



FEATURES

- Two-way, constant curvature line array module
- Compact and light; a "one-person lift"
- Easy to mount, fly or ground stack
- Two-module, pole-mounted arrays or up to five modules flown
- Classic EAW output, pattern control and fidelity

DESCRIPTION

The JFL213 compact, two-way line array module features a range of EAW's most innovative line array technologies within a mobile, light-weight package appropriate in a wide range of small- to medium-sized venues. With its companion subwoofer, the JFL118, this easy-to-use system solves problems in both portable and permanently installed applications.

The JFL213's two-way design mounts dual 10-in cone transducers in an optimally vented enclosure and spaced to extend pattern control into the low frequency range. Three horn-loaded, 0.75-in exit / 1.75-in voice coil compression drivers deliver even dispersion of high frequency information over the entire 110° horizontal coverage area.

EAW engineers optimized the JFL213's size, shape and weight for easy transport and setup by a single person, with side handles designed as part of the rigging system and aligned with the enclosure's center of balance. Users can mount up to two JFL213s on a loudspeaker stand with a 35mm/1.38-in diameter pole. The cleverly-designed, dual-angle pole mount cup allows the bottom enclosure to be aimed 0° or -15°. (A two-module array with the lower modules aimed at -15° aims the upper module at 0°.) The JFL118 features an integrated pole mount cup, letting it serve as a large, stable base for pole mounting.

The JFL213's ultra-strong rigging system allows users to hang up to five modules with a 10:1 safety factor, which meets or exceeds all standards enforced throughout the world. A single person can easily connect the modules to the accessory FB221 Fly Bar as well as to each other. The FB221 also doubles as a ground stack base for up to four JFL213s. For permanent installation, each JFL213 provides a pair of M10 threaded mounting points.

The JFL213 allows users to switch between single- or bi-amp powering modes. The JFL213 delivers optimal performance when operated in bi-amp mode with an EAW UX Series digital processor. In addition to the HF shading filters, UX Series digital processor deliver EAW Focusing™ setting, which correct for anomalies that occur in the time domain of any loudspeaker or transducer.

Enclosures are protected by our tough, scratch-resistant RoadCoat™ finish and durable, foam-backed steel grilles protect the transducers. Six year warranty.

2-WAY FULL-RANGE LOUDSPEAKER 110° × 15°

See *NOTES TABULAR DATA* for details

CONFIGURATION

Subsystem:	Transducer	Loading
LF	2x 10 in cone	Vented
HF	3x .75 in exit, 1.75 in voice coil compression driver	Horn-loaded

Operating Mode:

	Amplifier Channels	External Signal Processing
Single-amp	LF/HF	High pass filter
Bi-amp	LF,HF	DSP w/2-way filters

PERFORMANCE

Operating Range:	65 Hz to 20 kHz	
Nominal Beamwidth: (rotatable)		
Horz	110°	
Vert	15°	

Axial Sensitivity (whole space SPL):		
LF/HF	95 dB	65 Hz to 20 kHz
LF	96 dB	65 Hz to 1520 Hz
HF	102 dB	1320 Hz to 20 kHz

Input Impedance (ohms):	Nominal	Minimum
LF/HF	8	6.4 @ 200 Hz
LF	8	6.5 @ 630 Hz
HF	8	11.9 @ 20 kHz

High Pass Filter: High Pass =>60 Hz, 12 dB/octave Butterworth

Accelerated Life Test:		
LF/HF	79.9 V	800 W @ 8 ohm
LF	79.9 V	800 W @ 8 ohm
HF	35.7 V	160 W @ 8 ohm

Calculated Axial Output Limit (whole space SPL):	Average	Peak
LF/HF	124 dB	130 dB
LF	125 dB	131 dB
HF	124 dB	130 dB

