



## FEATURES

- Constant curvature line array
- Very easy to pole mount, fly and ground stack
- Vertical arrays of up to six units may be constructed
- High output capability and predictable pattern control

## DESCRIPTION

The JFL210 compact line array module features a range of EAW's most innovative line array technologies within a mobile, light weight package that's an ideal solution for a multitude of small- and medium-sized applications, including portable and installed A/V as well as musician/DJ systems. Incorporating constant curvature line array design principles, JFL210 modules form easily configured arrays with very predictable coverage that is both horizontally symmetric and consistent from short to long throws.

The JFL210's size, shape and weight are optimized for transport and set-up by one person. Side handles are integrated with the rigging system and are aligned with the enclosure's center of gravity for superior balance and stability. Up to two JFL210s may be mounted on a loudspeaker stand with a 35 mm / 1.38 in diameter pole. Dual-angle, integral pole mount holes allow the bottom enclosure to be aimed 0° or -15°.

The JFL210's ultra-strong rigging system has a 10:1 design factor, which meets or exceeds all standards enforced throughout the world. The rigging is simple to use – enclosures may be easily joined together by one person acting alone. For portable, flown applications the accessory FB121 Fly Bar will suspend up to six JFL210 and allow a wide range of array tilt angles to be readily achieved. The FB121 also doubles as a ground stack base for up to four JFL210s. Alternately, a pair of threaded M10 rigging points are available on the enclosure's top and bottom panels for cost-sensitive permanent install applications.

Users may switch between single- or bi-amp powering modes. An additional HF Shading switch is active in single-amp mode. It optimizes high frequency response for single-box or multi-box arrays, or inserts a correction filter for the high frequency air loss encountered in long throw applications. When the JFL210 is operated in bi-amp mode the HF Shading filters are applied in DSP.

Dual Neutrik® Speakon® STX Series NL4 jacks are provided for system input. The STX Series' all-metal housings are extremely rugged, and provide weather protection to IP54 when mated with a complementary STX Series cable connector. The powering mode and HF Shading switches are recessed and shrouded with a rubber boot for additional weather protection.

While the JFL210 offers excellent performance with nearly any loudspeaker processor, its response can be optimized even more precisely with an EAW UX8800 4x8 digital processor. The UX8800 functions as an excellent overall system manager, processor and controller, while its Guinness Focusing alignment and driver processing algorithms dramatically enhance temporal performance.

Overall construction matches the high standards long applied to EAW portable and touring products. Enclosures are protected by our tough, highly scratch-resistant RoadCoat™ finish and durable, foam-backed steel grilles protect the transducers while hiding them from view.

Six year warranty.

## 2-WAY FULL-RANGE, 110° × 15°

See *NOTES TABULAR DATA* for details

### CONFIGURATION

#### Subsystem:

	<i>Transducer</i>	<i>Loading</i>
LF	2 x 10 in cone	Vented
HF	1 x 1.4 in exit, 3 in voice	Horn-loaded
	coil compression driver	

#### Operating Mode:

	<i>Amplifier Channels</i>	<i>External Signal Processing</i>
Single-amp	LF/HF	High Pass Filter
Bi-amp	LF,HF	DSP w/2-way filters

### PERFORMANCE

**Operating Range:** 65 Hz to 18.5 kHz

#### Nominal Beamwidth:

Horz 110°

Vert 15°

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

LF/HF	95 dB	65 Hz to 18.5 kHz
LF	95 dB	65 Hz to 971 Hz
HF	105 dB	708 Hz to 18.5 kHz

#### Input Impedance (*ohms*):

	<i>Nominal</i>	<i>Minimum</i>
LF/HF	8	6.5 @ 280 Hz
LF	8	10.9 @ 270 Hz
HF	8	9.6 @ 4470 Hz

