



## FEATURES

- Premium Performance
- Application Flexibility
- Neodymium Components
- NT upgrade capability
- Switch configurable powering modes (passive/bi-amp)

## 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 legendary KF Series of premium 3-way loudspeakers pack even more capability and application flexibility into an ultra-compact package. The integration of premium neodymium components, a co-axial mid/high frequency component and world-renowned crossover design into an adaptable enclosure offers unprecedented utility. They natively offer both portable features and M10 installation points. Available universal accessories include trim plates that hide handles, 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.

## 3-WAY FULL-RANGE LOUDSPEAKER

See *NOTES TABULAR DATA* for details

### CONFIGURATION

#### Subsystem:

<i>Transducer</i>	<i>Loading</i>
LF 2× 10 in cone	Vented
MF 1× 1.4 in cone, 3.5 in coil compression mid	Horn-loaded
HF 1× 1.4 in exit, 1.75 in voice coil compression driver	Horn-loaded

#### Operating Mode:

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

### PERFORMANCE

**Operating Range:** 64 Hz to 20 kHz

#### Nominal Beamwidth:

Horz 90°  
Vert 45°

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

LF/MF/HF 98 dB	64 Hz to 20 kHz
LF 99 dB	64 Hz to 613 Hz
MF/HF 111 dB	473 Hz to 20 kHz

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

<i>Nominal</i>	<i>Minimum</i>
LF/MF/HF 8	6.6 @ 124 Hz
LF 8	6.4 @ 392 Hz
MF/HF 8	6.7 @ 3600 Hz

**High Pass Filter:** High Pass=>64 Hz, 12 dB/octave Butterworth

#### Accelerated Life Test:

LF/MF/HF 94 V	1100 W @ 8 ohm
LF 78 V	750 W @ 8 ohm
MF/HF 40 V	150 W @ 8 ohm

#### Calculated Axial Output Limit (*whole space SPL - 6dB Crest Factor*)

<i>Average</i>	<i>Peak</i>
LF/MF/HF 128 dB	134 dB
LF 128 dB	134 dB
MF/HF 133 dB	137 dB