ORDERING DATA

Description	Part Number
EAW JFL213 Black	2039885-90

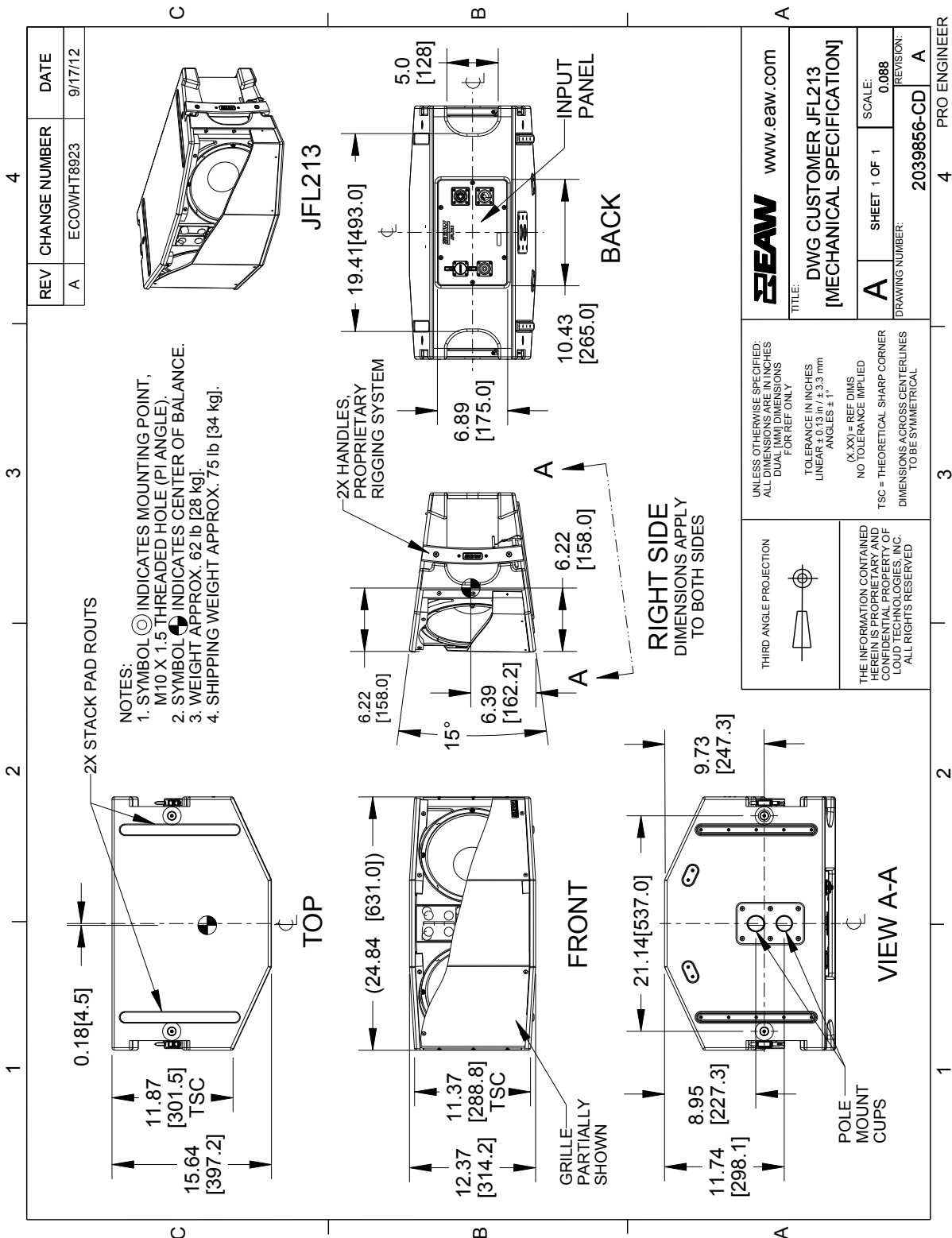
Optional Accessories	
Eye Bolt Forged Shoulder M10 X 1.5 X 37mm	0029818
Flybar JFL & HDA Black [FB221]	2036411

