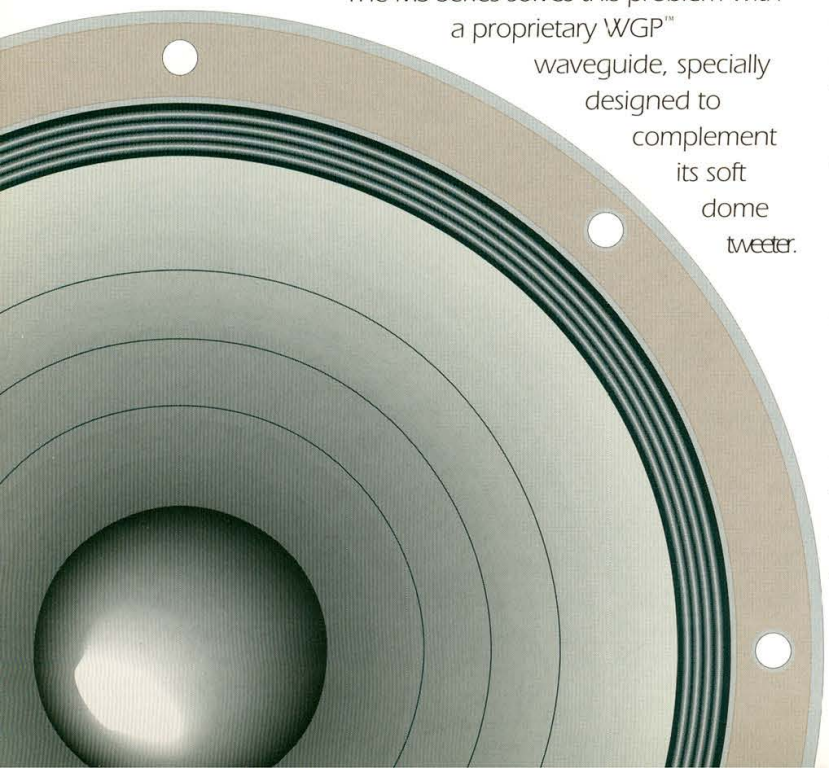
A surprising number of monitors and other high output systems use only a cone and a compression driver/horn. The critical midrange frequencies are then divided between these two very different drivers. The problems inherent in this 50-year-old design—excessive distortion, radical changes in directivity and power response, phase and amplitude anomalies in the crossover region—can be mitigated, but never eliminated.

True three-way systems are a fundamental tenet of the EAW design philosophy because they can be designed without the shortcomings listed above. Superior performance has made EAW three-way systems the choice of the Metropolitan Opera, the Boston Symphony, the New York Philharmonic and other demanding performance organizations. Specialized precision transducers, uncompromising execution quality, and painstaking attention to critical details make the MS Series the definitive statement of the true three-way concept.

Spectrally Balanced Soundfield

Two-way systems can be made to produce a flat frequency response on-axis. Despite this, power response (the total energy radiated from the device) is usually extremely nonlinear. Typically, the worst anomalies appear around the mid-high crossover, due to the transition from the upper limit of the cone's usable response, where dispersion is narrow, to the lower limit of the tweeter's operating range, where dispersion is widest.

The MS Series solves this problem with a proprietary WGP™ waveguide, specially designed to complement its soft dome tweeter.



The WGP™ maintains dispersion at a consistent 100° above 500 Hz. The sound arriving at reflective surfaces has the same spectral balance as the direct sound, just as it would in an unamplified live performance. Power response closely matches on-axis response, producing stunningly natural reproduction.

