

KF1000



Ultra High Directivity Long Throw VA System

The upper rows of large arenas and stadiums have traditionally presented intractable problem to sound reinforcement specialists. The KF1000 is a specialized Virtual Array system designed to project high definition sound into the dense reverberant fields presented by these environments. Arrayed in combination with KF850s, KF1000s can enhance intelligibility, provide more stable directional cues and maintain balanced frequency response.

Long Throw Virtual Array™ Module

To achieve the tightly controlled directivity and ultra-high output required to provide "hifi" sound with full definition to the farthest seats even in the largest arena and outdoor concert venues, EAW developed a totally new mid/bass horn subsystem. This is complemented by a refined version of the KF850 high frequency horn.

Proven Performance In Real World Applications

Extensive field testing, including Tasco's 1990 Kiss US arena tour, enabled EAW engineers to optimize the KF1000 package for maximum versatility and operational efficiency. Identical in shape and size to the KF850 for rigging and truck packing simplicity, the KF1000 is equipped with stronger flying hardware permitting the assembly of deeper arrays (up to 6 units hung vertically) when the top row is comprised exclusively of KF1000s.

New Mid/Bass Horn Subsystem

The newly developed dual 12 inch mid/bass subsystem utilizes EAW's proprietary high density foam reinforced construction technology to realize the horn design's mathematical model with full accuracy. The constant "Q" high frequency horn is based on a compound flare design. The complex throat section provides idealized loading of high frequencies, maintaining the 35° horizontal by 25° vertical coverage pattern to beyond 16k Hz. The second flare section maintains proper wave propagation for absolute pattern consistency down to 500 Hz, more than an octave below the horn's operating band.

Ultra High Output Compact Packaging

Only 42 in. high, 26.38 in. wide and 29.5 in. deep, the KF1000 matches the KF850's dimensions for easy transport, flying and installation. Yet it is capable of greater than 137 dB SPL.

Powering Mode

The KF1000 is designed to be bi-amplified using a special version of EAW's MX800 CCEP™ signal processing unit. The MX800-1J provides the KF1000 with optimal crossover function along with protection from amplifier clipping related distortion and excessive signal levels.

Each of the 12 inch woofers presents an 8 ohm load and requires 150 to 300 watts. The high frequency compression driver presents a 12 ohm load and requires 75 to 150 watts. Typically a block of four KF1000's will be powered by three identical dual channel amps capable of supplying a minimum of 400 watts per channel into 4 ohms. One pair of amps powers the mid-bass subsections of all four systems while the third amp powers the four compression drivers.

Configuration

Standard features of the KF1000 include male and female AP-6 multi-pin connectors (with contacts for each driver), banana test points, integrated fly track assembly and castor pallet mounting hardware.

Ultra Reliable Flying Hardware

When used as the top row of a multi-cabinet array, the ultra-heavy-duty components used in the KF1000's flying hardware are capable of supporting up to six KF1000 and/or KF850 enclosures. The all-metal hanging structure is actually stronger than the cabinet itself: Top- and bottom-mounted recessed multi-point fly tracks are attached vertically and horizontally to aircraft grade aluminum internal structural braces.

Applications

The KF1000 extends the VA system's unique ability to combine accurate sonic definition with exceptionally high output, highly directional long throw performance and surprisingly compact dimensions. Wherever both high definition audio and sheer sonic impact are difficult to achieve because of the venue's sheer size, the KF1000 is a key component of the overall solution.

These situations include:

- ▼ touring concert sound reinforcement
- ▼ arena sound installations
- ▼ outdoor systems.

Architectural Specifications

The two-way loudspeaker system shall incorporate two 12-inch low/mid frequency loudspeakers and a compression driver mounted to a constant-horizontal coverage high frequency horn. The system shall meet the following performance criteria: Frequency Response, 120 to 20k Hz \pm 3 dB; Axial Sensitivity (1w @ 1m), 112 dB SPL (LF/MF), 114 dB SPL (HF); Power Handling, 500 watts 100 hour sine wave (LF/MF), 70 watts 100 hour sine wave (HF); Horizontal coverage, 35 degrees between -6 dB points; Vertical coverage, 25 degrees between -6 dB points.

The system's two low frequency drivers shall each be horn loaded into a constant horizontal coverage horns constructed of 3 mm cross-grain laminated birch hardwood reinforced with high density polyurethane foam and incorporating a center displacement plugs. The high frequency driver shall utilize a beryllium diaphragm not less than 100 mm in diameter.

The enclosure shall be constructed of void-free cross-grain-laminated birch plywood with internal bracing. It shall be finished in a black catalyzed polyurethane coating. All external hardware shall be coated or of stainless steel to protect against rust and corrosion. The front of the system shall be covered with a protective perforated steel grill assembly coated with vinyl to dampen resonances and backed with open cell foam for dust protection. Hanging fixture attachment tracks shall be installed in the top and bottom of the enclosure. Cabinet shape shall be trapezoidal tapered in such a way as to enable simple construction of arrays.

The three-way loudspeaker system shall be the EAW model KF1000.