ENCLOSURE

Material Exterior-grade Baltic birch plywood

Finish Wear resistant textured black paint

Grille Powder-coated perforated steel



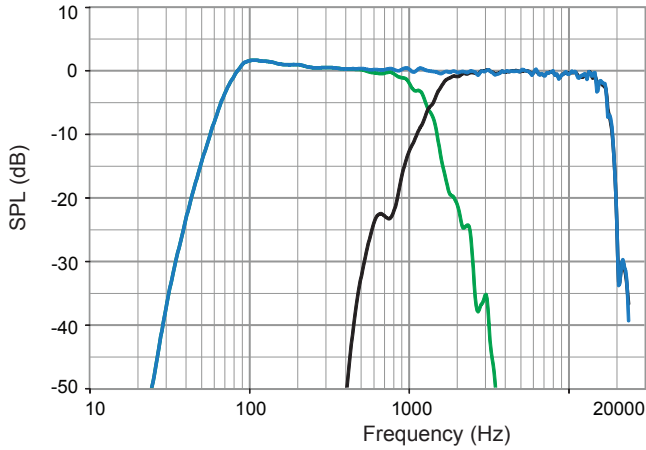
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PERFORMANCE DATA

See *NOTES GRAPHIC DATA* for details

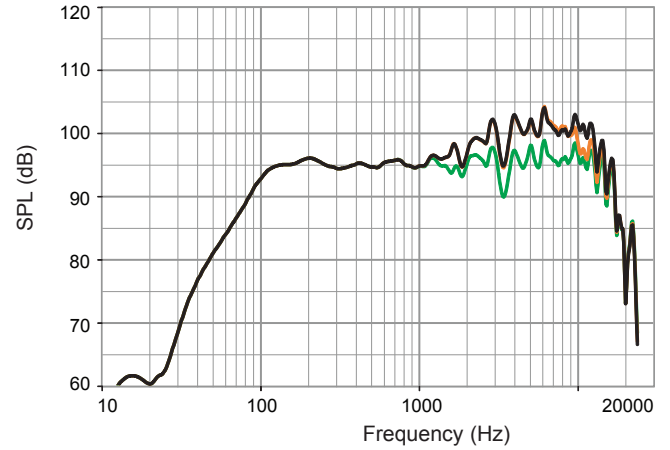
Frequency Response: Processed

LF = green, HF = black, Complete = blue



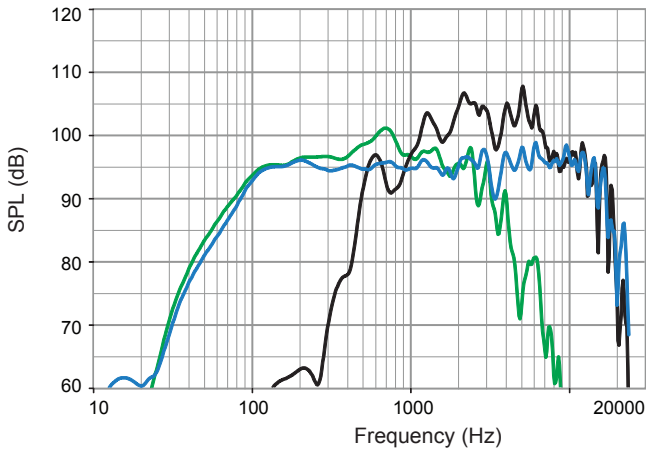
Frequency Response: Unprocessed Single-amp

