

RSX12M Specifications



Features

- Extremely approachable EAWmosaic™ iOS app delivers system prediction, control and monitoring from any location in the venue.
- Proven EAW acoustical design and DSP including Focusing™ and DynO™ provides a pristine impulse response at all output levels.
- Four pre-defined voicings provide a variety of tonal starting points while also offering maximum feedback stability.
- Integrated Dante™ networking (with loop-thru) on all models including Analog redundancy capability.
- Low latency of just 2.6 ms provides excellent transparency for vocal monitoring applications

Applications

- House of Worship
- Theatres, Auditoria and Performing Arts Centers
- Live Music Clubs
- Corporate AV Houses
- Live Production/Regional Rental Houses
- Dry Hire

Description

Designed to streamline setup and deliver maximum results in minimum time, RADIUS couples unique and intelligent features with EAW's signature acoustical design to deliver solutions for rental firms and system integrators. The RSX12M features onboard bi-amplified electronics (500W per channel) featuring signature EAW DSP including Focusing and DynO for pristine impulse response. RSX12M's coverage pattern is a uniform 105°x105°. EAWmosaic™ app provides total system optimization from anywhere in the venue, plus intuitive room design and prediction in a single, comprehensive application. With the proven sonic performance of EAW's acoustic design and DSP mastery plus full Dante integration across the line, RADIUS delivers an intelligent and flexible system to fit any budget.

2-WAY SELF-POWERED STAGE MONITOR 105°x105°

Configuration

Subsystem	Transducer	Loading
LF	1 x 12 in cone, 2.5 in voice coil	Vented
HF	1 x 1 in exit, 1.77 in voice coil compression driver	Horn-loaded

Operating Mode	Amplifier Channels	Signal Processing
Bi-amp	LF, HF	DSP w/EAW Focusing™ and DynO™

Performance

Operating Range
55Hz to 18kHz

Nominal Beamwidth
Horizontal 105° Vertical 105°

Calculated Axial Output Limit (Whole Space - 6dB Crest Factor)
Average 122 dB Peak 128 dB

Max SPL (Whole Space - 12dB Crest Factor)
129 dB

Electrical Performance

Input	Type	Electronically balanced
Max Input Level	21dBu	
Impedance	20 kOhm (balanced)	
Wiring	XLR/F, Pin 1 chassis, pin 2 +, pin 3 -	
	Separate loop-thru XLRM (for analog signal only)	

Input Selection
Analog, Dante

Amplifiers & Processing	LF	HF
Type	Modified Class D	Modified Class D
Maximum Output	500W	500W
Driver Protection	Integral DSP limiting	Integral DSP limiting

AC Mains (nominal)	
Connector	Neutrik PowerCon®
Input	100 V to 240 V
Frequency	50 Hz to 60 Hz
Power Consumption	Idle 22 W Peak Draw 175 W

Controls/Communication	
Connections	2x Neutrik® etherCON™, RJ-45
Protocols	Ethernet/Dante
Software	EAWmosaic™ (available on the App Store®)
Indicators	LCD Screen on amplifier panel for UI, Logo LED (User-definable behavior)
User Controls	Push-button Rotary Encoder

Weight
36lbs/ 16.3kg

Dimensions
13.1x19.7x19.2 in/ 333x501x489 mm

Ordering Data	Part Number
Description EAW RSX12M BLACK	2047581-90
Optional Accessories EAW ACC WEATHER PROTECTION SHIELD	2047681
EAW COVER TRANSPORT RSX12M	2047360-08