**High Pass Filter:** High Pass ≥ 60 Hz, 12 dB/octave Butterworth

#### Accelerated Life Test:

LF/HF	80 V	800 W @ 8 ohm
LF	80 V	800 W @ 8 ohm
HF	35 V	150 W @ 8 ohm

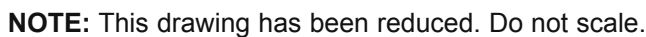
#### Calculated Axial Output Limit (*whole space SPL*):

	<i>Average</i>	<i>Peak</i>
LF/HF	124 dB	130 dB
LF	124 dB	130 dB
HF	127 dB	133 dB

### ORDERING DATA

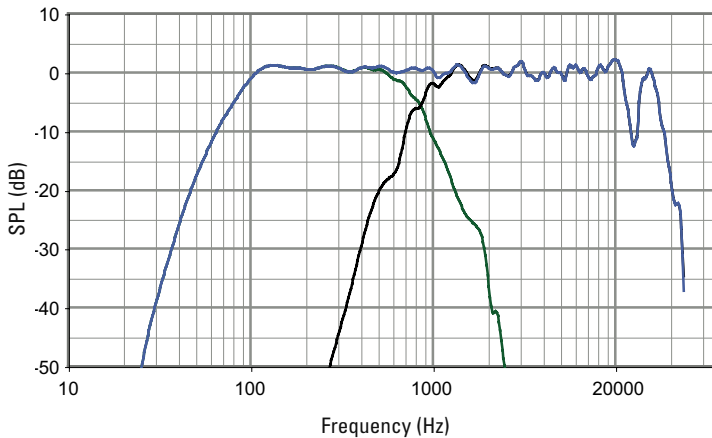
<i>Description</i>	<i>Part Number</i>
EAW JFL210 Black	0029139-90
<b>Optional Accessories</b>	
EAW FB121 Fly Bar Black	0031170
M10 x 1.5 Forged Shoulder Eyebolt	0029818

Material	Baltic birch plywood
Finish	RoadCoat™ wear resistant textured black paint
Grille	Powder-coated perforated steel