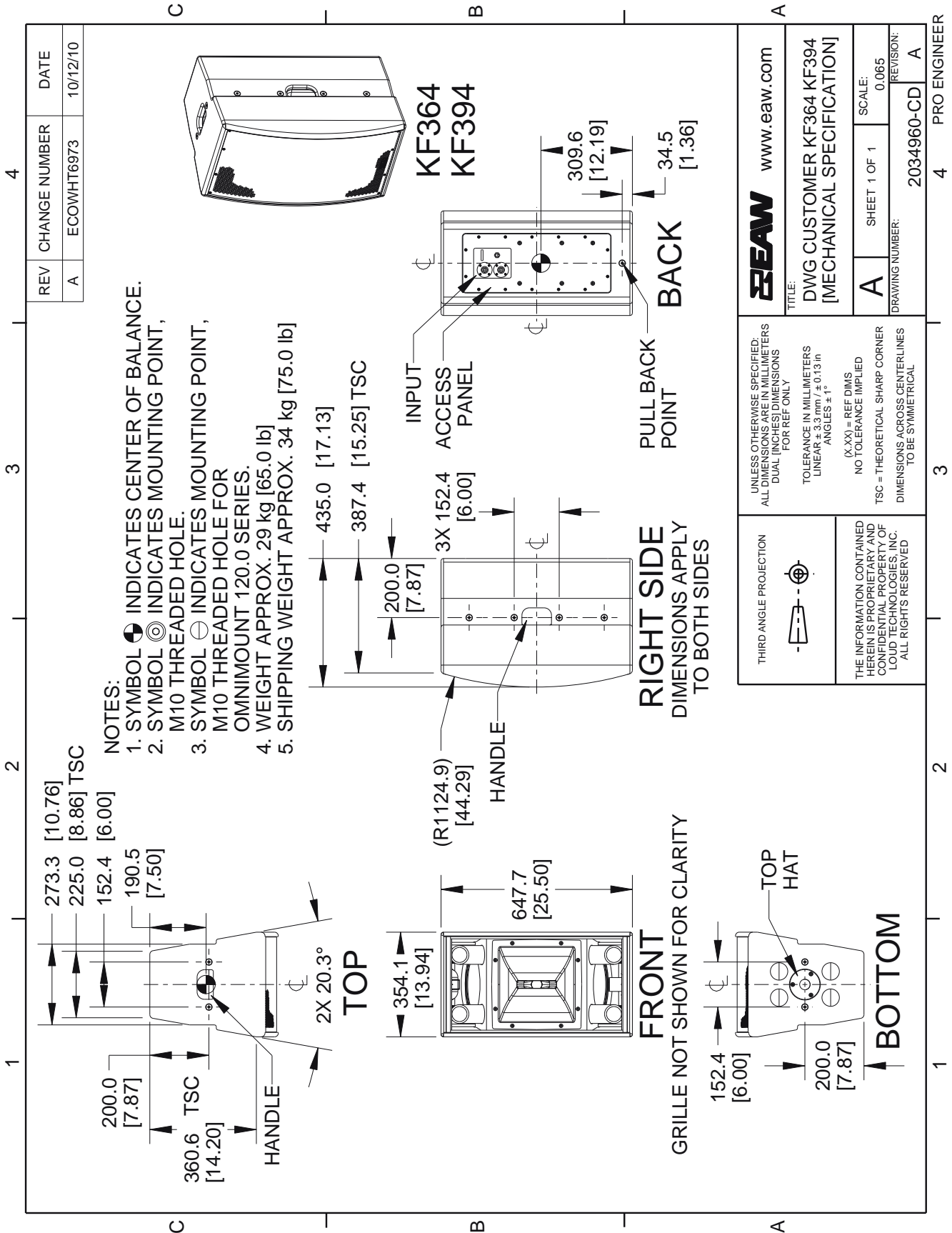
**Max SPL Output (*whole space SPL - 12dB Crest Factor*)** 143 dB

### ORDERING DATA

<b>Description</b>	<b>Part Number</b>
EAW KF394 3-way Full-Range Loudspeaker Black	2034959-00

#### **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



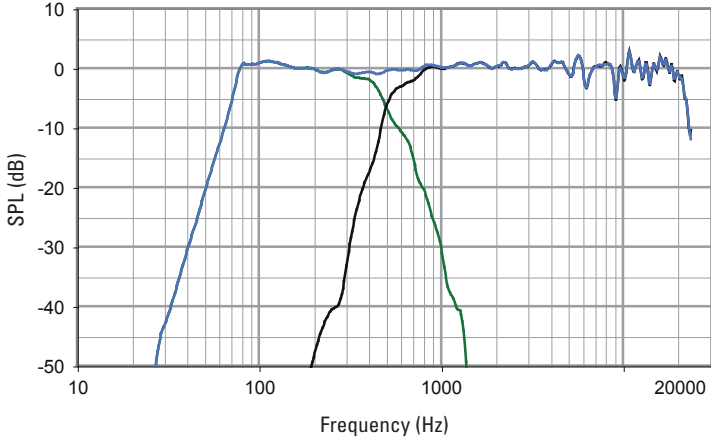
NOTE: This drawing has been reduced. Do not scale.

**PERFORMANCE DATA**

See *NOTES GRAPHIC DATA* for details

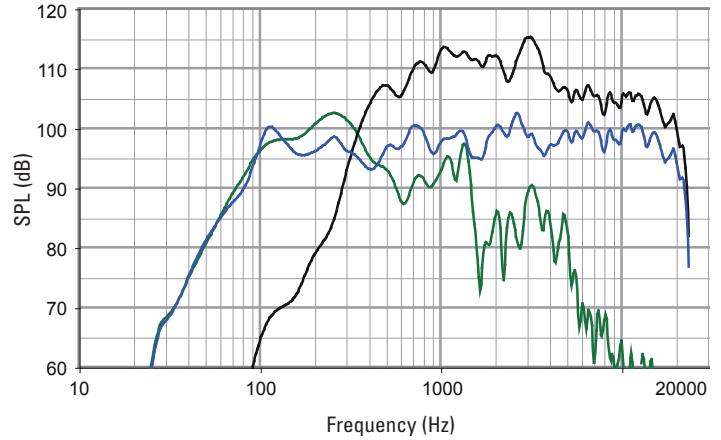
**Frequency Response: Processed Multi-Amp**