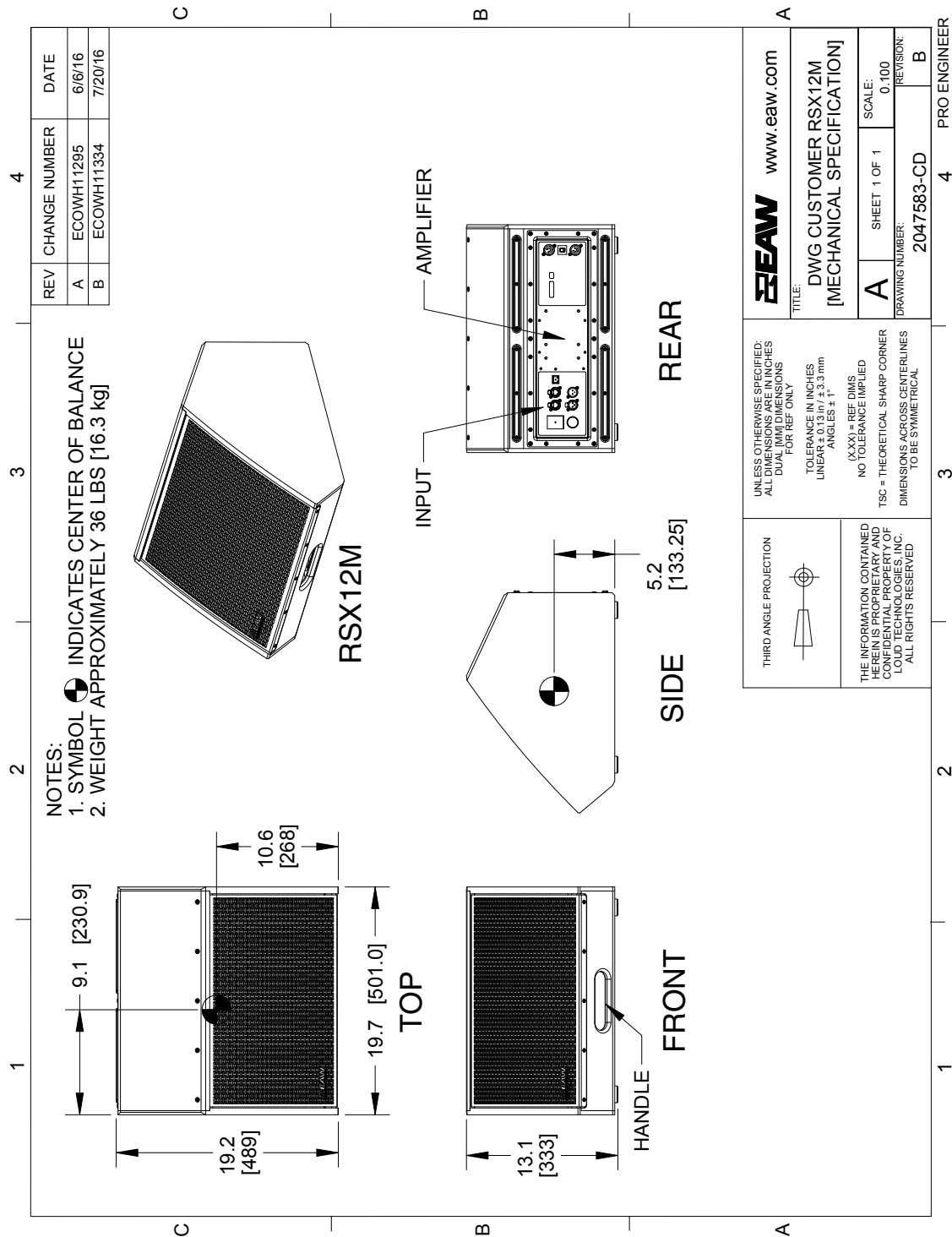


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Enclosure

Material	Exterior-grade hardwood plywood
Finish	Weather-resistant textured RoadCoat™
Grille	Pre-treated, powder-coated perforated steel

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



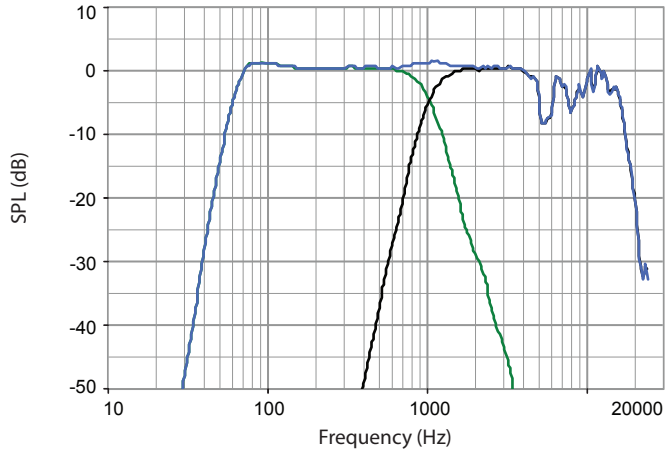
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Performance Data