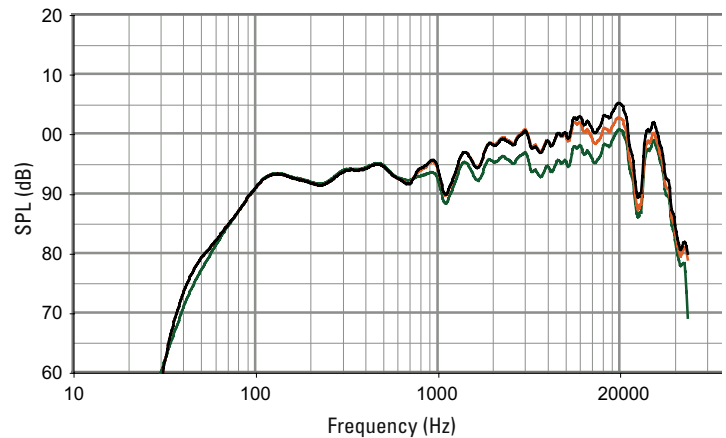


**PERFORMANCE DATA**See *NOTES GRAPHIC DATA* for details**Frequency Response: Processed Bi-amplified**

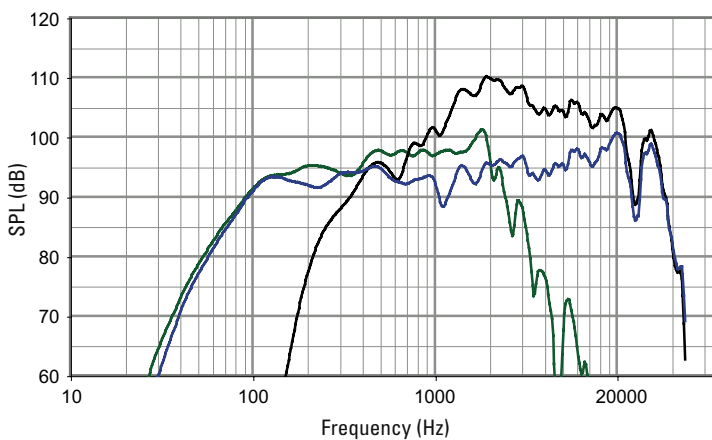
LF = green, HF = black, Complete = blue

**Frequency Response: Single-amplified**

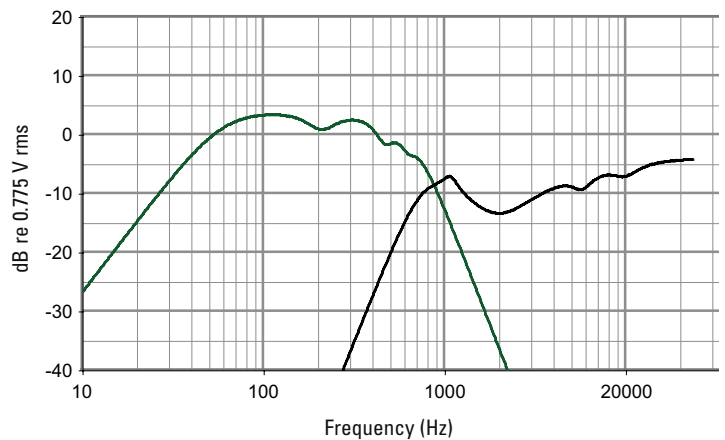
Single Box = green, Multi Box = orange, Long Throw = black