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



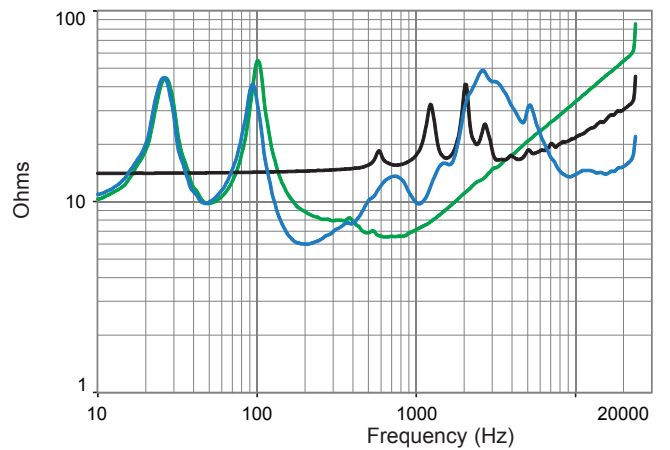
Frequency Response: Unprocessed

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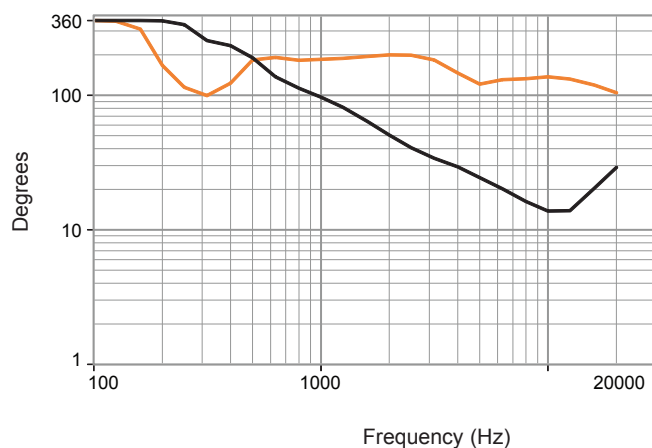
Impedance

