



FEATURES

- Premium Performance
- Application Flexibility
- Neodymium Components
- NT upgrade capability
- Switch configurable powering modes

APPLICATIONS

Corporate A/V, any small to medium sized live sound reinforcement, performing arts venues, houses of worship, retail, ballrooms, theaters, theme parks – these products are far more visually appealing to the installation crowd due to their cabinet design and bracket kits.

DESCRIPTION

The newest additions to the celebrated JF Series of 2-way loudspeakers redefine the concept of application flexibility. The integration of premium neodymium components and legendary crossover design in an incredibly adaptable package offers unprecedented utility. All models natively offer a combination of portable features and M10 installation points. Available universal accessories include trim plates that hide handles and provide a connection point for u-brackets, quick release flytrack segments that integrate into any enclosure and adjustable legs for use as a stage monitor. Add revolutionary EAW Focusing in the UX8800 Processor for the pinnacle of performance in any venue.

2-WAY FULL-RANGE LOUDSPEAKER 90° × 45°

See *NOTES TABULAR DATA* for details

CONFIGURATION

Subsystem:

	<i>Transducer</i>	<i>Loading</i>
LF	1× 15 in cone	Vented
HF	1× 1.4 in exit, 3 in voice coil compression driver	Horn-loaded

Operating Mode:

	<i>Amplifier Channels</i>	<i>External Signal Processing</i>
Single-amp	LF/HF	High pass filter
Bi-amp	LF,HF	DSP w/ EAW Focusing

PERFORMANCE

Operating Range: 47 Hz to 20 kHz

Nominal Beamwidth:

Horz	90°
Vert	45°

Axial Sensitivity (whole space SPL):

LF/HF	98 dB	47 Hz to 20 kHz
LF	98 dB	47 Hz to 1700 Hz
HF	107 dB	1300 Hz to 20 kHz

Input Impedance (ohms):

	<i>Nominal</i>	<i>Minimum</i>
LF/HF	8	6.4 @ 163 Hz
LF	8	6.4 @ 193 Hz
HF	8	9.0 @ 5500 Hz

High Pass Filter: High Pass =>40 Hz, 12 dB/octave Butterworth

Accelerated Life Test:

LF/HF	72 V	650 W @ 8 ohm
LF	72 V	650 W @ 8 ohm
HF	40 V	200 W @ 8 ohm

Calculated Axial Output Limit (whole space SPL):

