

# KF730 Specifications



## FEATURES

- High output to size ratio
- Exceptional pattern control due to symmetrical design, large horn and Phase-Aligned™ woofers
- 16 ohm impedance allows powering 8 KF730s with 2 amplifier channels
- Incorporates EAW Focusing™ for outstanding mid and high frequency transient response channels

## APPLICATIONS

Touring sound, houses of worship, sports arenas, corporate A/V, performing arts centers, hotel ballrooms and live clubs.

## DESCRIPTION

The KF730 line array system is optimized for a wide range of touring and installation applications. With its exceptional output to size ratio, KF730 is the ideal solution for those applications where high output potential and unmatched sound quality is required in a lightweight compact package including touring sound, corporate A/V, sports arenas, houses of worship, performing arts centers, hotel ballrooms and live clubs.

The KF730 delivers premium, high output, 3-way performance in an extremely compact and easy-to-use package. Dual 1" HF compression drivers and dual 7-in horn loaded MF transducers are integrated through a common horn that occupies the entire face of the enclosure. The exceptional pattern control offered by this configuration is extended even further (down to 160 Hz) as the MF devices are transitioned to a spaced array of two 10-in woofers. The pair of LF devices integrated within the MF/HF horn combined with the pair of side-mounted devices provides as much as 18 dB of off-axis rejection. EAW Focused™ processing delivered via UX series processors precisely transitions from one system subsection to another while maintaining nearly perfect 110 degree control.

A full KF730 array provides seamless coverage from directly below the array to hundreds of feet in front. The vertical output can be tailored to match the requirements of any space by varying the splay at the rear of the enclosures as directed by EAW Resolution™ 2 software. The resultant configuration repeatedly produces a continuous, coherent wave front of extended-range, high resolution audio over the entire defined coverage area. The versatile KF730 can also be integrated beneath KF740 modules to extend the reach of the range to any application imaginable. When extended low frequency performance is required, KF730 seamlessly arrays with its companion SB730 subwoofer and is also perfectly matched to the renowned SB1002 touring subwoofer, allowing the system to be used for even the most demanding applications. Users also have the option of the KF737 module, which offers a 75 degree horizontal pattern for narrower venues. For long-throw applications, the optional Zero Degree Adapter Bracket enables modules to be 'flat-fronted', extending array size and SPL.

Six year loudspeaker warranty.

## 3-WAY FULL-RANGE LOUDSPEAKER

See *NOTES TABULAR DATA* for details

### CONFIGURATION

#### Subsystem:

	<b>Transducer</b>	<b>Loading</b>
LF	2x 10 in cone	Phase Aligned™
MF	2x 7-in cone	Horn-loaded
HF	2x 1-in exit, 1.75-in voice coil neodymium compression driver	Horn-loaded

#### Operating Mode:

	<b>Amplifier Channels</b>	<b>External Signal Processing</b>
Bi-amp	LF, MF/HF	DSP w/ EAW Focusing

### PERFORMANCE

**Operating Range:** 60 Hz to 19 kHz

#### Nominal Beamwidth:

Horz	110°
Vert	12°

#### Axial Sensitivity (whole space SPL):

LF	90 dB	60 Hz to 300 kHz
MF/HF	105 dB	130 Hz to 19 Hz

#### Input Impedance (ohms):

	<b>Nominal</b>	<b>Minimum</b>
LF	16	15.1 @ 250 Hz
HF	16	15.9 @ 680 Hz

**High Pass Filter:** High Pass=>65 Hz, 24 dB/octave Butterworth

#### Accelerated Life Test:

LF	106 V	700 W @ 16 ohm
MF/HF	75 V	350 W @ 16 ohm

#### Calculated Axial Output Limit (whole space SPL):

	<b>Average</b>	<b>Peak</b>
LF	119 dB	125 dB
MF/HF	130 dB	136 dB

### ORDERING DATA

<b>Description</b>	<b>Part Number</b>
EAW KF730 3-way Full-Range Loudspeaker Black	0006108

#### Optional Accessories

KF730/SB730 Flybar	0006265
Flybar Spare Connecting Pin 2.5 inch	0006266
Spare Connecting Pin - 1.5 inch	0006122
KF730 Caster Pallet	0006385

