

# BH-500-LR

380 mm (15 inch)

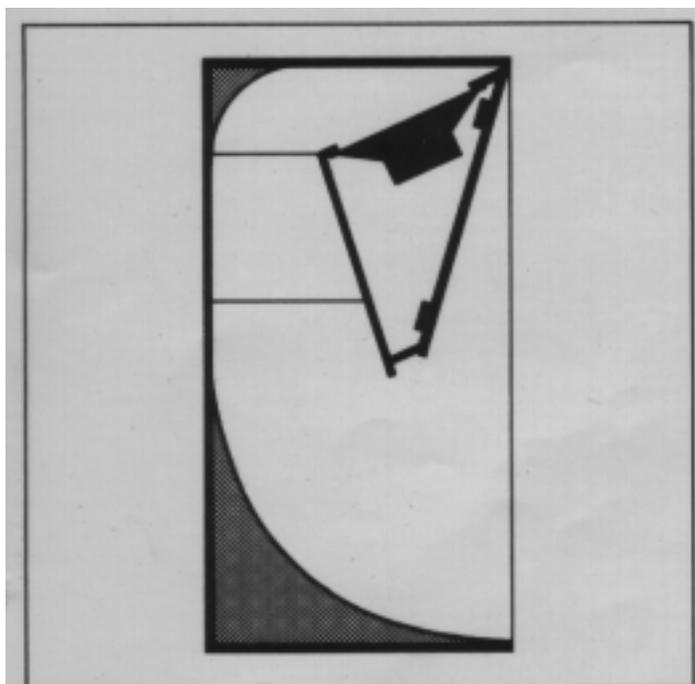
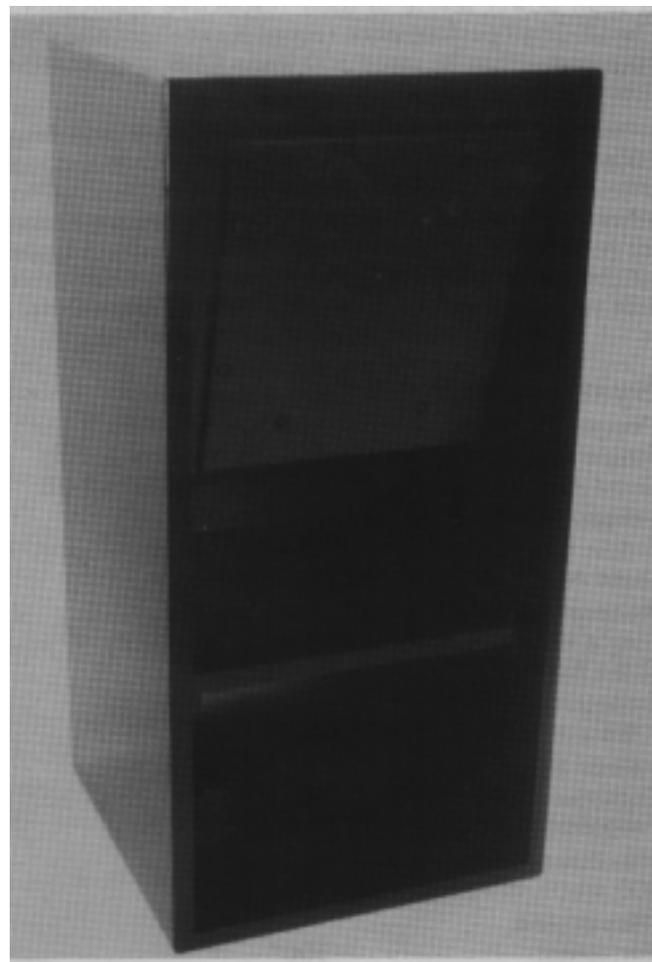
Bent Horn Bass Reproducer



The **BH-500-LR** is designed to offer the advantages of low frequency horn loading in a package compact and durable enough for portable applications, at a price making it cost effective for even the smallest high output systems. The dramatic improvements of a true horn loaded system are realized in the BH-500's performance including: high efficiency, wide dynamic range, improved pattern control and unsurpassed transient response. True horn loading reduces the excursion required by the woofer for a given output level, effectively reducing distortion and increasing overall power handling. The BH-500-LR brings these advanced performance features to smaller systems which have previously used quasi-horns or vented boxes because the size and cost of a true bass horn was prohibitive.