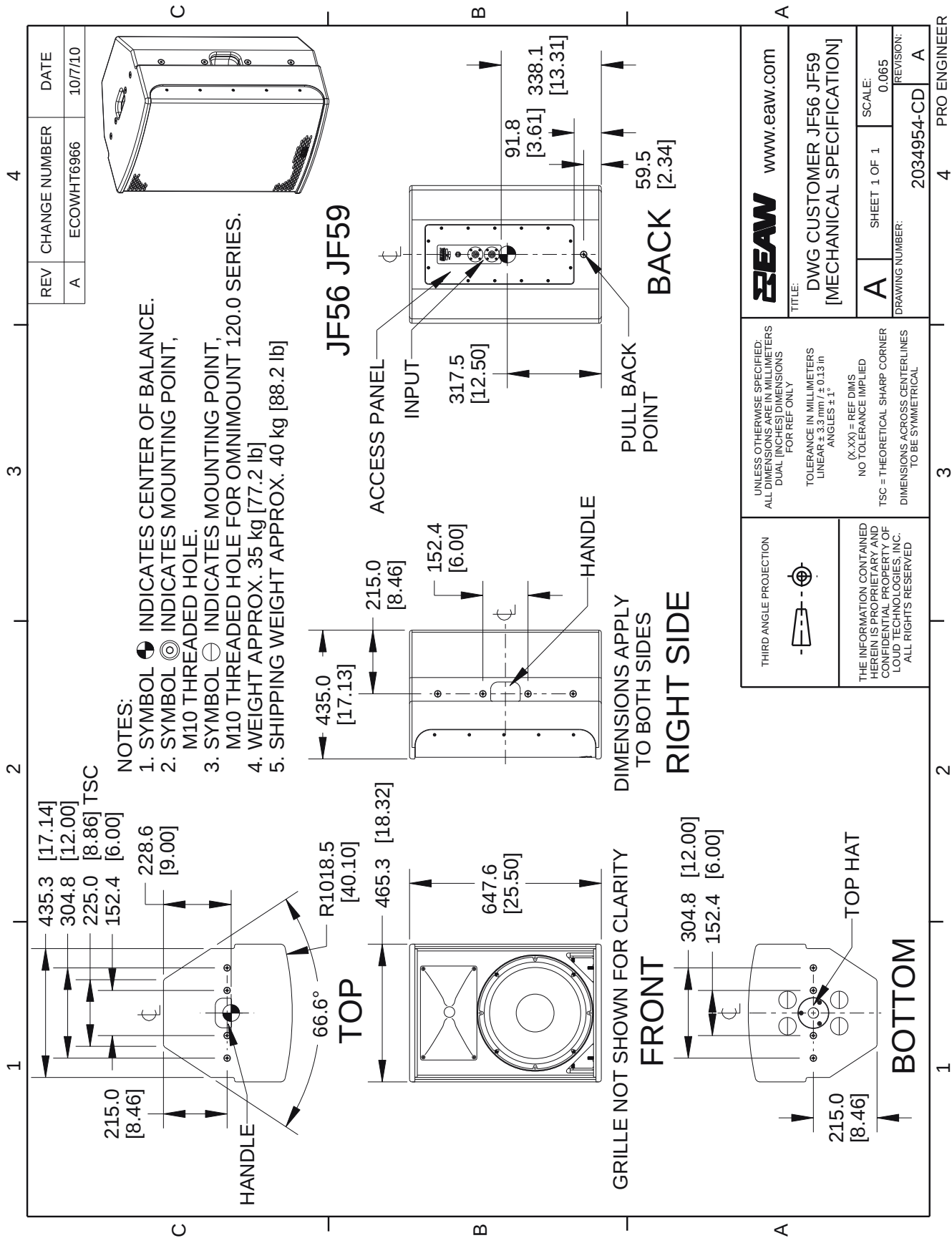
	<i>Average</i>	<i>Peak</i>
LF/HF	126 dB	132 dB
LF	126 dB	132 dB
HF	130 dB	136 dB

ORDERING DATA

<i>Description</i>	<i>Part Number</i>
EAW JF59 2-Way Full-Range Loudspeaker Black	2034953-00

Optional Accessories

M10 × 37mm Forged Shoulder Eyebolt	0029818
EAW U-Bracket Adjustable S1 BLK [UBKT-S1]	2035474
EAW ACC Leg Adjustable S (2 Per) [ACC-LGS]	2035438
EAW ACC Flytrack S (2 Per) [ACC-FTS]	2035439
EAW ACC Cover Plate S (2 Per) BLK [ACC-CPS]	2035473
Fly Clip with Ring	0001386



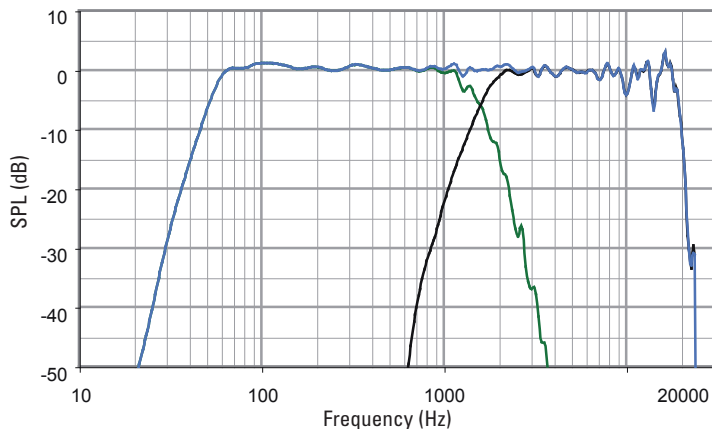
NOTE: This drawing has been reduced. Do not scale.