LF = green, HF = black, Complete = blue



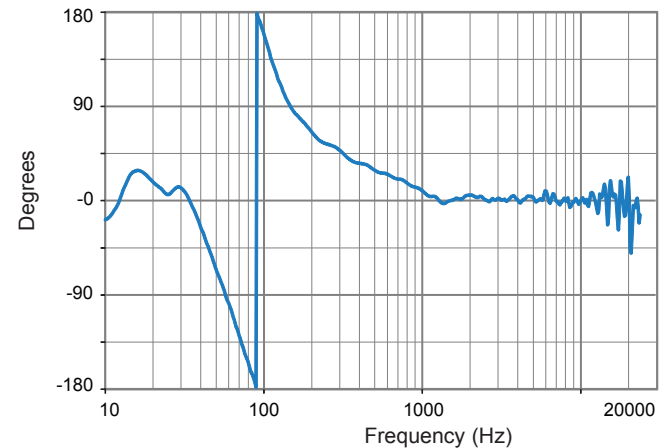
Beamwidth

Horizontal = orange Vertical = black



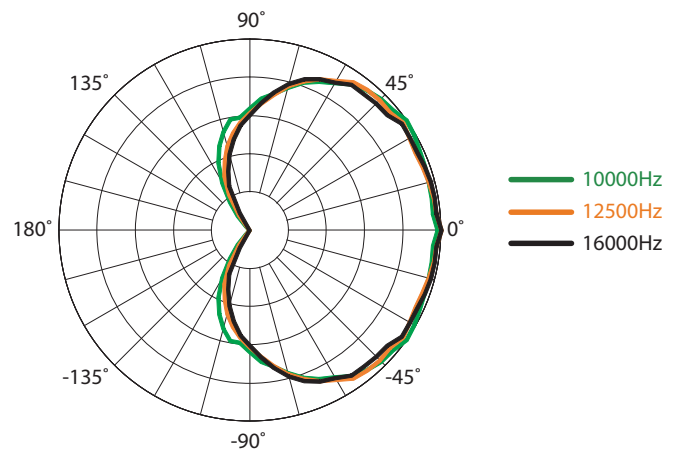
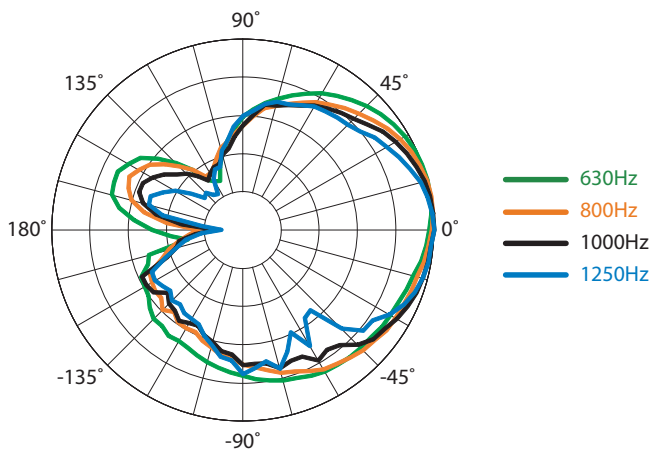
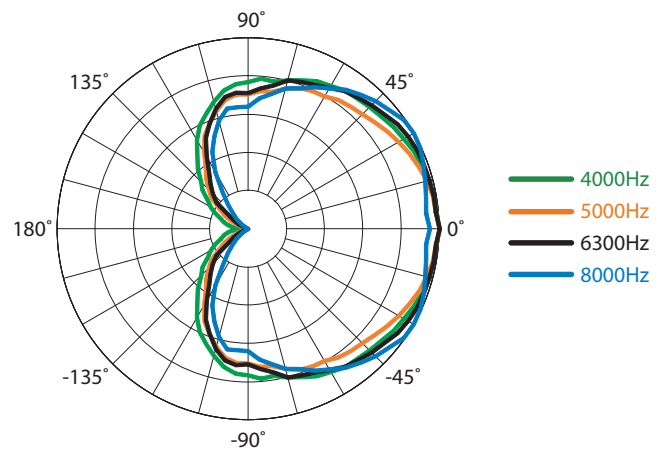
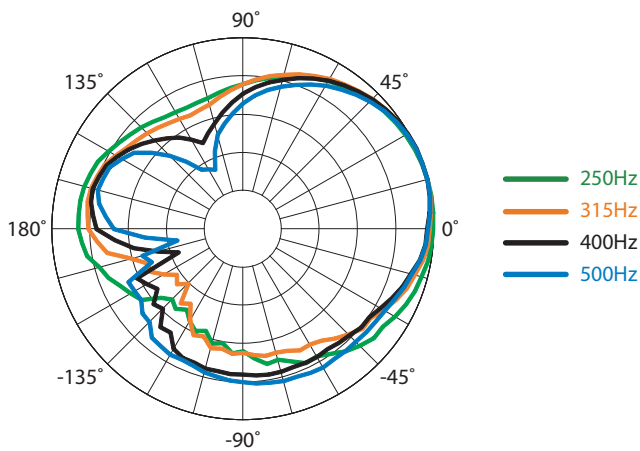
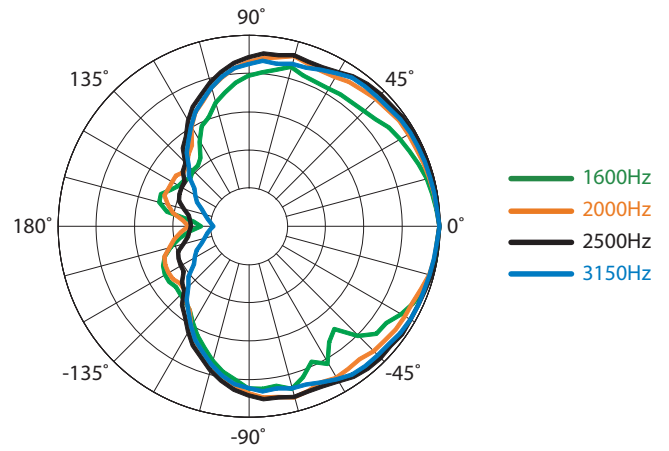
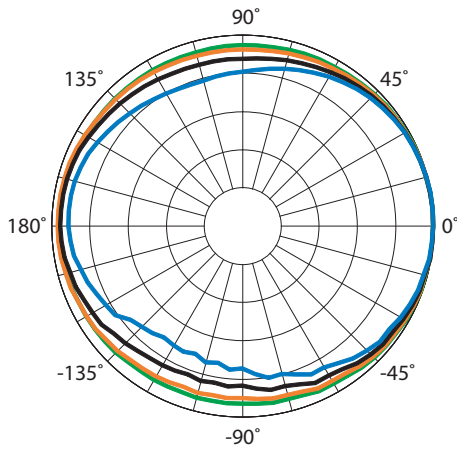
Phase Linearity

