

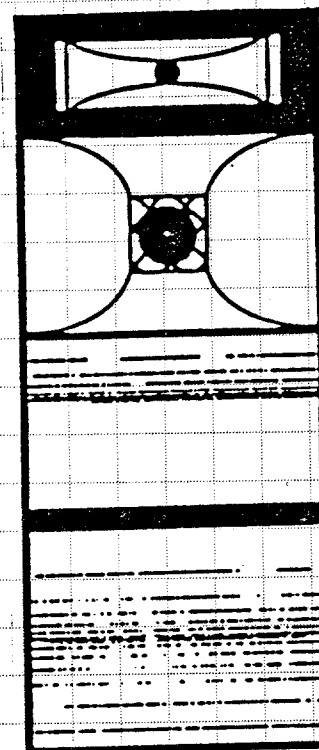
INDUSTRIAL "ONE BOX" FULL RANGE LOUDSPEAKER SYSTEM

INTRODUCTION

The EAW JF-500 is designed to duplicate the smooth response, low distortion and wide dynamic capabilities of EAW's famous horn loaded component systems, in a compact portable flexible "one box" package. It is intended for use in high level sound reinforcement, high level playback, motion picture sound and performing arts applications where clean sound over the 50 Hz to 18,000 Hz region with good directivity and output are required.

DESCRIPTION

This system consists of three horn/driver sub-systems fully integrated (acoustically and physically) into one package for coherent full bandwidth reproduction and simplicity of transport and set-up. The use of true horns over the entire bandwidth provides lower harmonic and modulation distortion, higher efficiency and better control of directivity and coverage angle than any direct radiating system, resulting in continuous output of over 127 dB SPL at 1 meter with the directivity needed to articulation in medium to long throw "semi-reverberant" environments. The JF-500 also offers considerably smoother frequency response than comparable horn systems, ± 2.5 dB 80 to 14k Hz for naturalness in reproduction previously only associated with nearfield hifi systems.



The system will operate in bi-amplified or tri-amplified mode selected by a rear panel switch and internal passive crossover between the MF and HF sections, for maximum versatility in powering configurations. The enclosure is road-ready, offering unsurpassed durability that is characteristic of all EAW sound reinforcement systems. Packaging features include 18 ply to the inch hardwood surfaces, recessed handles, steel driver protection, catalyzed polyurethane chemical finish and optional aircraft type hardware for hanging.

LOW FREQUENCY SECTION

The Forsythe design bent bass horn provides precise loading for the 380 mm (15 in) L15/554 bass driver. This design allows a very low flare rate and long horn length in a compact box, without the discontinuities in impedance loading characteristics of a folded horn. The small mouth area of a single JF-500 creates a shelving in response, -3 dB at 80 Hz and -10 dB at 50 Hz, but when multiple JF-500's are used in array (of four units) the low flare rate provides smooth response down (3 dB) to 50 Hz and -10 dB at 42 Hz. The sensitivity and directivity of this bass horn is significantly better than any vented system using multiple 15 or 18 inch drivers.

MID FREQUENCY SECTION

The constant horizontal coverage horn with integral displacement plug provides increased directivity and efficiency to the specially developed L10/539 250mm (10 in) mid-bass driver. This combination does not suffer from the poor off axis response of simple horn and direct radiating mid-bass systems. The large diaphragm and throat area of this reproducer provides considerably lower distortion than even the largest compression drivers. The smooth response on and off axis combined with the low distortion remove the characteristic "honk" of high output systems.

HIGH FREQUENCY SECTION

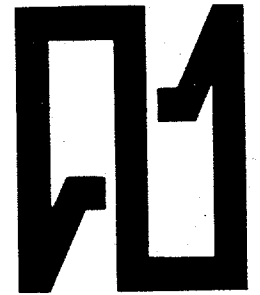
The high frequencies of the JF-500 are provided by the H-3709 and N-480 offering smooth response and even coverage up to 18,000 Hz. The N-480's composite diaphragm offers durability unequalled by any metal diaphragm and is easily replaceable in the unlikely event of a failure. The internal passive network provides the additional protection of an 18 dB per octave slope in the bi-amplified mode and 6 dB per octave additional protection to the external crossover in the tri-amplified mode.

POWER HANDLING

EAW uses the most conservative method of rating power handling in the loudspeaker industry, 100 hours sine wave swept over the operating range of the system. This test is considerably more demanding than the EIA noise tests. We include a EIA figure on our specification sheets for reference and even in our EAW specifications. The program spec is conservative. The program spec is an indication of the short term power handling capabilities of the driver or system. A system can be used safely with an amplifier capable of producing the program rating with low distortion provided that it is not driven into clipping.

SPECIFICATIONS

Frequency Response	50 Hz to 18,000 Hz
Single Unit	+10 dB; -2.5 dB
Quad Array	-10 dB; +3 dB
Sensitivity	105 dB SPL 1w 1m
System	105 dB SPL 1w 1m
LF Unit	105 dB SPL 1w 1m
MF Unit	105 dB SPL 1w 1m
HF Unit	105 dB SPL 1w 1m
Maximum Acoustic Output (Half Space)	
Single Unit	60 acoustic watts
Quad Array	240 acoustic watts
Power Handling Capacity	
Bi-amplified Mode	Sine Wave
50 to 300 Hz	200w rms
300 to 18k Hz	100w rms
Tri-amplified Mode	
50 to 300 Hz	200w rms
300 to 1.4k Hz	100w rms
1.4k to 18k Hz	50w rms
Nominal Beamwidth	
Horizontal	100 degrees
Vertical	50 degrees
Nominal Directivity Factor	Q = 14
Drive Components	
Model	Diameter
LF: L15/554 (L1F384)	380mm (15 in)
MF: L10/539	250mm (10 in)
HF: N-480	45mm (1.75 in)
Crossover Frequencies	
High Pass	40 Hz 18 dB per octave
LF/MF	300 Hz 18 dB per octave
MF/HF	1,400 Hz 18 dB per octave
Nominal Impedance	
LF	8 ohms
MF	8 ohms
HF	12 ohms
Dimensions	
Height	1270 mm (50 in)
Width	622 mm (24.5 in)
Depth	750 mm (29.5 in)
Enclosure Material	Cross Grain Laminated Birch Hardwood
Enclosure Finish	Catalyzed polyurethane Chemical Coating
Program	
500w	
250w	
300w	
250w	
150w	
90w	
Voice Coil Diameter	
100mm (4 in)	
45mm (1.75 in)	
45mm (1.75 in)	



**EASTERN
ACOUSTIC
WORKS**

59 Fountain Street, Box 111, Framingham, MA 01701 (617) 620-1478