PERFORMANCE DATA

See *NOTES GRAPHIC DATA* for details

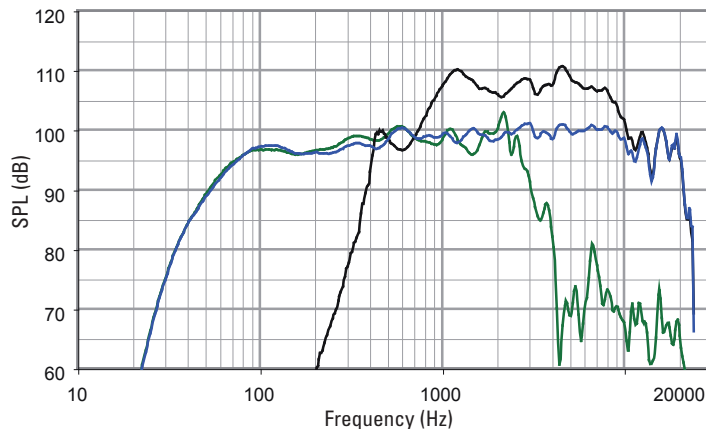
Frequency Response: Processed Multi-Amp

LF = green, HF = black, Complete = blue



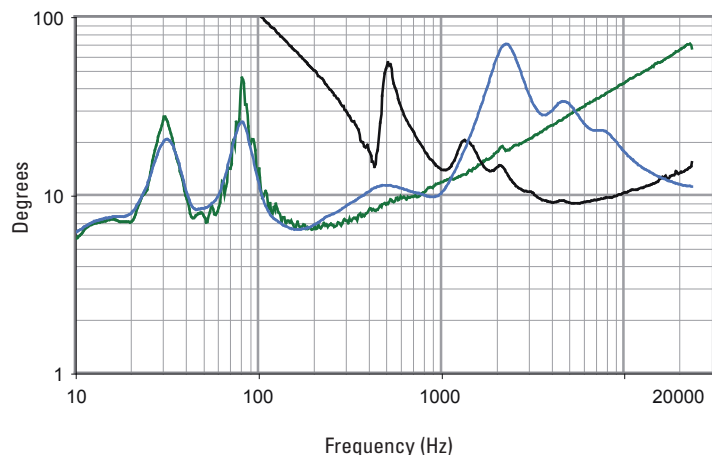
Frequency Response: Unprocessed