**Frequency Response: Unprocessed**

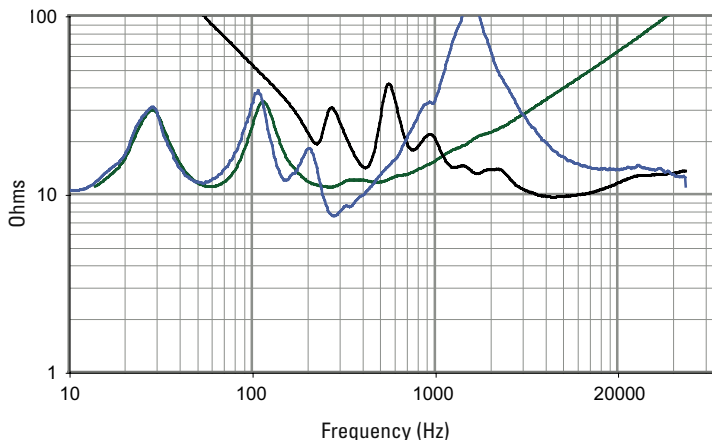
LF = green, HF = black, Complete = blue

**Frequency Response: Digital Signal Processor**

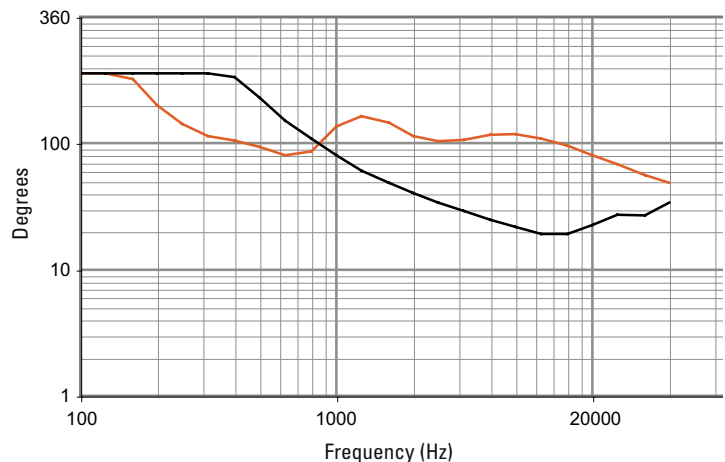
LF = green, HF = black

**Impedance Magnitude**

LF = green, HF = black, Complete = blue

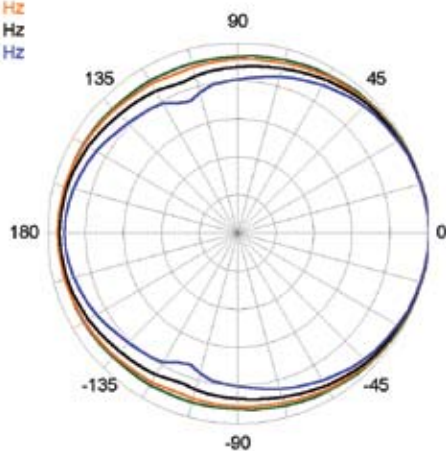
**Beamwidth (-6 dB SPL Points)**

Horizontal = orange Vertical = black

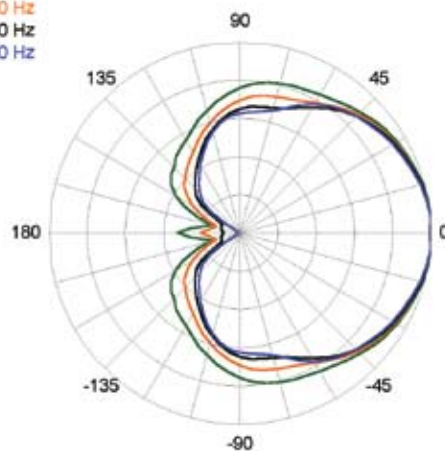


**HORIZONTAL POLAR DATA**See *NOTES GRAPHIC DATA* for details

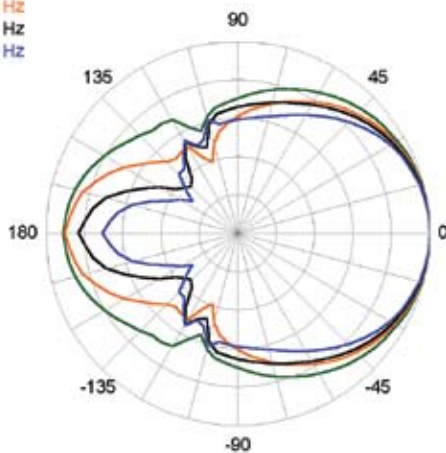
100 Hz  
125 Hz  
160 Hz  
200 Hz



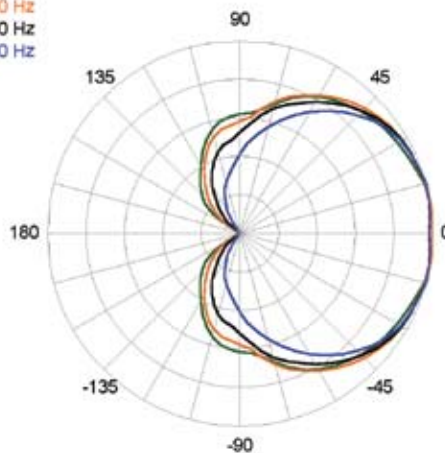
1600 Hz  
2000 Hz  
2500 Hz  
3150 Hz



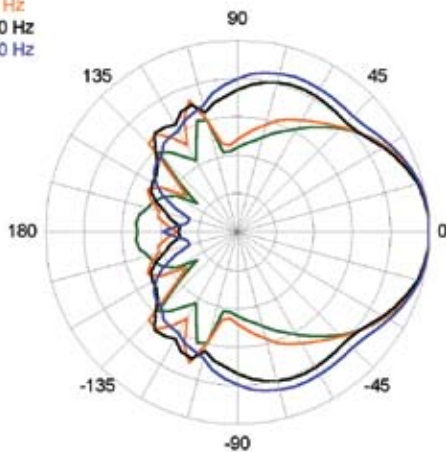
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315 Hz  
400 Hz  
500 Hz