LF = green, HF = black, Complete = blue



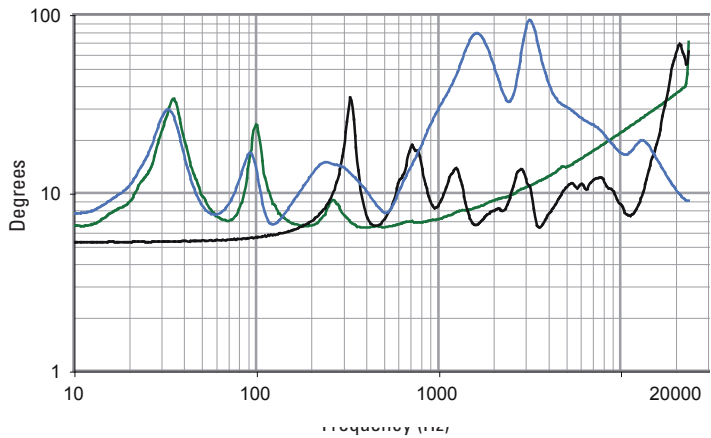
**Frequency Response: Unprocessed**

LF = green, HF = black, Complete = blue



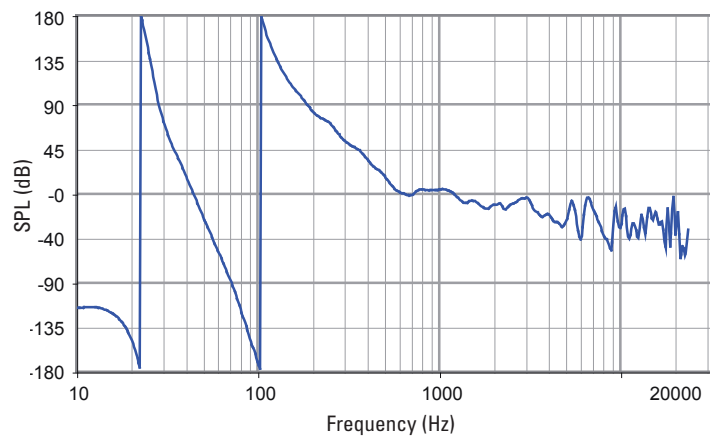
**Impedance**

LF = green, HF = black, Complete = blue



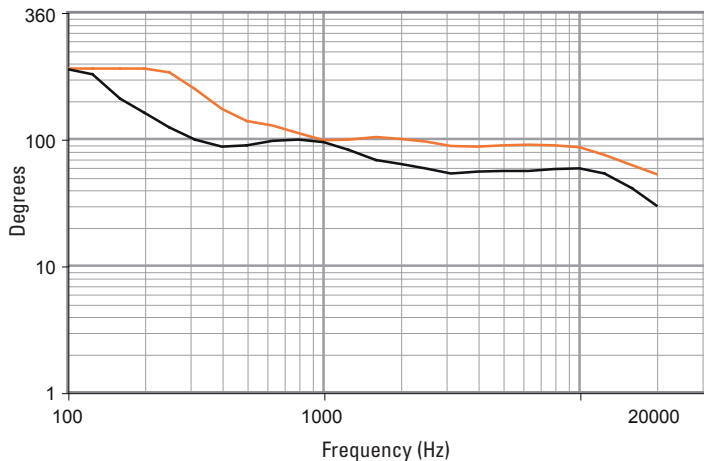