See *NOTES GRAPHIC DATA* for details

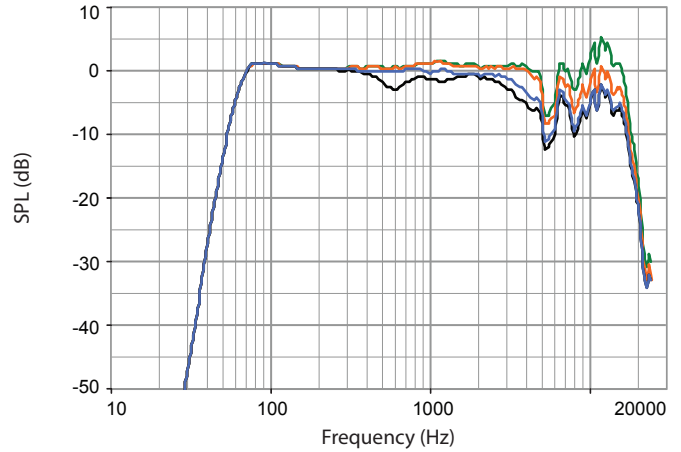
Frequency Response: Processed

LF = green, HF = black, Complete = blue



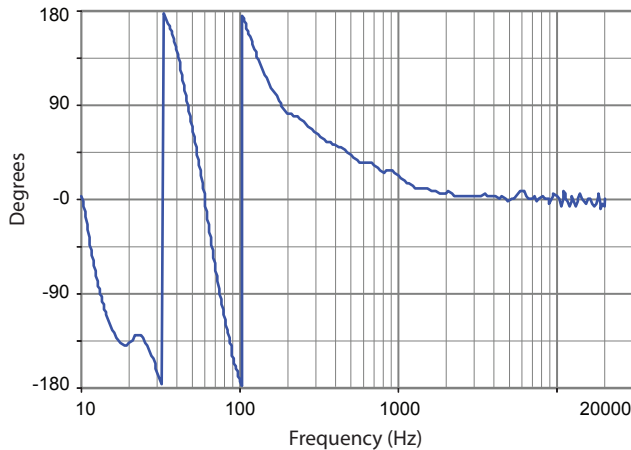
Frequency Response: Voicings

Sapphire = green, White = orange, Grey = black, Blue = blue



Phase Linearity

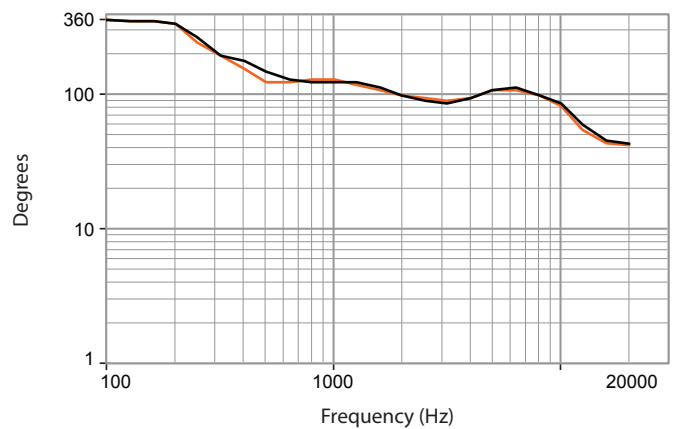
