
MS-50

Studio Reference Monitor



System Features Compact Size:

Fits in standard EIA 19" rack

Exceptionally Uniform Response

from 39-22,000 Hz \pm 3dB

High Acoustic Output

102.5 dB @ 1 meter (9.75 feet)

Magnetic Damping Fluid

For maximum heat/power dissipation

Dynamic Damping in the Voice Coil

For low distortion during long cone excursions

Design

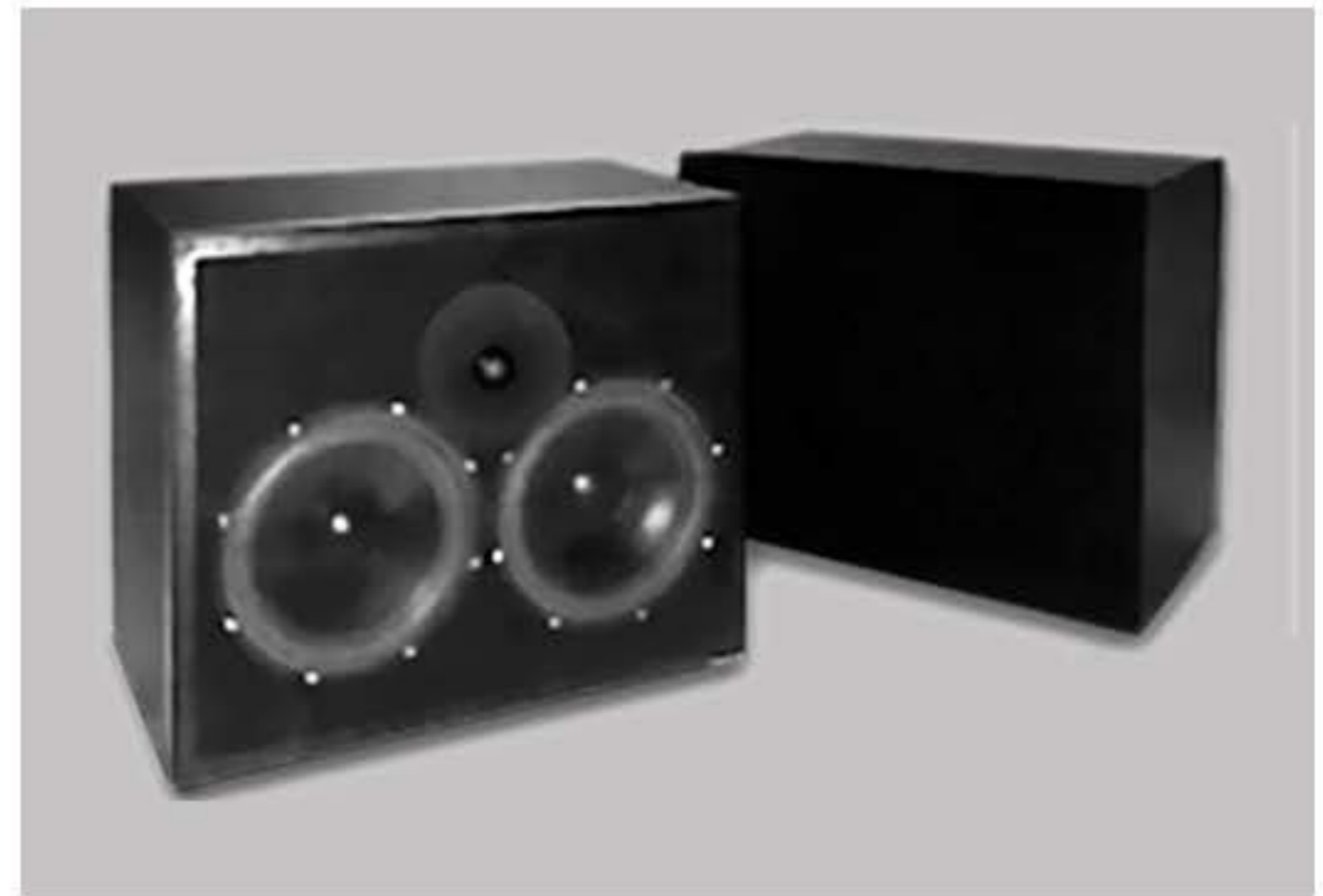
The MS-50 reference monitor system is designed to offer high acoustic output combined with accurate reproduction, in a compact package. It is ideal for use in radio or television studios, mobile recording, near field studio, or any other critical listening application where space is limited. The MS-50 delivers higher acoustic output than other, similar size systems, in addition to achieving flatter amplitude response than other "reference monitors". It is a surprisingly efficient system, yet it is capable of handling up to 120 watts program or 60 watts RMS with ease. Distortion is lower than that of even the finest of the systems presently available. Beautifully conceived ... Remarkably affordable.