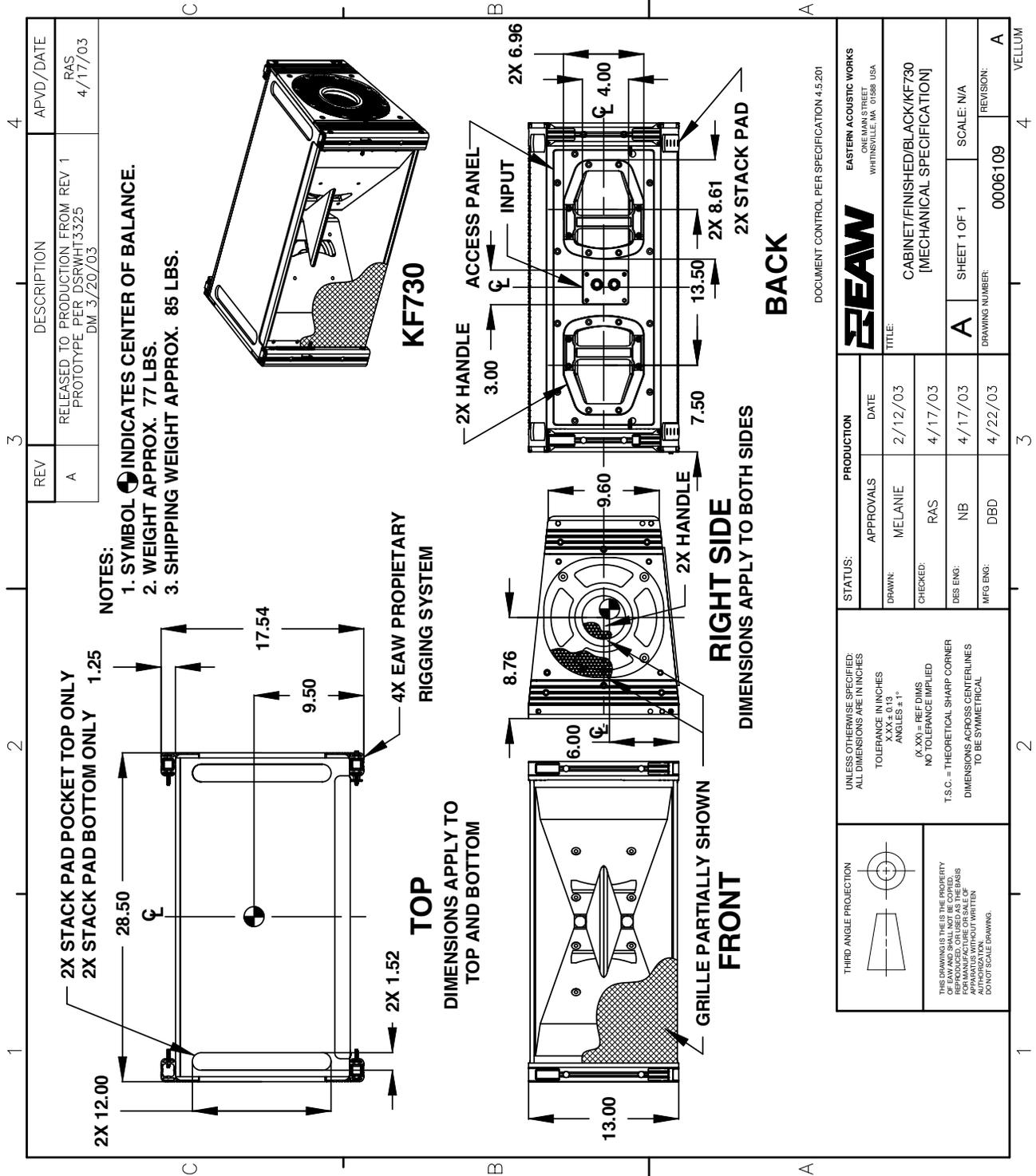
**KF LINE SOURCE VOICING UPDATE** Leveraging data and experience from development of Adaptive Systems™, updated Greybox™ processing enhances performance of KF730, incorporating improved equalization, crossover, Focusing™ and limiting parameters for even better system performance without physical changes. The update brings significantly improved low-mid directivity, dramatically reducing rear sound radiation as well as improved limiting and overall driver protection, while making it sonically more consistent with KF720, KF740 and Adaptive Systems. Updated Greyboxes™ are available on the EAW website, [www.eaw.com](http://www.eaw.com)



# KF730 Specifications

## Enclosure

- Material** Exterior-grade Baltic birch plywood  
**Finish** Wear resistant textured black paint  
**Grille** Powder-coated perforated steel



NOTE: This drawing has been reduced. Do not scale.