## Description

The BH-500-LR is a mathematically correct, bent, exponential bass horn, using proprietary construction techniques to offer ideal sonic performance in high output applications. The bent horn design eliminates the performance compromises that plague most of the folded or straight horn designs used by competitors. It is extremely difficult to build a true bass horn out of wood that maintains acoustical integrity and is also non resonant. Design integrity is often compromised by home constructors and competitors to simplify construction, thereby creating a finished unit with unacceptable resonances and response problems. EAW has solved this problem by using a proprietary tech



Cross-section of BH-500-LR, side view.

nique of reinforcing a thin layer of laminated birch hardwood with injected high density polyurethane foam. The result is our ability to produce a complex exponential horn cross section down to the critical throat area with complete mechanical and acoustical integrity. This process results in a horn structure which is vastly superior in rigidity, complexity and durability to those constructed of wood, fiberglass and wood combinations.

The BH-500 also features a very low flare rate of 40 Hz which is considerably better than typical theater type horns which have a flare rate of 100 to 150 Hz. Additionally the mouth area is as large as possible, effectively the entire cabinet frontal area and 30% to 50% larger than theater horns. The resulting product sets new standards for smooth deep response at high sound pressure levels in a portable package. The BH500-LR offers as much as 8 dB more output in the 60 Hz to 120 Hz region than vented horn designs and will outperform folded horns in response linearity and high frequency bandwidth.

## Driver Complement

The BH-500 is normally supplied, and functions most effectively, with the EAW/RCF LF-384R driver designed for it. Each EAW product is designed as an integrated system, and the selection of driver parameters is optimized for the intended system use. The EAW/RCF LF-384R drivers, like all RCF professional drivers, are not merely upgraded PA drivers but are engineered from the frame upward to perform reliably at high power levels in their respective applications. The LF-384R performance record is excellent and when operated within its rated 300 watts RMS specification, field failure probability is essentially zero.

The massive magnetic structure and large 100mm (4") voice coil maintain low distortion and high efficiency even under demanding continuous high power applications. The design parameters are aligned for horn loading use making this driver offer a higher efficiency than any other commercially available driver able to reproduce low distortion bass below 100 Hz.

## System Specifications

### Frequency Response

Single Unit: 55 Hz to 600 Hz  $\pm$  3 dB

Quad Array: 48 Hz to 300 Hz  $\pm$  3 dB

### Lowest Usable Frequency

Single Unit: 50 Hz - 10 dB

Quad Array: 40 Hz - 10 dB

### Recommended Crossover Frequency

Single Unit: 250 to 600 Hz

Quad Array: 250 to 300 Hz

### Sensitivity

1 Watt at 1 Meter: 107 dB SPL

### Power Handling

Continuous Sine Wave: 300 w RMS

Program: 500 w

### Maximum Output

300 Watts at 1 Meter: 131 dB SPL

### Dispersion

Horizontal: 1000

Vertical: 500

Horn Flare Rate: 40 Hz



## Driver Specifications

<b>Type:</b>	EAW/RCF LF-384-R
<b>Nominal Diameter:</b>	380mm (15")
<b>Nominal Impedance:</b>	8 ohms
<b>Voice Coil Diameter:</b>	100mm (4")
<b>Flux Density:</b>	11,000 Gauss (I. I. Telsa)

## Cabinet Specifications

<b>Cabinet Material:</b>	18 plies to the inch, cross grain-laminated birch hardwood, all voids filled with high density polyurethane foam.
<b>Cabinet Finish:</b>	Catalyzed black Polyurethane
<b>Input Connectors:</b>	Dual 1/4 inch phone jacks, banana plugs
<b>Cabinet Dimensions:</b>	Height: 1,276mm (50.25") Width: 625mm (24.63") Depth: 625mm (24.63")
<b>Weight, with Driver:</b>	129.8 lbs.