**Phase Linearity**

Complete = blue



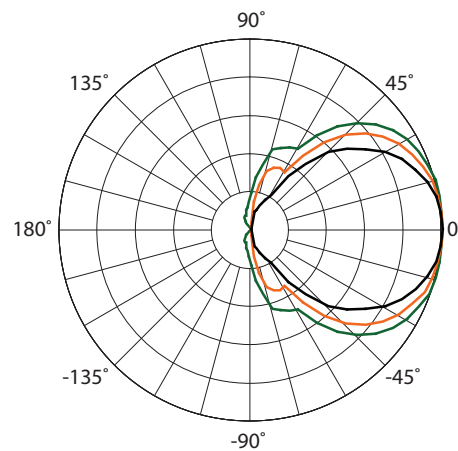
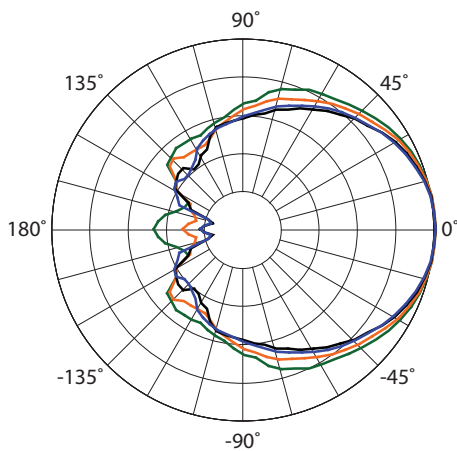
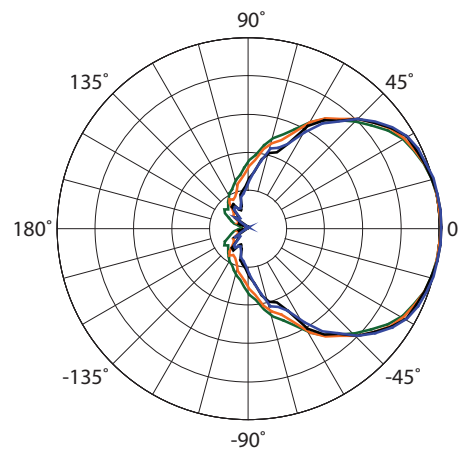
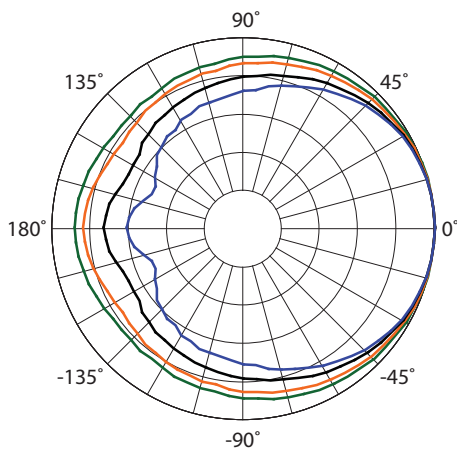
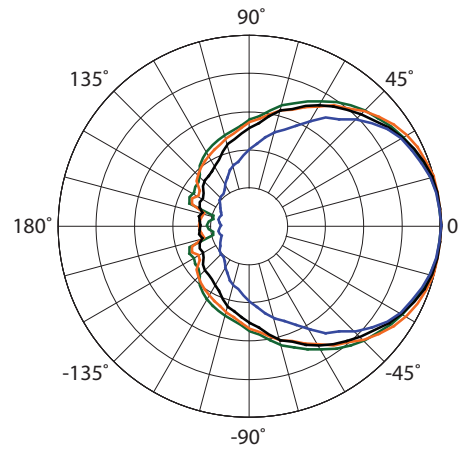
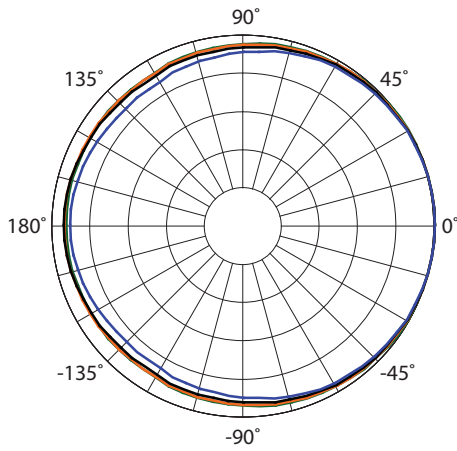
**Beamwidth**