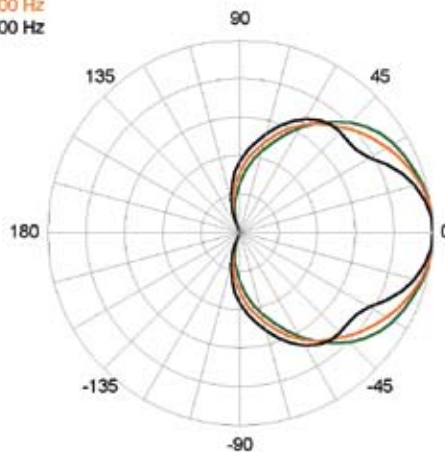
4000 Hz  
5000 Hz  
6300 Hz  
8000 Hz



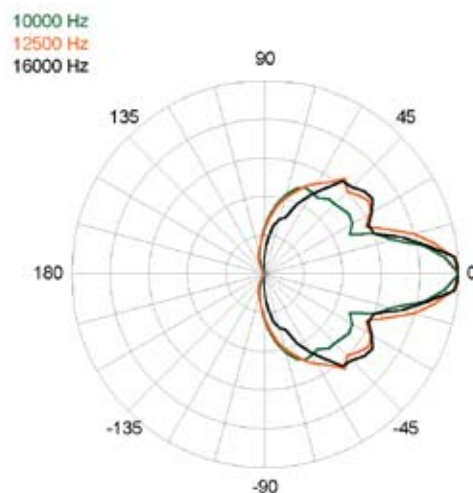
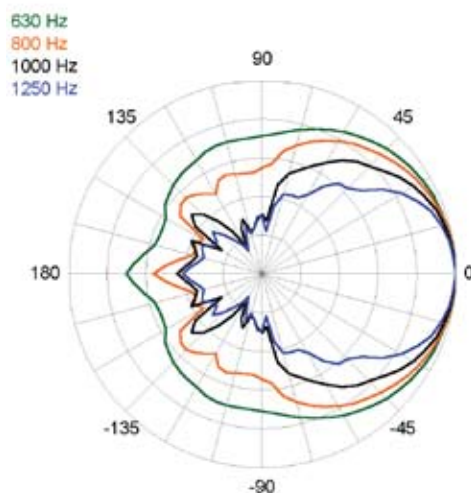
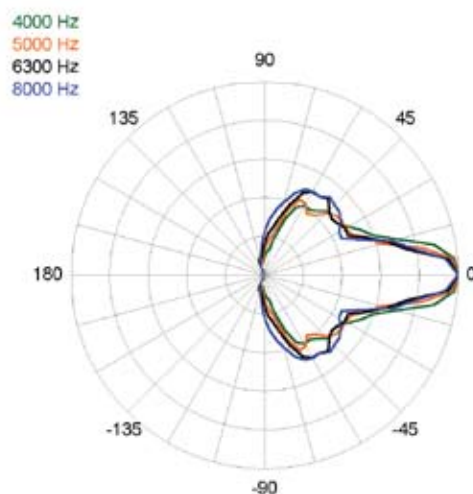
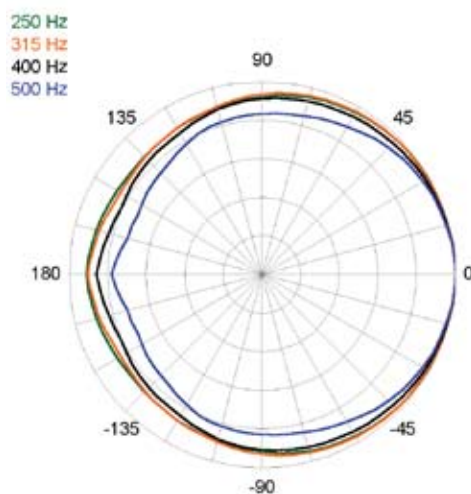
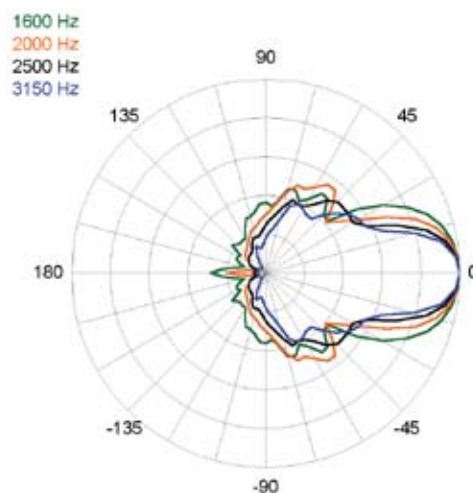
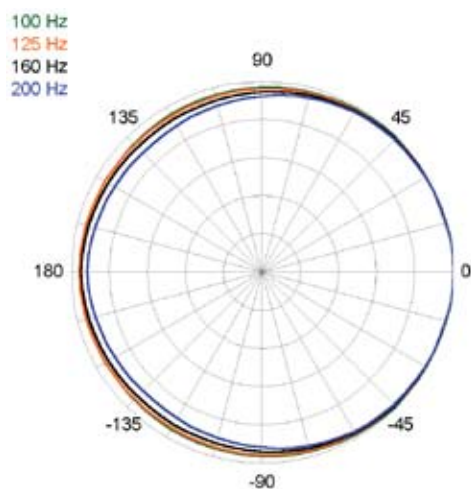
630 Hz  
800 Hz  
1000 Hz  
1250 Hz