Complete = blue



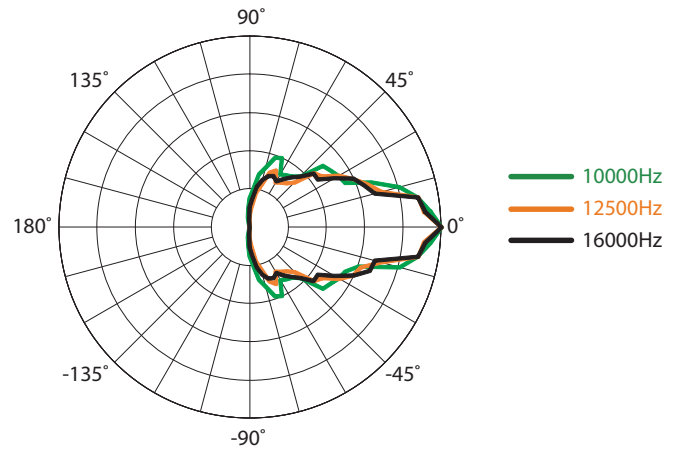
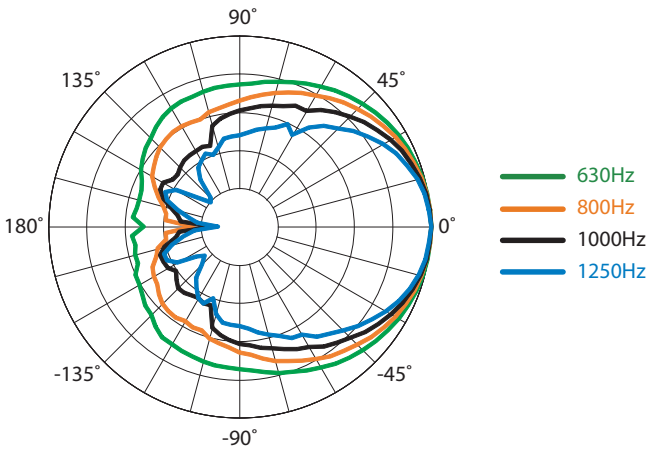
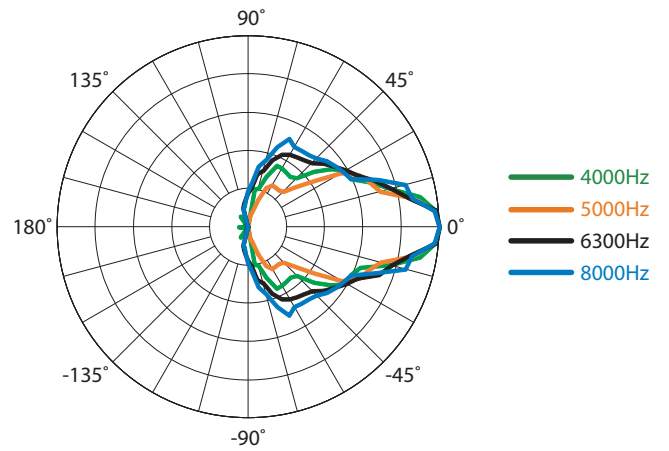
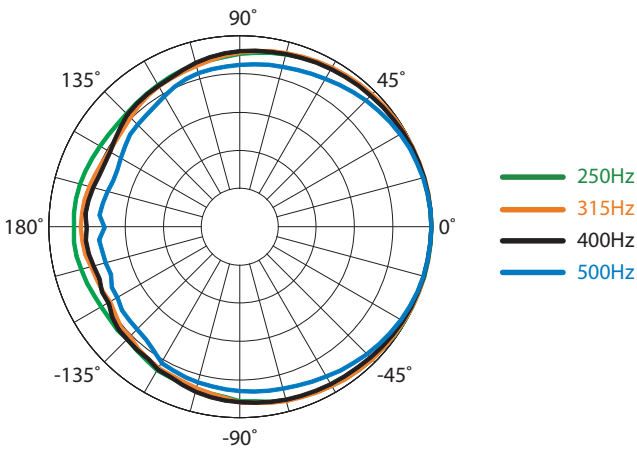
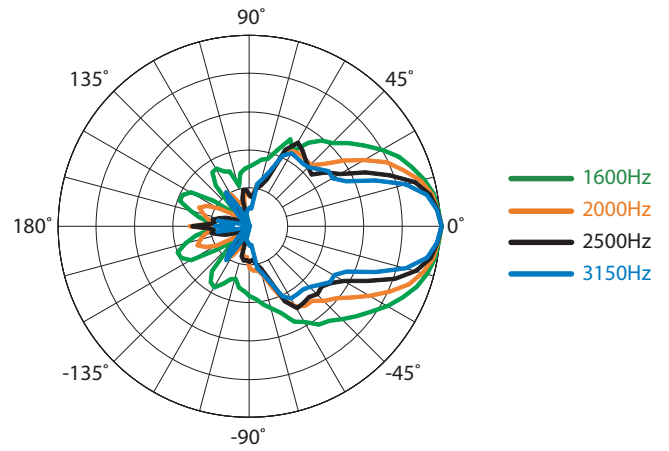
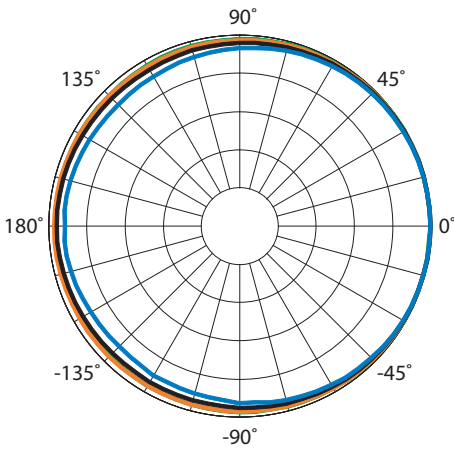
HORIZONTAL POLAR DATA