Construction

The Eastern Acoustic Works MS-50 is designed with painstaking attention to detail because reliability is so critical in demanding professional applications. Its appearance might lead one to believe that it is a simple two way system, but the cabinet contains very little that could be viewed as commonplace.

The Low Frequency Driver

The 210 mm. (8") bass driver utilizes a unique poly-laminated cone with improved rigidity in order to eliminate undesirable high frequency information, and to lower distortion by decreasing Bell-mode resonances (different parts of the cone resonating out of phase). One of the more interesting and innovative features of our system is the use of a Dynamic Damping voice coil in the woofer. Conventional vented systems exhibit rising distortion in proportion to increasing cone travel, because the voice coil has a tendency to lose control as it leaves the gap. By placing additional voice coil turns above and below the active coil, we are able to simulate the acoustic damping present in sealed box systems.



Acoustically coupled to the cast frame woofer is another 2 10 mm. auxiliary bass radiator which functions as a port substitute, and facilitates lower response and higher efficiency than that of other systems.

The High Frequency Driver

Our 26 mm. (1 ") dome tweeter exhibits exceptionally high power handling capacity as a result of precise thermal design. Magnetic damping fluid serves as a heat sink for the voice coil, as it also eliminates cavity resonances for a smoother response. The massive magnet assembly utilizes special machining for precise focusing of all energy at the voice coil, achieving over 18,000 Gauss in the gap. This results in an even more extended high frequency response. Excellent dispersion is derived from careful contouring of the dome crosssection. The increased thermal capacity in addition to uniformly smooth and well dispersed response results in a tweeter of exceptional reliability and sonic quality.

The Crossover

In addition to using the finest drivers, we've designed the most sophisticated crossover available in a compact monitor. Design parameters were mathematically calculated, and then, continuously adjusted during an extensive listening evaluation. The crossover was then subjected to precision acoustic measurement. The resulting network is based on a third order (18 dB per octave) filter that achieves precise phase matching, and is specially compensated for the woofer and tweeter responses and their interactions, thus allowing for imperceptible transition in the crossover region.

All capacitors are custom manufactured to the highest standards. They exhibit exceptionally low loss,

extended frequency response, excellent surge capacity and very long life.

The inductors are air-core type, hand wound in house, of unusually heavy wire for minimal loss and exceptionally high power handling.

Each component in the crossover is matched to within 3% of the original design values.

This crossover, the heart of the MS-50, is unexcelled in quality and craftsmanship: Indicative of the attention to detail during the design and manufacturing of this system. We've also designed an acoustic contour control, in the mid-range, and a high frequency level control which allow for maximum flexibility in adjustment of the monitor for any of the possible acoustic environments in which it might be used.

Cabinet and Grille

The cabinet which houses the MS-50 is constructed of a special high-density material, with walnut veneers on both sides to prevent warpage and to reduce resonances. This material, combined with a network of internal bracing and acoustic damping materials, results in a virtually resonance free enclosure. The front baffle is -routed out to allow the drivers to sit flush. Then, a specially developed foam is placed on the baffle to eliminate re-radiated high frequency energy. The result much smoother response than otherwise attainable. The grille frame is made of rounded pieces which prevent reflections back onto the baffle. As a finishing touch, the acoustically transparent, black grille complements the hand rubbed, oiled walnut finish.

Our Philosophy

At Eastern Acoustic Works, we're proud of the state of the art products which we've designed and manufactured. Our attention to detail, combined with the very best technical skills available, allow us to manufacture products which set new industry standards, are reasonable in price, and which will last for a long time, even under the most demanding conditions. Innovations which are useful and practical have led to the development of the MS-50; the best compact reference monitor available anywhere.

Specifications

Nominal response	3dB, 39 Hz to	22 kHz
olar response Q(L)	3dB	- 6dB
300	12kHz	17kHz
600	8kHz	10kHz
Sensitivity	90dB for 1 watt at 1 meter	
Power Handling		
Sine wave	60 watts RMS	
Program	120 watts	
Max. sound pressure level g	1 meter	3 meters
Continuous	109 dB	99.5 dB
Program	112 dB	102.5 dB
Nominal impedance	8 ohms	
Crossover frequency	2,500 Hz, 18 dB per octave	
Driver specifications	LF driver	HF driver
Nominal diameter	210 mm. (8")	26 mm. (1")
Effective diaphragm area	230 cm.	7 cm.
Voice coil diameter	39 mm.	26 mm.
Flux density	10,000 Gauss	18,000 Gauss
Enclosure type;	Vented/ABR	
Enclosure volume:	41.5 liters	
Dimensions:	19"w x 153/4" x 121/2"d	



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