LF = green, HF = black, Complete = blue



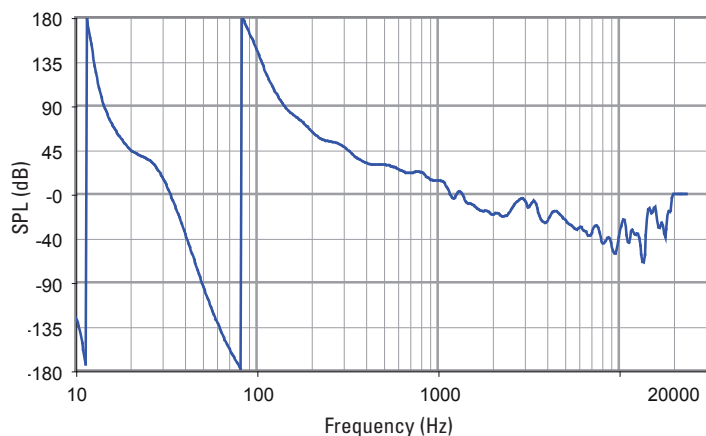
Impedance

LF = green, HF = black, Complete = blue



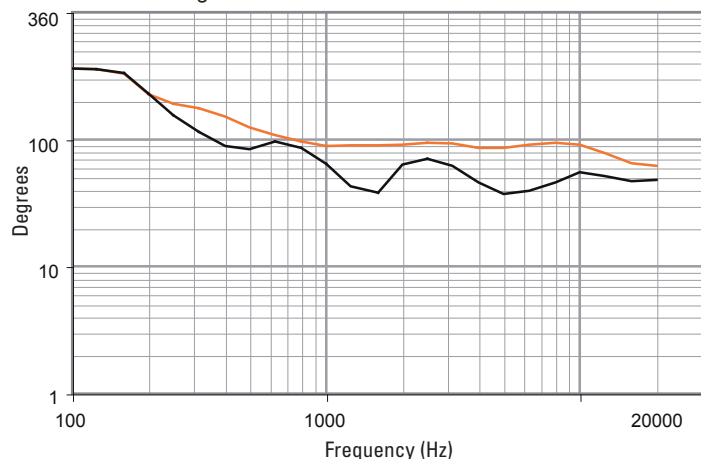
Phase Linearity

Complete = blue