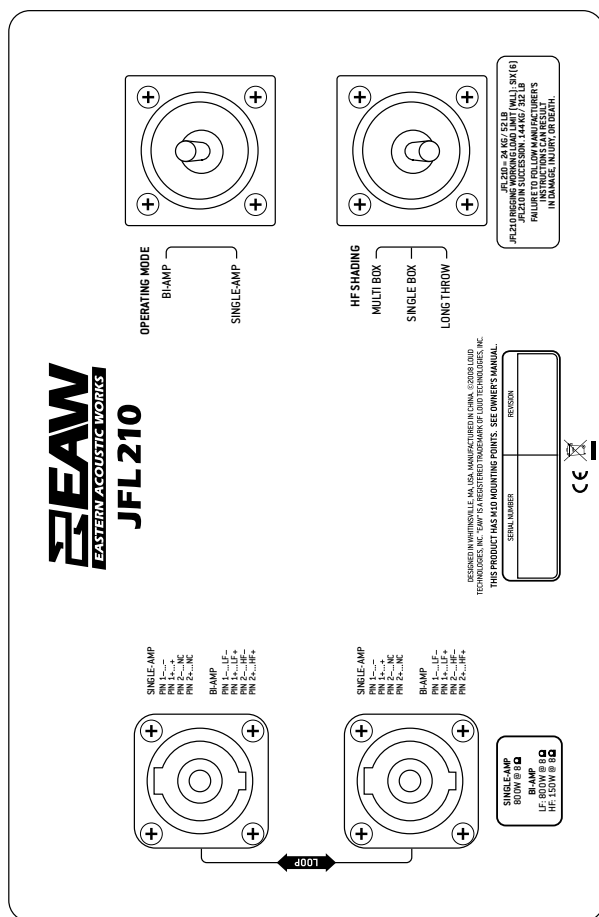
10000 Hz  
12500 Hz  
16000 Hz



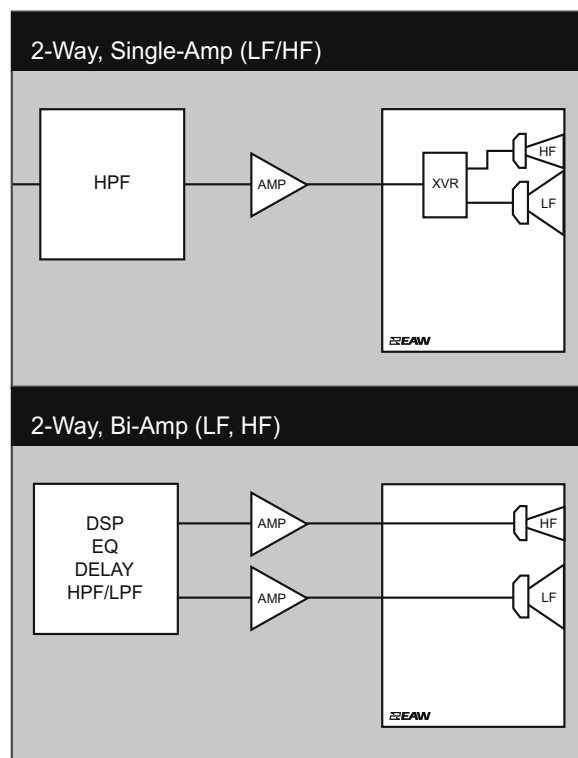


**VERTICAL POLAR DATA**See *NOTES GRAPHIC DATA* for details

## INPUT PANEL



## SIGNAL DIAGRAM



## LEGEND

- DSP:** User-supplied Digital Signal Processor.  
**HPF:** High Pass Filter for crossover or Recommended High Pass Filter.  
**LPF:** Low Pass Filter for crossover.  
**LF/HF:** Low Frequency / High Frequency.  
**AMP:** User-supplied Power Amplifier.  
**XVR:** Passive LPFs, HPFs, and EQ integral to the loudspeaker.

## NOTES

## TABULAR DATA

- Measurement/Data Processing Systems:** Primary - FChart: proprietary EAW software; Secondary - Brüel & Kjær 4133.
- Microphone Systems:** Earthworks M30; Brüel & Kjær 4133.
- Measurements:** Dual channel FFT; length: 32 768 samples; sample rate: 48 kHz; logarithmic sine wave sweep.
- Measurement System Qualification** (includes all uncertainties): SPL: accuracy  $\pm 0.2$  dB @ 1 kHz, precision  $\pm 0.5$  dB 20 Hz to 20 kHz, resolution 0.05 dB; Frequency: accuracy  $\pm 1$  %, precision  $\pm 0.1$  Hz, resolution the larger of 1.5 Hz or 1/48 octave; Time: accuracy  $\pm 10.4$   $\mu$ s, precision  $\pm 0.5$   $\mu$ s, resolution 10.4  $\mu$ s; Angular: accuracy  $\pm 1^\circ$ , precision  $\pm 0.5^\circ$ , resolution  $0.5^\circ$ .
- Environment:** Measurements time-windowed and processed to eliminate room effects, approximating an anechoic environment. Data processed as anechoic or fractional space, as noted.
- 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.
- Enclosure Orientation:** For beamwidth and polar specifications, as shown in Mechanical Specification drawing.
- Volts:** Measured rms value of the test signal.
- 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.
- SPL:** (Sound Pressure Level) Equivalent to the average level of a signal referenced to 0 dB SPL = 20 microPascals.
- Subsystem:** This lists the transducer(s) and their acoustic loading for each passband. Sub = Subwoofer, LF = Low Frequency, MF = Mid Frequency, HF = High Frequency.
- 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.
- 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.
- Nominal Beamwidth:** Design angle for the -6 dB SPL points, referenced to 0 dB SPL as the highest level.
- 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.
- 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.
- Accelerated Life Test:** Maximum test input voltage applied with an EIA-426B defined spectrum; measured with recommended signal processing and Recommended Protection Filter.
- 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.
- High Pass Filter:** This helps protect the loudspeaker from excessive input signal levels at frequencies below the Operating Range.

## GRAPHIC DATA

- 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.
- 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.
- Processor Response:** The variation in output level with frequency for a constant input signal of 0.775 V = 0 dB reference.
- 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.
- 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).
- Polar Data:** Horizontal and vertical polar responses for each 1/3 octave frequency band 100 Hz to 16 kHz or Operating Range.