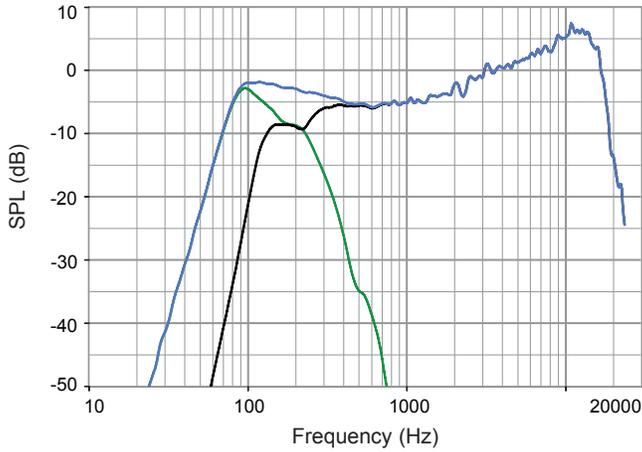
# KF730 Specifications

## PERFORMANCE DATA

See *NOTES GRAPHIC DATA* for details

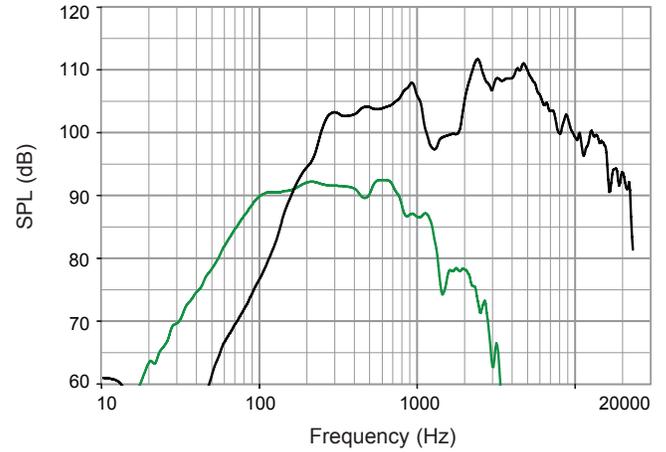
### Frequency Response: Processed

LF = green, HF = black, Complete = blue



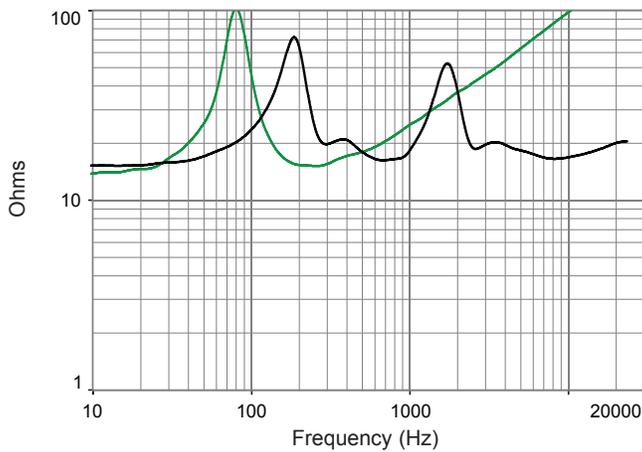
### Frequency Response: Unprocessed

LF = green, HF = black



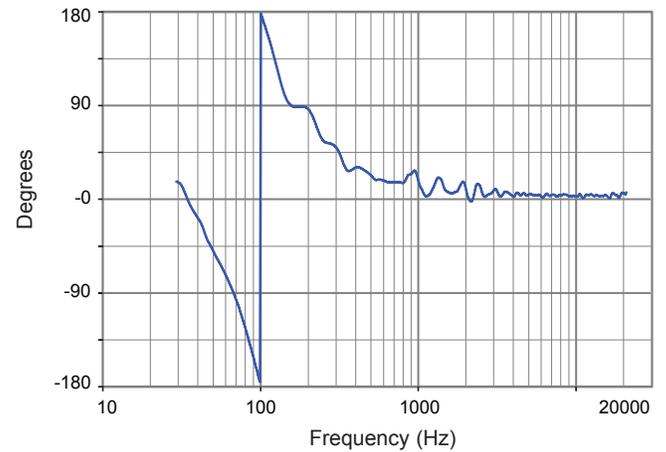
### Impedance

LF = green, HF = black



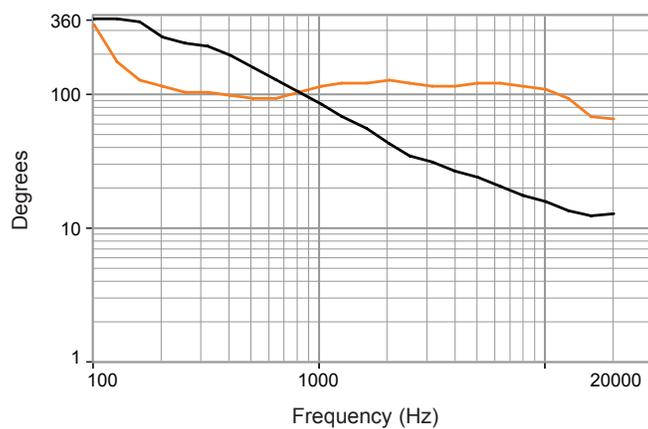
### Phase Linearity

Complete = blue



### Beamwidth

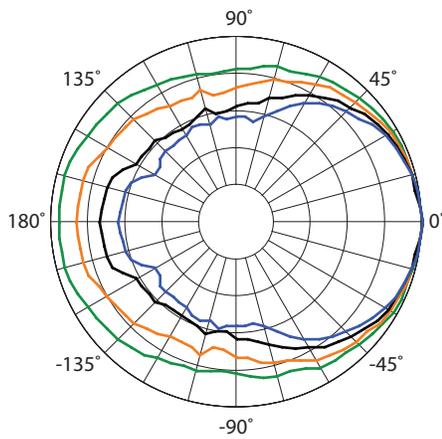