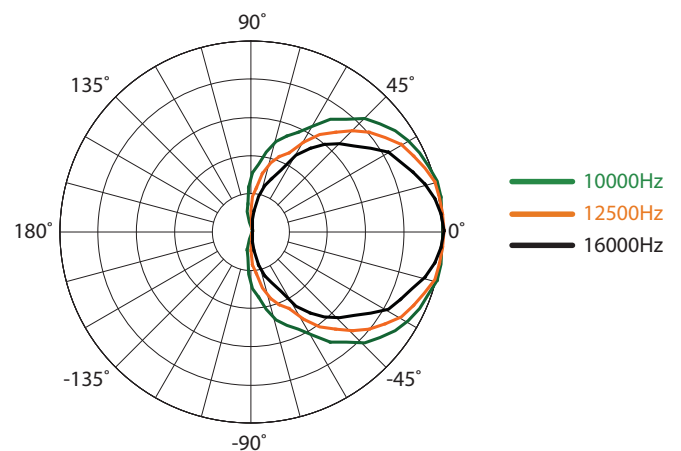
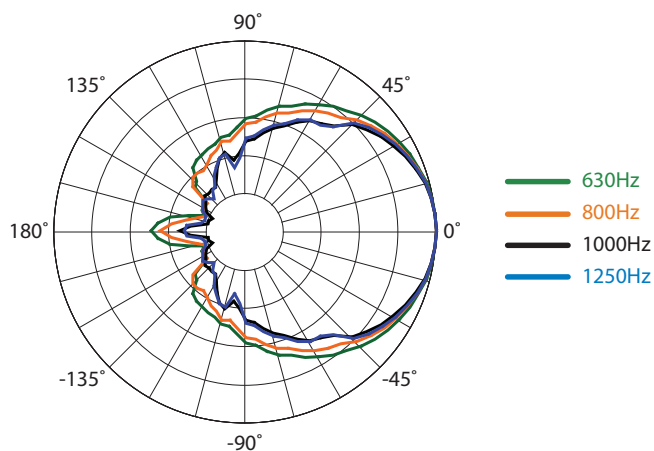
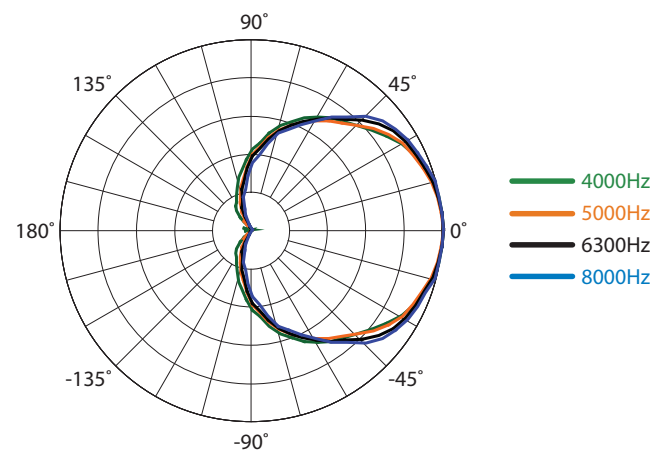
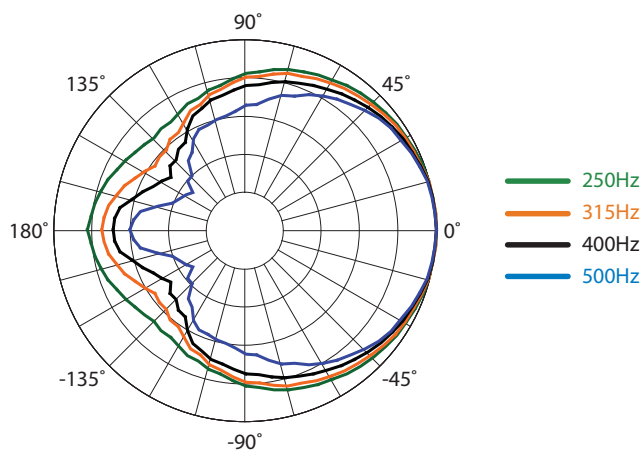
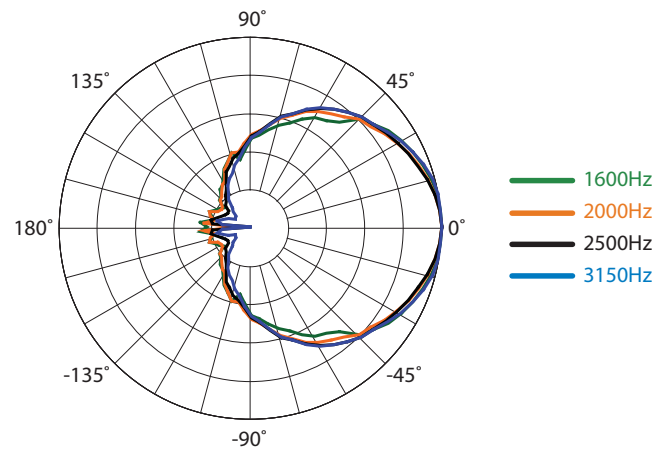
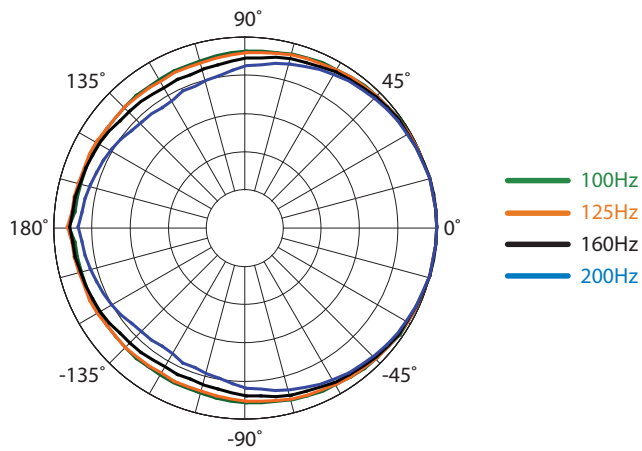
Beamwidth