Complete = blue



Beamwidth

Horizontal = orange

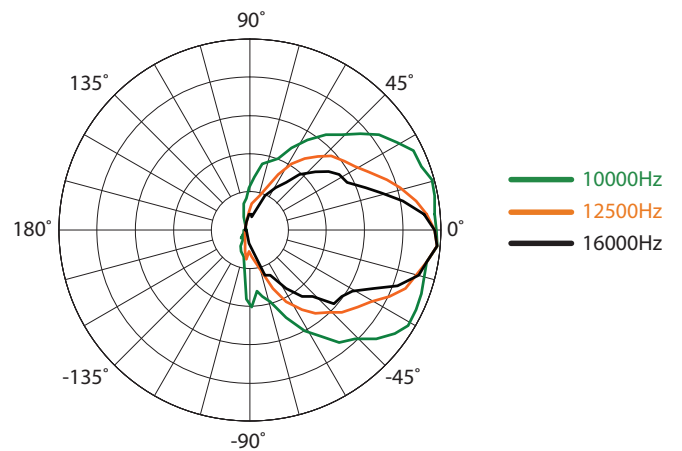
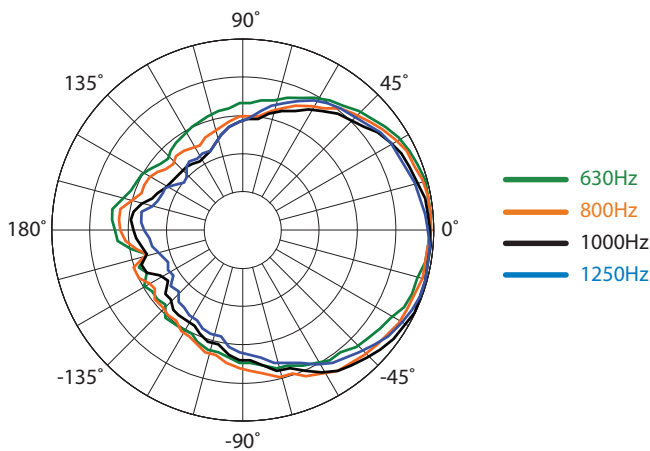
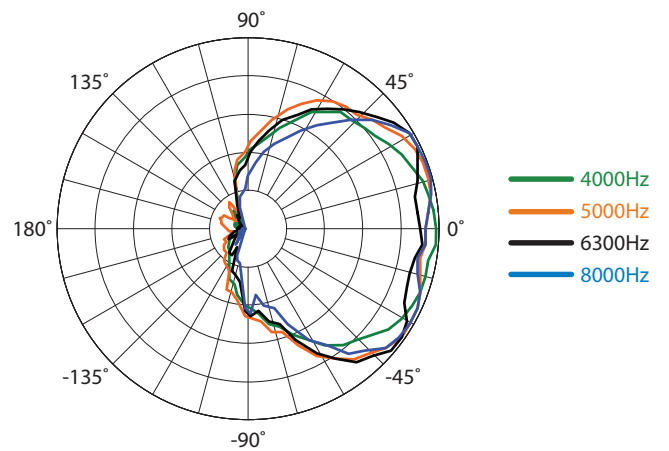
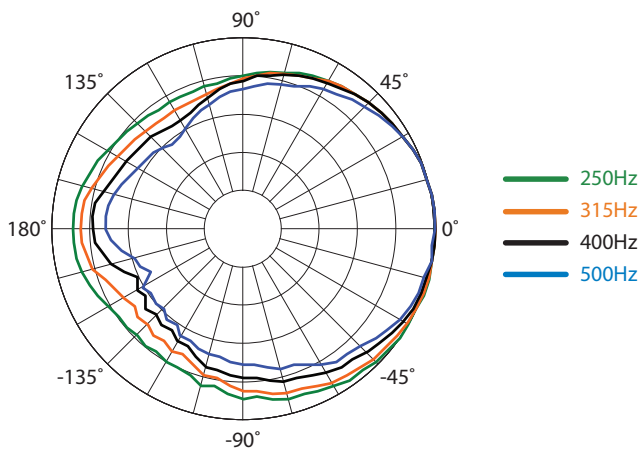
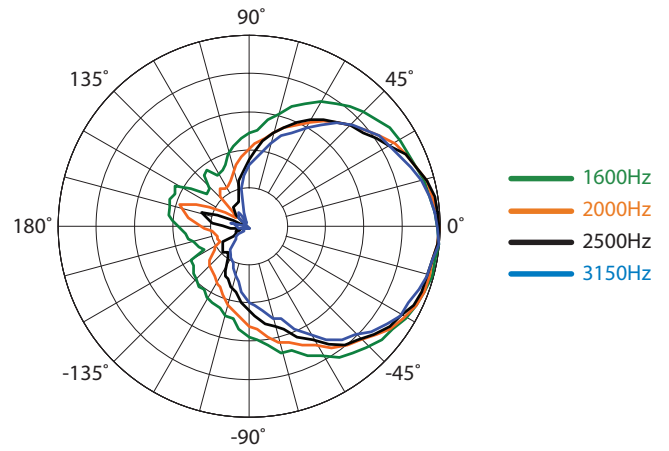
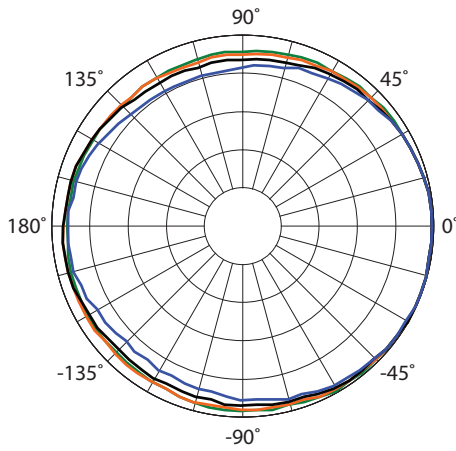
Vertical = black