Advanced Low-Distortion Driver Technology

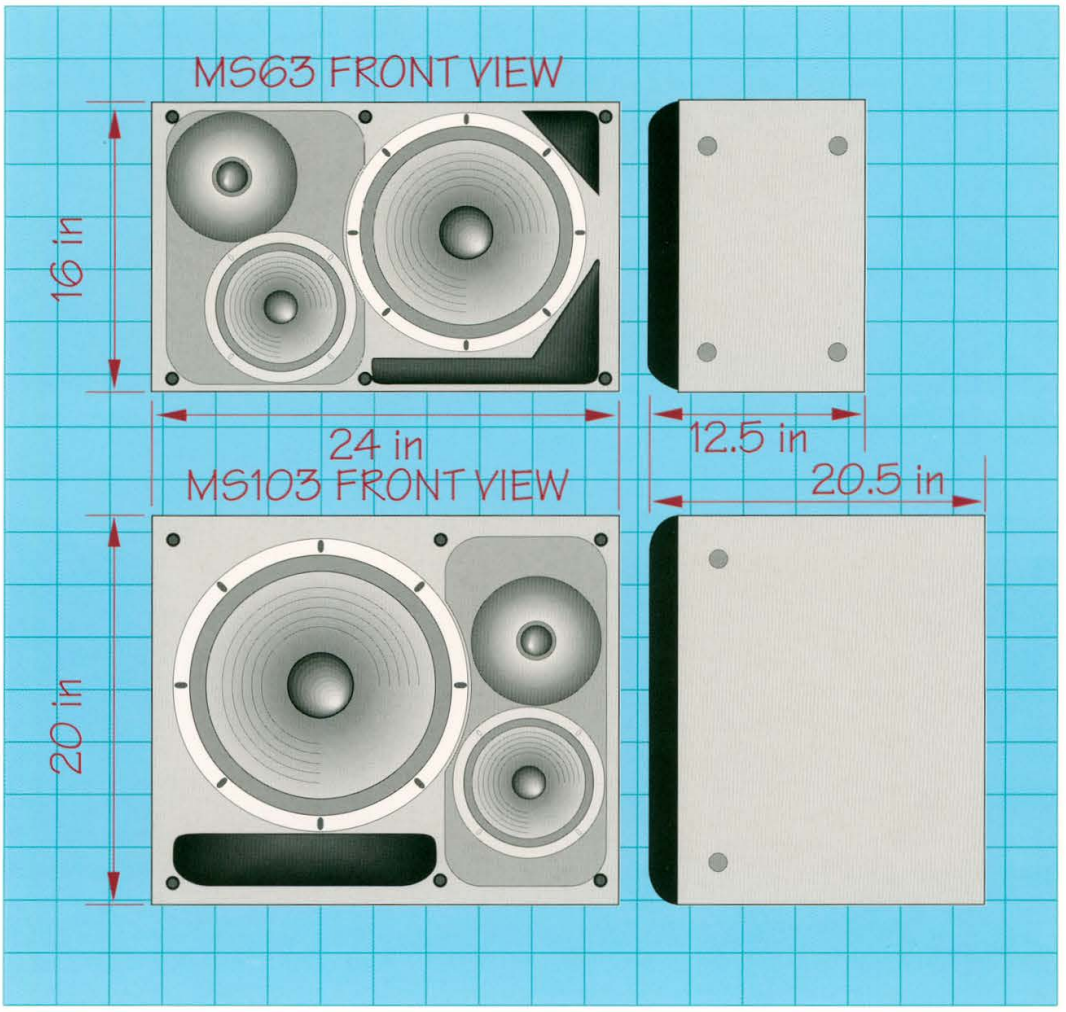
The MS103's 15" woofer and the MS 63's 12" woofer are coupled with a 6" carbon fiber midrange driver and soft dome tweeter. Exceptionally stiff, carbon fiber functions as a true piston for minimal distortion, even at maximum output levels. Its low mass responds to transients with pinpoint accuracy.

A soft dome tweeter was chosen for the high frequencies because soft domes exhibit higher internal damping and lower inherent ringing than metal domes. These characteristics produce accurate HF response without ear-fatiguing "sizzle" from the bell mode resonances common in metal domes.

Optimized Enclosures

MS Series cabinets are as rigorously engineered as every other element of the system. High-strength materials and precision construction techniques contribute to their durability, while helping to eliminate cabinet resonances. Minimum-diffraction baffles, midrange and high frequency sub-enclosures, mirror image cabinet pairs and optimized woofer vents are all employed to maximize overall performance. MS Series enclosures incorporate integral hanging hardware for safe and easy installation.

