FR-100 Compact Two-Way Full-Range Loudspeaker System

Application

This high performance loudspeaker system is ideally suited for club or lounge sound reinforcement. Its wide dispersion gives it excellent near-field coverage and its wide audio bandwidth makes it possible for many types of venues to be served by a single pair of FR-100s.

For extremely high-level playback requirements, the FR-100 may be combined with the EAW SB-200-LC or SB-600LC for disco or distributed sound reinforcement systems. The FR-100 is designed as a step-up in performance from the widely advertised multiple driver systems sold at a competitive price through music stores.

Qualitatively, the FR-100 provides an uncolored, moderately efficient alternative to the honky-sounding, hornbased systems often specified for full-bandwidth wide-dispersion applications.

Description

The FR-100 system combines a rugged, cast-frame 300 mm bass driver with a 52 mm mid/tweeter installed in an enclosure optimally vented to provide low frequency response to the 40 Hz region. The cabinet is sufficiently small to permit unobtrusive placement on a club stage. Two FR-100s will easily fit into the back seat of a compact car.

Mid /high Frequency Driver

The FR-100 uses the MR-52 wide-dispersion dome driver to produce a smooth response into a solid angle, which is audibly superior to systems using multiple drivers or horns. The MR-52 mid/high driver uses a huge magnet structure that provides a 17,500 Gauss flux density in the gap. This magnetic circuit, when combined with the high stiffness and low mass of the dome, delivers both high SPLs and excellent transient response at low distortion.

Low Frequency Driver

The **FR-100's bass driver is equally** impressive. A massive, cast aluminum frame maintains component alignment in the gap and eliminates flexion. Cone resonance, cone mass and stiffness have been carefully designed to provide flat low-frequency response to below 50 Hz. A vented pole piece allows rapid heat dissipation from the 70 mm voice coil so the system may be operated continuously at its maximum power ratings without over-stressing its components.

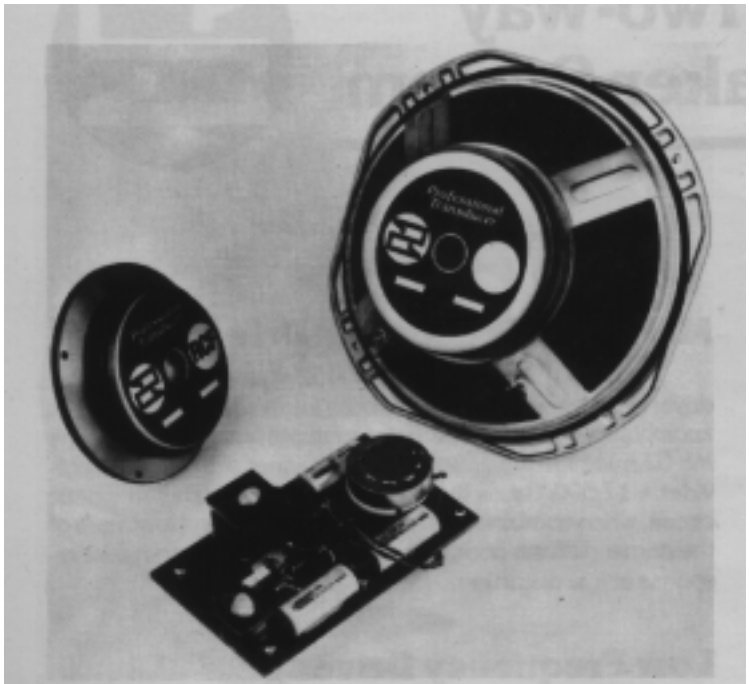
Frequency Dividing Network

The crossover design of the FR-100 system is thirdorder with 18 dB octave slope. This unit with two precision air core inductors, five percent capacitors and resistors costs twice as much as the simpler designs offered in competitive systems, but EAW crossovers eliminate the measurable distortion that plagues others. Ours have a dynamic headroom of three times the system's power rating, the greatest overload margin of any available crossover.

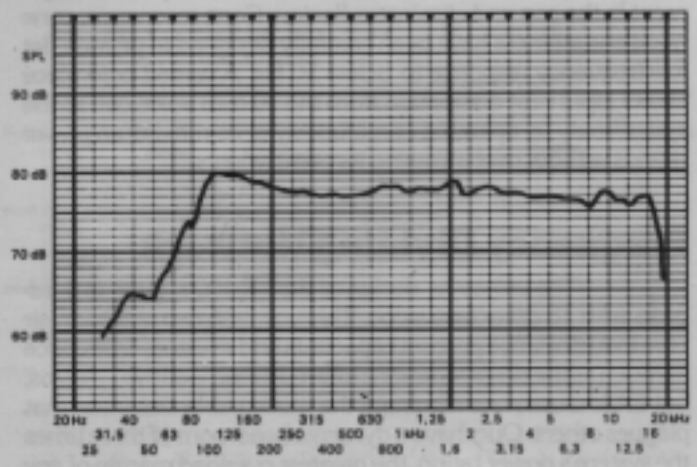
Cabinet

The FR-100 uses the same 18-ply-per-inch crossgrain laminated Baltic birch hardwood as EAWs larger systems. This material has a much higher strength-to-weight ratio than the fir plywood or particle board used by others, and is largely responsible for the easy of portability of this system. The cabinet is finished in a black polyurethane coating that is scuffresistant and cannot tear as do the inferior vinyl finishes used on competitors' products. EAW cabinets have acquired a reputation for being virtually indestructible, which makes them an excellent long term value.

Among the niceties of the package are steel corners, and steel mesh grille protection for the drivers. Tee nuts are provided on the bottom of cabinets to permit mounting to a stand (Atlas SS-2 or equivalent).



FR-100 Component Complement



FR-100 Sweep Frequency Response

FR- 100 Specifications

System type	Two-way, vented box	
Operating range	49 Hz to 19,000 Hz	
Frequency response		
On axis - 3 dB points	49 Hz to 19,000 Hz	
On axis - 10dB points	35 Hz to 22,000 Hz	
Sensitivity		
with I w input at 1 meter	95 dB SPL	
Power handling		
Continuous sine wave	1 00w RMS	
Program	200w RMS	
Maximum output with		
100w input at 1 meter	115 dB SPL	
Nominal impedance	8 ohms	
Nominal dispersion	1800 solid angle	
Enclosure type	0.042 cubic meter vented box (1.5 cubic feet)	
Material	Cross-grain laminated Baltic birch hardwood	
Crossover network		
Slope	Third-order 18 dB per octave	
Frequency	2,500 Hz	
Driver	LF Driver	Mid/High Driver
EAW model	SB-300-C	MR52
Diaphragm size/ material	305 mm paper (12inch)	52 mm phenolic (2inch)
Type	Dynamic, cone	Dynamic, dome
Flux density	9,200	17,500
Voice coil diameter	70 mm	52 mm
Cabinet dimensions	31.7cm D x 38. 1 cm W x 61cm H (121/2" x 15" x 24")	
Net weight	30 kg (65 lbs.)	
Driver mechanical protection	Perforated steel mesh with vinyl coating	
Driver electrical protection	Individual fuses 3 amp LF; 2 amp mid/HF	
Standard hardware	Steel ball roadie type corners; metal feet; Tee nuts for stand adapter	
Input terminals	Dual 1/4 " phone jacks, bananajacks	
Controls	L-pad mid/1-iF level control, adjustable from off to + 4 dB	