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Horizontal Polar Data

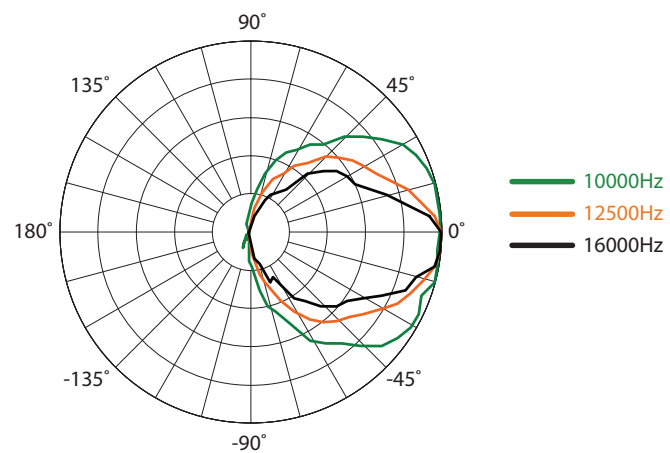
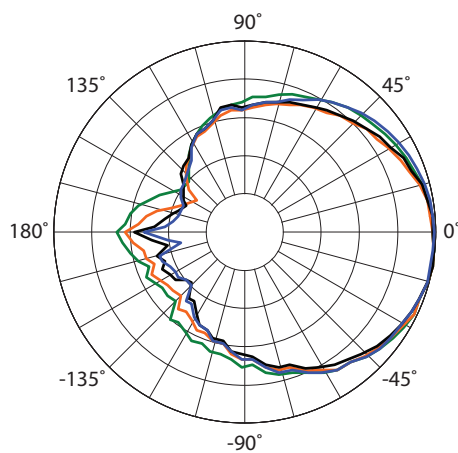
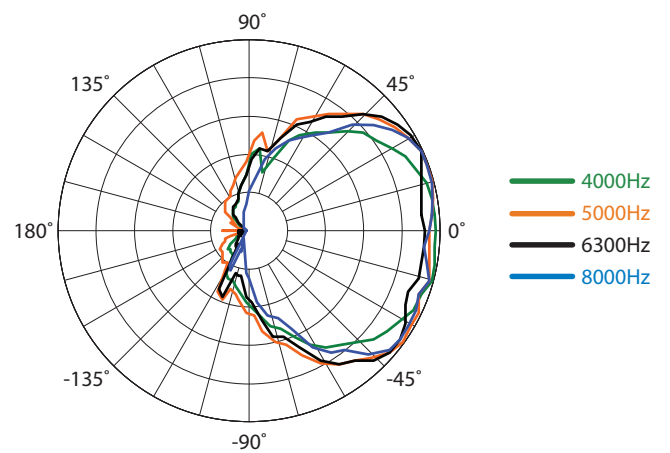
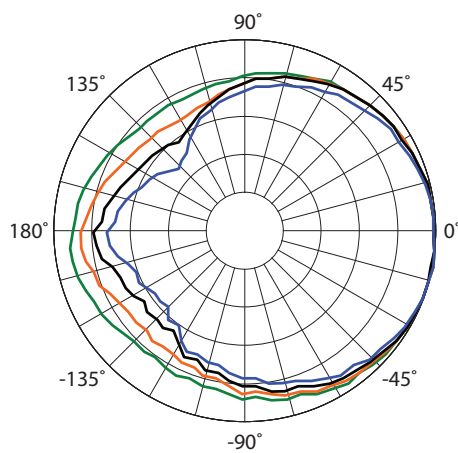
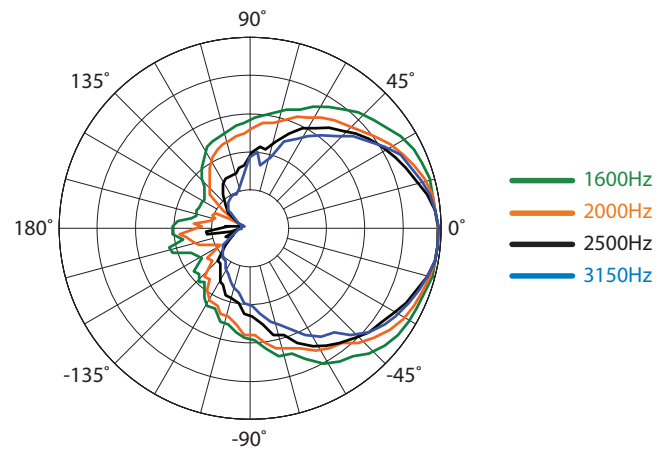
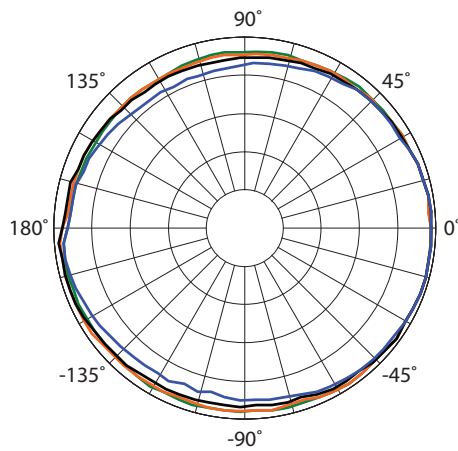
See NOTES GRAPHIC DATA for details



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Vertical Polar Data

See NOTES GRAPHIC DATA for details

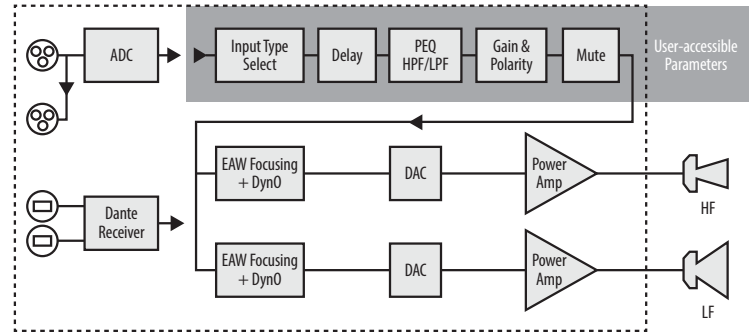


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Input Panel



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
- EAW DynO** Digital Signal Processor capable of implementing EAW DynO processing

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 +/-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.