Complex Asymmetrical Crossovers

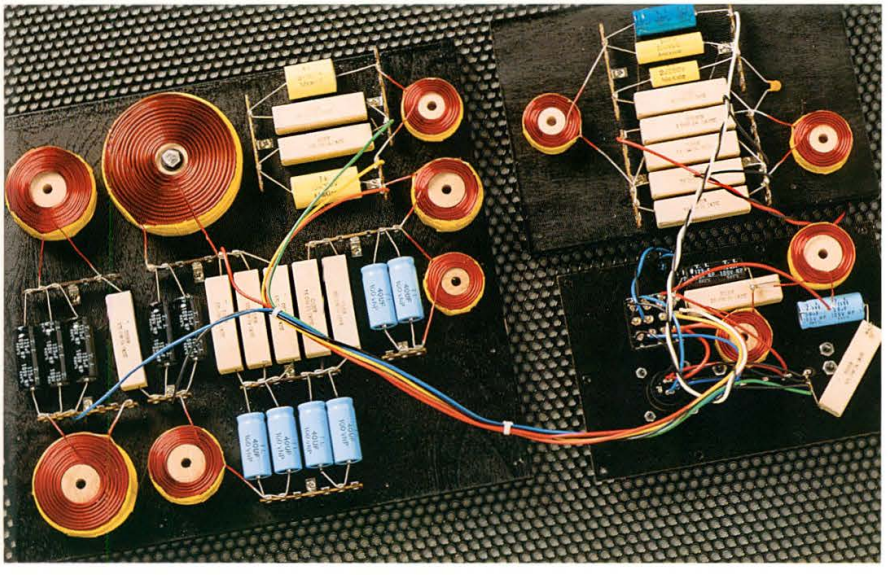


The MS 103 and MS 63 employ fourth-order 24 dB/octave crossovers. The ultimate fourth order slope is created by a pair of second-order 12 dB/octave filters: Both pairs of second order filters are fine-tuned independently. These complex asymmetrical filters compensate for the acoustical responses of individual elements.

For the highest possible output and sonic accuracy, the MS103 is optimized for bi-amplification using a special version of the MX200i or MX300i CCEP™ signal processing unit. Closely Coupled Electronic Processing™ allows further refinement of the crossover function, including phase-compensation delay to optimize coherent summing at the crossover point.

Massive Acoustic Output

Despite their many sonic refinements, MS Series systems are capable of satisfying the most demanding professional applications. The MS63 is capable of 121 dB at one meter, while the MS103 can generate SPLs of 123 dB at one meter.