Horizontal = orange Vertical = black



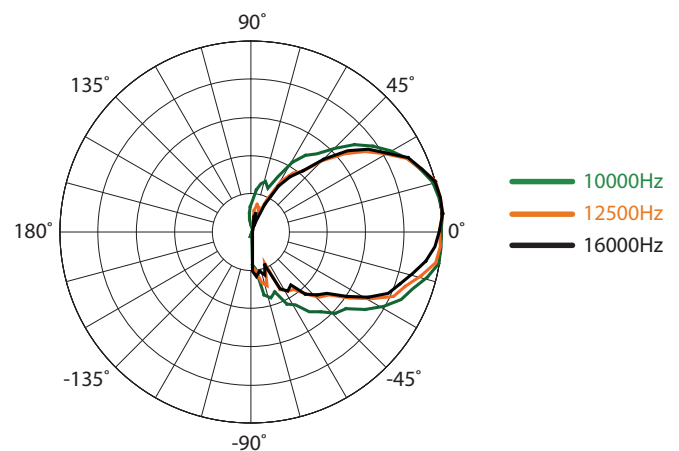
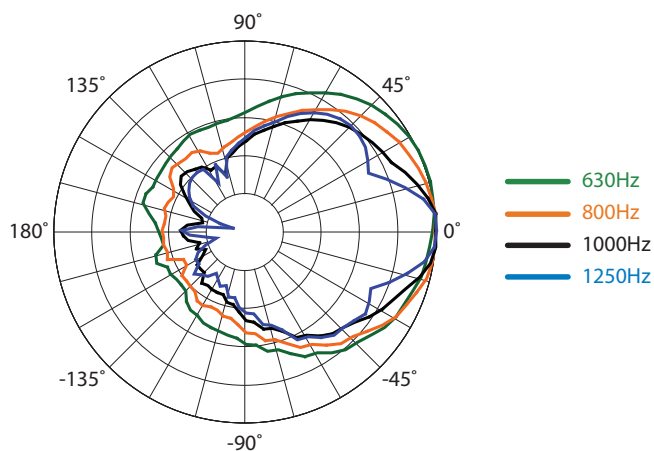
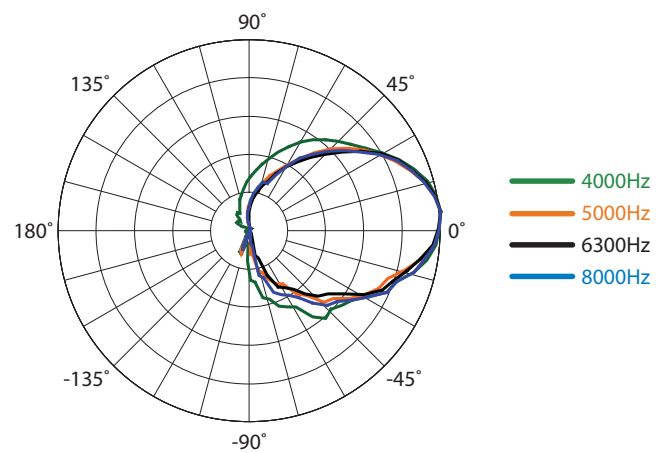
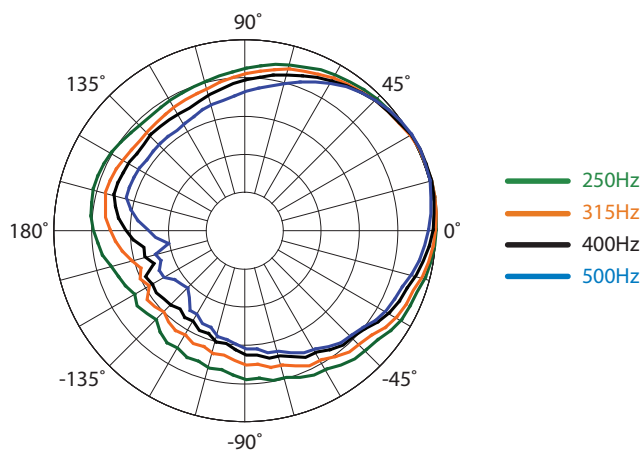
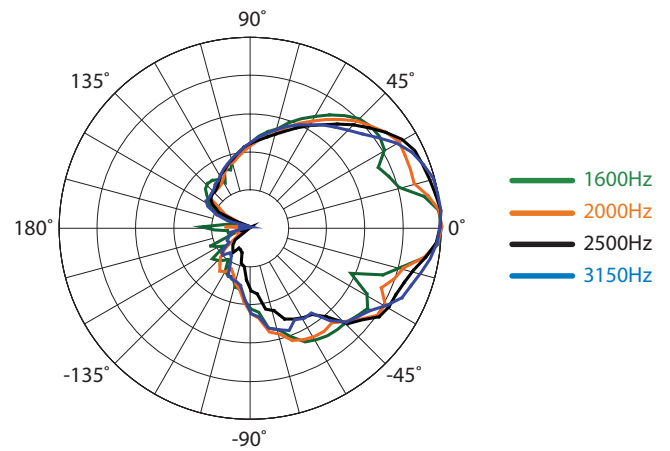
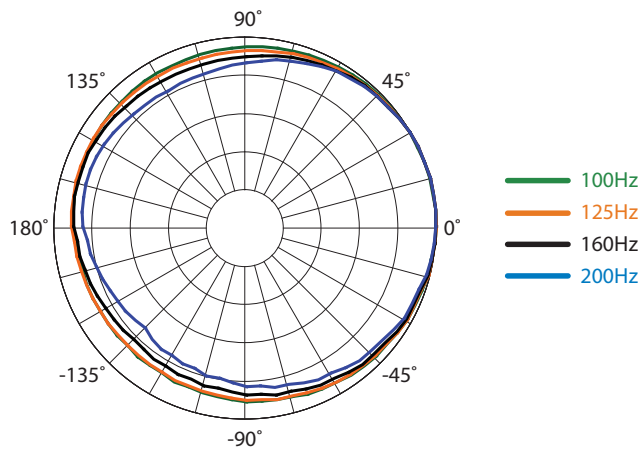
HORIZONTAL POLAR DATA