Horizontal = orange Vertical = black



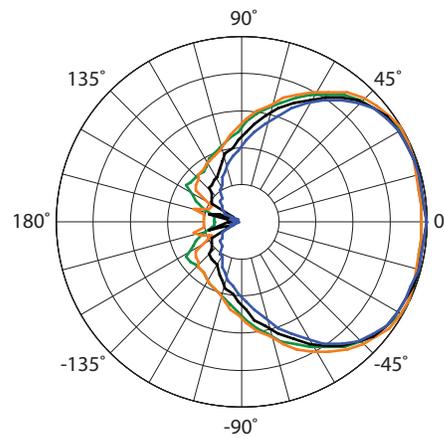
# KF730 Specifications

## Horizontal Polar Data

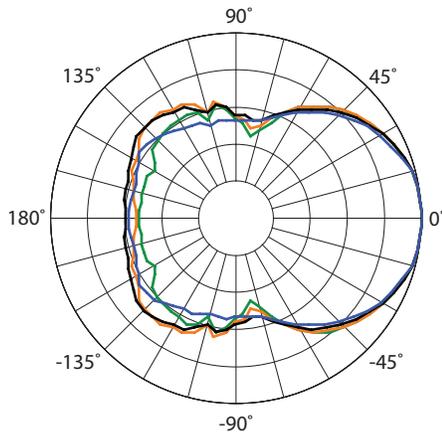
See NOTES GRAPHIC DATA for details



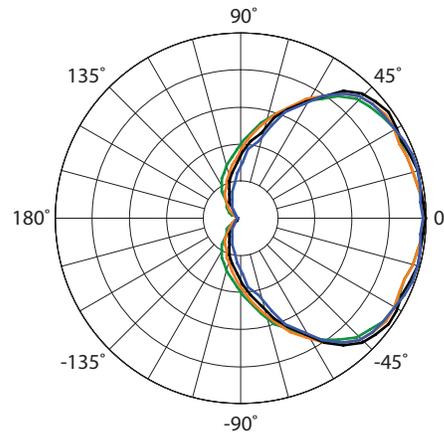
- 100Hz
- 125Hz
- 160Hz
- 200Hz



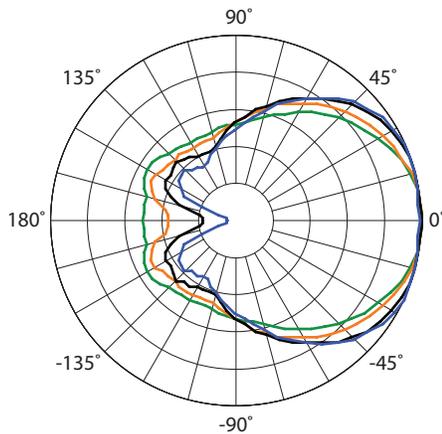
- 1600Hz
- 2000Hz
- 2500Hz
- 3150Hz



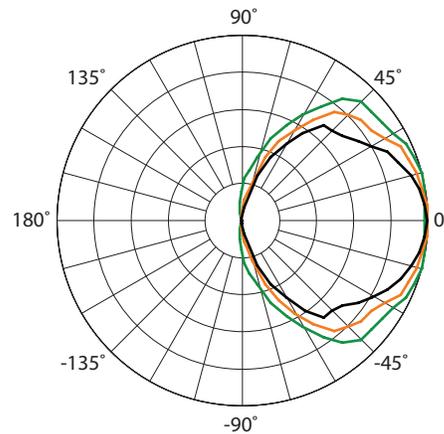
- 250Hz
- 315Hz
- 400Hz
- 500Hz



- 4000Hz
- 5000Hz
- 6300Hz
- 8000Hz



- 630Hz
- 800Hz
- 1000Hz
- 1250Hz



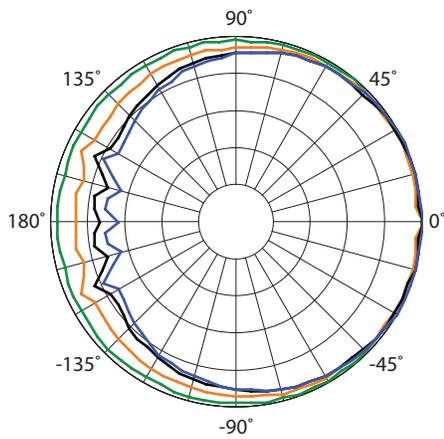
- 10000Hz