See *NOTES GRAPHIC DATA* for details

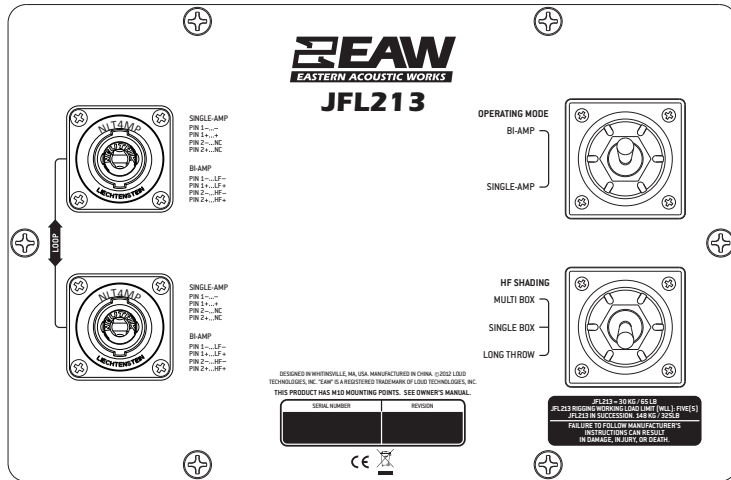


VERTICAL POLAR DATA

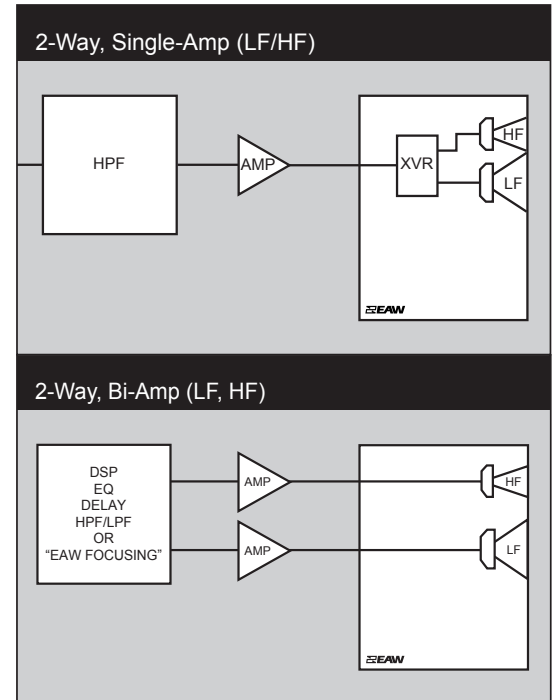
See *NOTES GRAPHIC DATA* for details



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

- Measurement/Data Processing Systems:** Primary - FChart: proprietary EAW software; Secondary - Brüel & Kjær 2012.
- 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 ± 0.2 dB @ 1 kHz, precision ± 0.5 dB 20 Hz to 20 kHz, resolution 0.05 dB; Frequency: accuracy $\pm 1\%$, precision ± 0.1 Hz, resolution the larger of 1.5 Hz or 1/48 octave; Time: accuracy ± 10.4 μ s, precision ± 0.5 μ s, resolution 10.4 μ s; Angular: accuracy $\pm 1^\circ$, precision $\pm 0.5^\circ$, resolution 0.5°.
- 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 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.