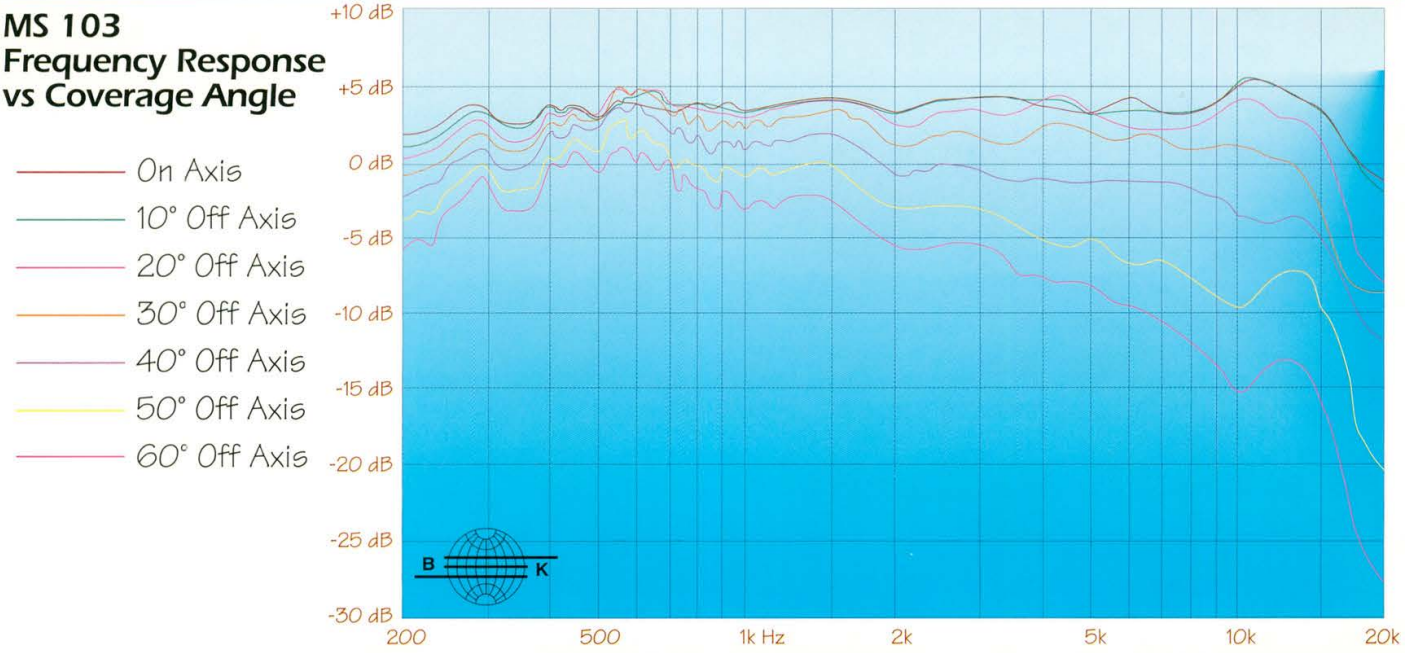
Applications

Conventional thinking says that a single speaker system design can never satisfy both the recording engineer and the acoustical consultant. Naturally, there's nothing conventional about the MS Series. EAW's uncompromising quest for ultimate fidelity at high SPLs has produced an unprecedented combination—high output capability and long-term reliability along with the low distortion, balanced reproduction and high definition of European studio monitoring systems. These characteristics make the MS Series ideal for short to medium throw environments including concert halls, clubs, film and video dubbing stages and mixdown facilities, recording studio control rooms and mobile audio production facilities.

Specifications

Model	MS63	MS103
Frequency Response		
Axial ±3 dB:	50 Hz to 19k Hz	40 Hz to 19k Hz
LF Limit -3 dB:	49 Hz	40 Hz
LF Limit -10 dB:	38 Hz	30 Hz
Efficiency Axial Sensitivity		
SPL 1w @ 1m:	95 dB SPL	95 dB SPL
1/2 Space Efficiency:	2.0%	2.2%
Power Handling		
AES Standard:	400 watts	700 watts
100 Hr Sine Wave:	200 watts	350 watts
Nominal Impedance:	4 ohms	4 ohms
Maximum Output		
SPL (peak):	121 dB SPL	123 dB SPL
SPL (long term):	118 dB SPL	120 dB SPL
1/2 Space (peak):	8 acoustic watts	15 acoustic watts
Total Harmonic Distortion (105 db SPL):	<1% 200-6k Hz, <.3% 400-3k Hz	<1% 200-6k Hz, <.3% 400-3k Hz
Nominal Coverage Angles (-6dB)		
Horizontal:	100 degrees	100 degrees
Vertical:	100 degrees	100 degrees
Additional Data		
LF Subsystem:	1x 12-in Vented	1x 15-in Vented
MF Subsystem:	7-in Carbon Fiber Cone	7-in Carbon Fiber Cone
HF Subsystem:	33mm Dome WGP™	33mm Dome WGP™
Excess Power Protection:	PTC Circuit on HF	PTC Circuit on HF
Crossover Mode:	Fourth Order Passive	Fourth Order Passive
Finish:	Black Catalyzed Polyurethane	Black Catalyzed Polyurethane
Input Termination:	NL4 & Barrier Strip	NL4 & Barrier Strip
Grill:	Black Cloth	Black Cloth
Dimensions & Weights		
Height:	16 in (406.4 mm)	20 in (508 mm)
Width:	24 in (609.6 mm)	24 in (609.6 mm)
Depth:	12.5 in (317.5 mm)	20.5 in (520.7 mm)
Weight:	87 lbs (39.5 kg)	103 lbs (46.8 kg)

MS 103 Frequency Response vs Coverage Angle



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