- 12500Hz
- 16000Hz



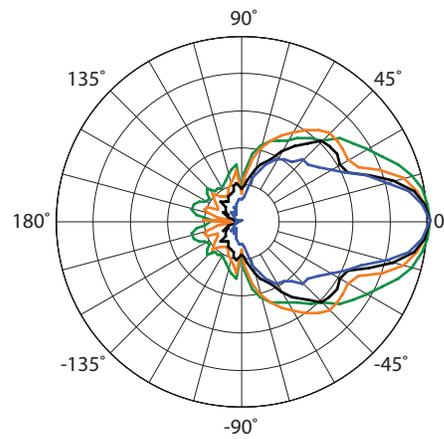
# KF730 Specifications

## Vertical Polar Data

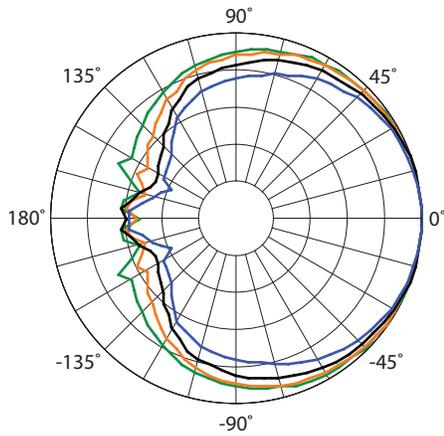
See NOTES GRAPHIC DATA for details



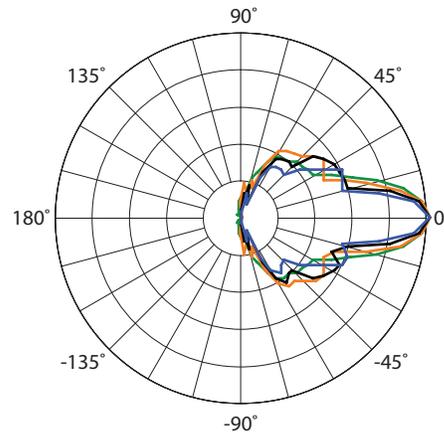
- 100Hz
- 125Hz
- 160Hz
- 200Hz



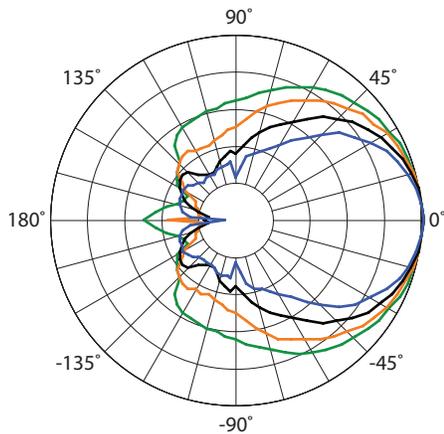
- 1600Hz
- 2000Hz
- 2500Hz
- 3150Hz



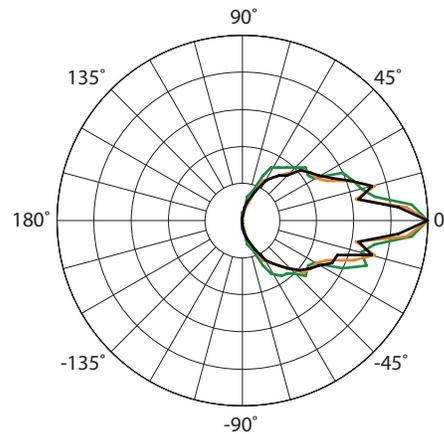
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- 4000Hz
- 5000Hz
- 6300Hz
- 8000Hz



- 630Hz
- 800Hz
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- 1250Hz