Horizontal = orange Vertical = black



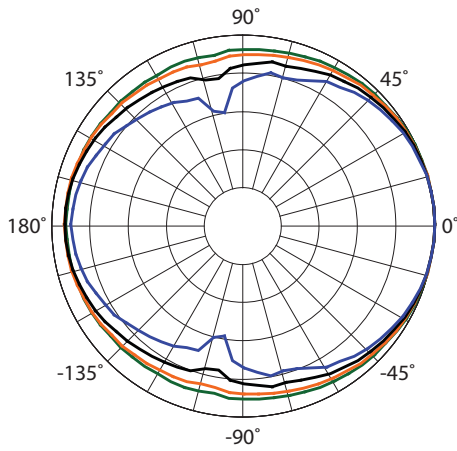
**HORIZONTAL POLAR DATA**

See *NOTES GRAPHIC DATA* for details

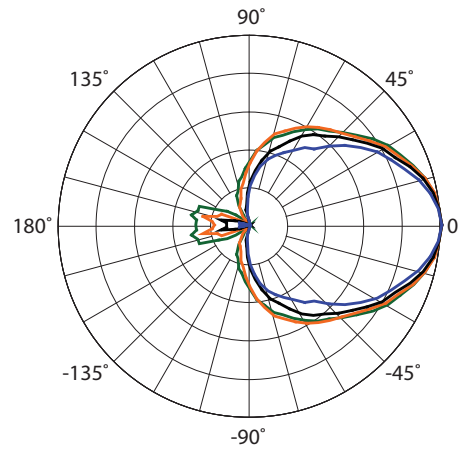


**VERTICAL POLAR DATA**

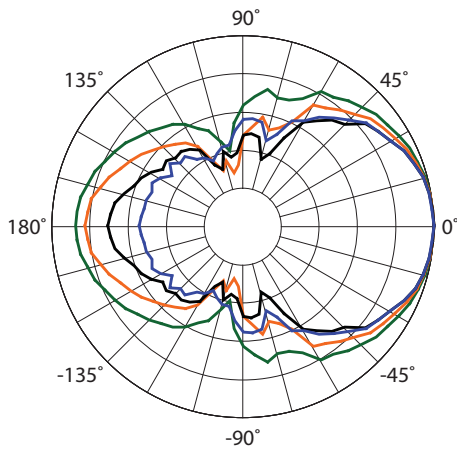
See *NOTES GRAPHIC DATA* for details



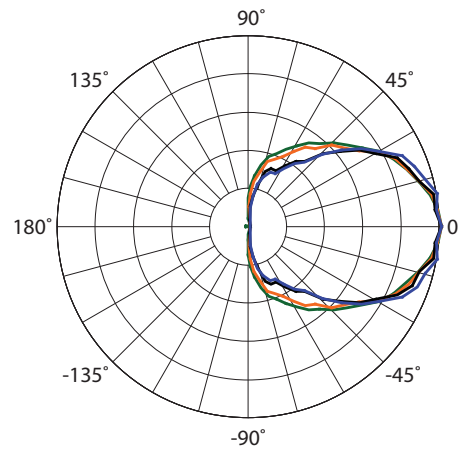
- 100Hz
- 125Hz
- 160Hz
- 200Hz



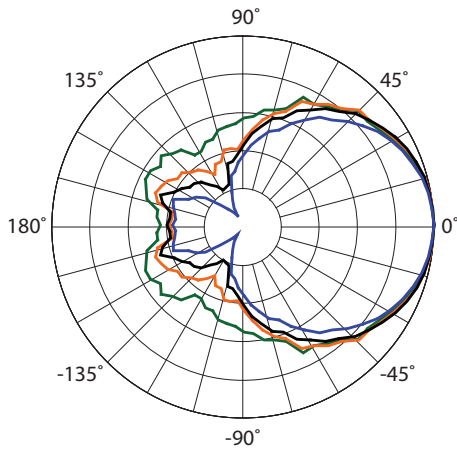
- 1600Hz
- 2000Hz
- 2500Hz
- 3150Hz



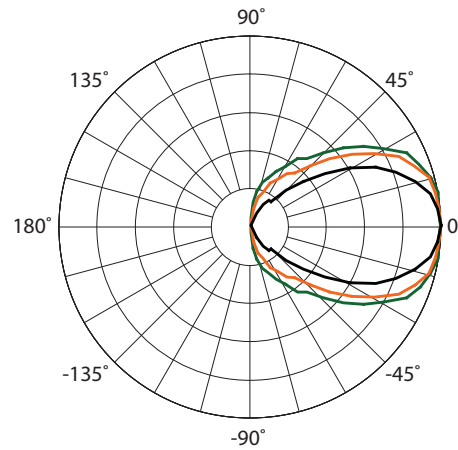