See *NOTES GRAPHIC DATA* for details

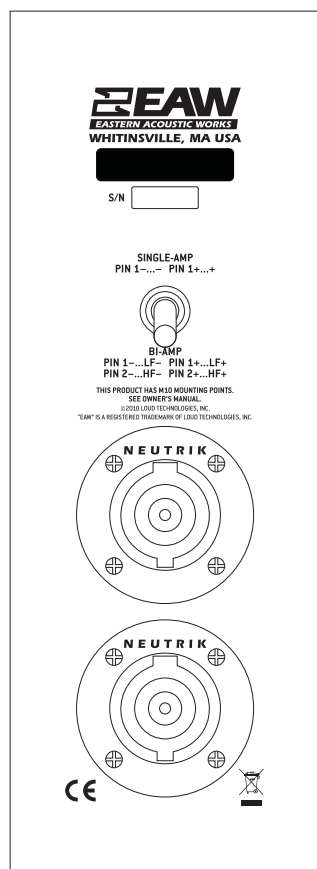


VERTICAL POLAR DATA

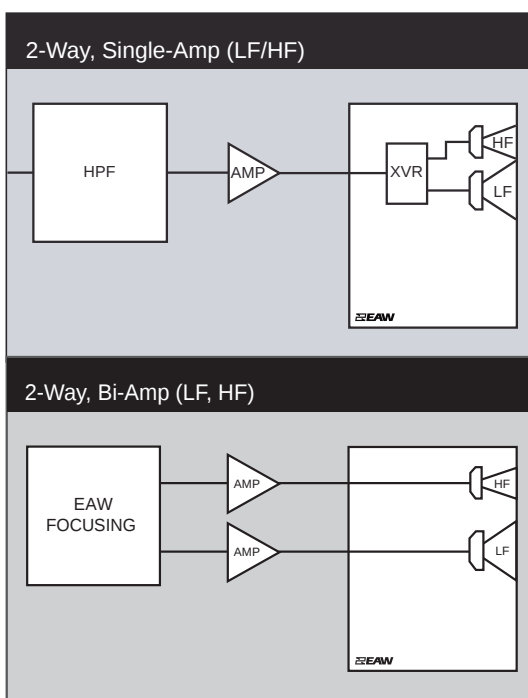
See *NOTES GRAPHIC DATA* for details



INPUT PANEL



SIGNAL DIAGRAM



LEGEND

DSP:	EAW UX8800 Digital Signal Processor –or– Integral Digital Signal Processing for NT products.
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 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 +/-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 µs, precision +/-0.5 µs, resolution 10.4 µs; Angular: accuracy +/-1°, precision +/-0.5°, 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 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.