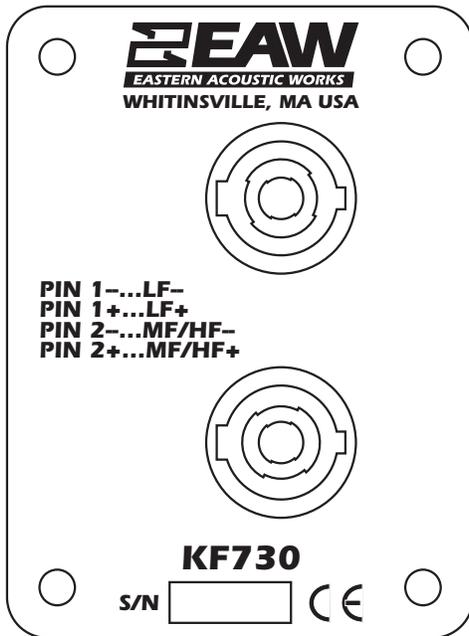


- 10000Hz
- 12500Hz
- 16000Hz

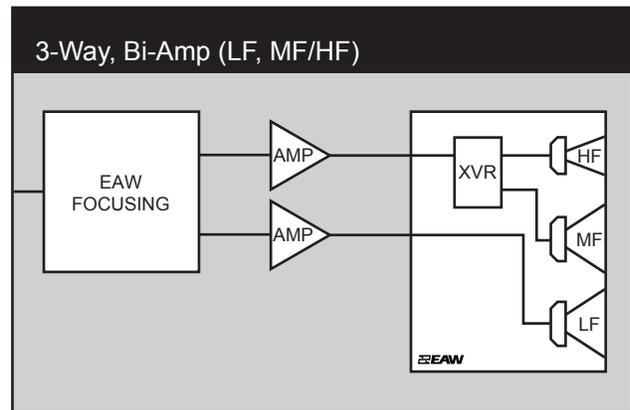


# KF730 Specifications

## Input Panel



## Signal Diagram



## Legend

- HPF** High Pass Filter for crossover –or– Recommended High Pass Filter
- LPF** Low Pass Filter for crossover
- LF/MF/HF** Low Frequency / Mid Frequency / High Frequency
- AMP** User Supplied Power Amplifier –or– Integral Amplifier for NT products
- XVR** Passive LPFs, HPFs, and EQ integral to the loudspeaker
- EAW Focusing** Digital Signal Processor capable of implementing EAW Focusing