- 250Hz
- 315Hz
- 400Hz
- 500Hz



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

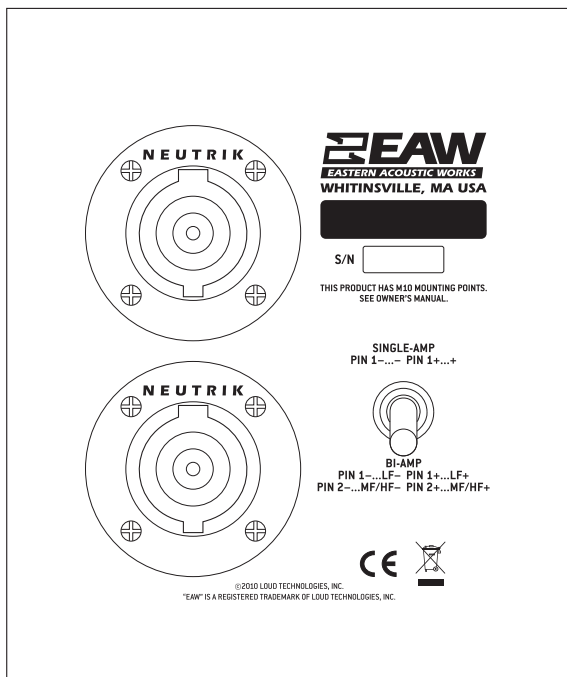


- 630Hz
- 800Hz
- 1000Hz
- 1250Hz

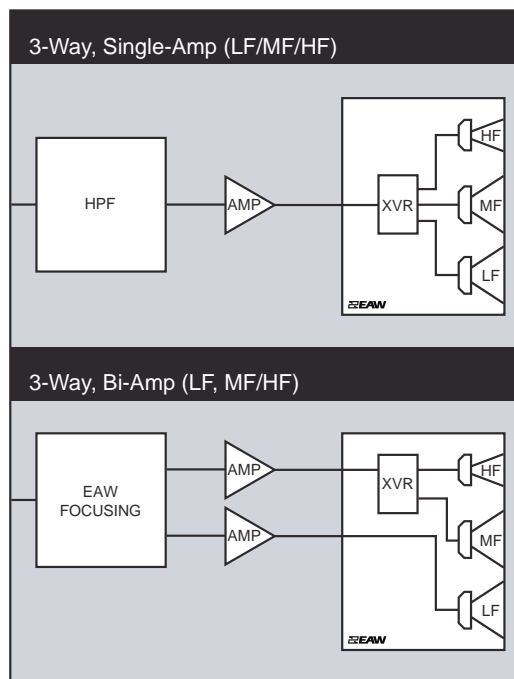


- 10000Hz
- 12500Hz
- 16000Hz

## 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

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 µs, precision +/-0.5 µs, resolution 10.4 µs; 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.