## Notes

### TABULAR DATA

1. **Measurement/Data Processing Systems:** Primary – FChart; proprietary EAW software; Secondary – Brüel & Kjær 2012.
2. **Microphone Systems:** Earthworks M30; Brüel & Kjær 4133
3. **Measurements:** Dual channel FFT; length: 32 768 samples; sample rate: 48 kHz; logarithmic sine wave sweep.
4. **Measurement System Qualification** (includes all uncertainties): SPL: accuracy +/-0.2 dB @ 1 kHz, precision +/-0.5 dB 20 Hz to 20 kHz, resolution 0.05 dB; Frequency: accuracy +/-1 %, precision +/-0.1 Hz, resolution the larger of 1.5 Hz or 1/48 octave; Time: accuracy +/-10.4  $\mu$ s, precision +/-0.5  $\mu$ s, resolution 10.4  $\mu$ s; Angular: accuracy +/-1°, precision +/-0.5°, resolution 0.5°.
5. **Environment:** Measurements time-windowed and processed to eliminate room effects, approximating an anechoic environment. Data processed as anechoic or fractional space, as noted.
6. **Measurement Distance:** 7.46 m. Acoustic responses represent complex summation of the subsystems at 20 m. SPL is referenced to other distances using the Inverse Square Law.
7. **Enclosure Orientation:** For beamwidth and polar specifications, as shown in Mechanical Specification drawing.
8. **Volts:** Measured rms value of the test signal.
9. **Watts:** Per audio industry practice, "loudspeaker watts" are calculated as voltage squared divided by rated nominal impedance. Thus, these are not True Watt units of energy as defined by International Standard.
10. **SPL:** (Sound Pressure Level) Equivalent to the average level of a signal referenced to 0 dB SPL = 20 microPascals.
11. **Subsystem:** This lists the transducer(s) and their acoustic loading for each passband. Sub = Subwoofer, LF = Low Frequency, MF = Mid Frequency, HF = High Frequency.
12. **Operating Mode:** User selectable configurations. Between system elements, a comma (,) = separate amplifier channels; a slash (/) = single amplifier channel. DSP = Digital Signal Processor.  
IMPORTANT: To achieve the specified performance, the listed external signal processing must be used with EAW-provided settings.
13. **Operating Range:** Range where the processed Frequency Response stays within -10 dB SPL of the power averaged SPL within this range; measured on the geometric axis. Narrow band dips are excepted.
14. **Nominal Beamwidth:** Design angle for the -6 dB SPL points, referenced to 0 dB SPL as the highest level.
15. **Axial Sensitivity:** Power averaged SPL over the Operating Range with an input voltage that would produce 1 W at the nominal impedance; measured with no external processing on the geometric axis, referenced to 1 m.
16. **Nominal Impedance:** Selected 4, 8, or 16 ohm resistance such that the minimum impedance point is no more than 20% below this resistance over the Operating Range.
17. **Accelerated Life Test:** Maximum test input voltage applied with an EIA-426B defined spectrum; measured with recommended signal processing and Recommended Protection Filter.
18. **Calculated Axial Output Limit:** Highest average and peak SPLs possible during the Accelerated Life Test. The Peak SPL represents the 2:1 (6 dB) crest factor of the Life Test signal.
19. **High Pass Filter:** This helps protect the loudspeaker from excessive input signal levels at frequencies below the Operating Range.

### GRAPHIC DATA

1. **Resolution:** To remove insignificant fine details, 1/12 octave cepstral smoothing was applied to acoustic frequency responses and 1/3 octave cepstral smoothing was applied to the beamwidth and impedance data. Other graphs are plotted using raw data.
2. **Frequency Responses:** Variation in acoustic output level with frequency for a constant input signal. Processed: normalized to 0 dB SPL. Unprocessed inputs: 2 V (4 ohm nominal impedance), 2.83 V (8 ohm nominal impedance), or 4 V (16 ohm nominal impedance) referenced to a distance of 1 m.
3. **Processor Response:** The variation in output level with frequency for a constant input signal of 0.775 V = 0 dB reference.
4. **Beamwidth:** Average angle for each 1/3 octave frequency band where, starting from the rear of the loudspeaker, the output first reaches -6 dB SPL referenced to 0 dB SPL as the highest level. This method means the output may drop below -6 dB SPL within the beamwidth angle.
5. **Impedance:** Variation in impedance magnitude, in ohms, with frequency without regard to voltage/current phase. This means the impedance values may not be used to calculate True Watts (see 9 above).
6. **Polar Data:** Horizontal and vertical polar responses for each 1/3 octave frequency band 100 Hz to 16 kHz or Operating Range.