



FEATURES

- Engineered to complement flown or stacked KF730 arrays
- High output to size ratio from custom-designed 12 in drivers
- Extended response to 33 Hz
- Integral lightweight fly hardware of 6061-T6 structural aluminum

DESCRIPTION

The SB730 is designed as a companion to KF730 Line Arrays, but is suitable for other applications requiring high output at low frequencies in a highly compact format. Used in arrays of two or more, the SB730s couple to extend the low frequency response. The unique enclosure shape both enhances the acoustical performance and serves to provide a solid base for a ground-stacked KF730 array. The SB730 enclosure is 1.5 times the height of a KF730, which allows attractive KF730/SB730 arrays to be assembled in a 3:2 ratio.

The "clam shell" arrangement of its two, advanced design, 12 inch woofers provides tighter driver coupling to increase output and maximize LF "punch". A massive port radiates the considerable energy needed at the enclosure's tuning frequency to complement the KF730s output at other frequencies.

Several different wiring configurations are permitted. In addition to Neutrik® NL4 input and loop-through connectors, an NL8 connector accepts amplifier outputs for both SB730s and KF730s using a single amplifier rack cable. Additional SB730s and KF730s are then daisy chained from one SB730. This allows powering up to eight KF730s and four SB730s with just four amplifier channels.

The enclosure features integral skids and companion recesses so that enclosures interlock to stabilize stacked SB730s. Heavy duty handles and an optional caster pallet facilitate transporting.

1 To achieve specified performance, the listed external signal processing with EAW-provided settings is required.

2 For recommendations to select power amplifier size refer to: "HOW MUCH AMPLIFIER POWER DO I NEED?" on the EAW web site.

SUBWOOFER Single or Dual Amp

See TABULAR DATA notes for details

CONFIGURATION

Subsystem		
	Transducer	Loading
Sub	2x 12 in cone	Vented

Operating Mode		
	Amplifier Channels	External Signal Processing
Single-amp	Sub 1/2	DSP w/1-way filter
Dual-amp	Sub 1, Sub 2	DSP w/1-way filter

PERFORMANCE ¹

Operating Range	33 Hz to 155 Hz
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Nominal Beamwidth		
Horz	360°	
Vert	360°	

Axial Sensitivity (whole space SPL)	96 dB	33 Hz to 155 Hz
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Peak Sensitivity (whole space SPL)	104 dB	20 Hz to 20 kHz
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Input Impedance (ohms)		
	Nominal	Minimum
Sub1/2	4	4.5 @ 140 Hz
Sub 1, Sub 2	8, 8	9.0 @ 140 Hz

Recommended High Pass Filter	High Pass => 30 Hz, 12 dB/octave Butterworth
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Accelerated Life Test ²		
Sub1/2	69 V	1200 W @ 4 ohm
Sub 1, Sub 2	69 V, 69 V	600 W, 600W @ 8 ohm

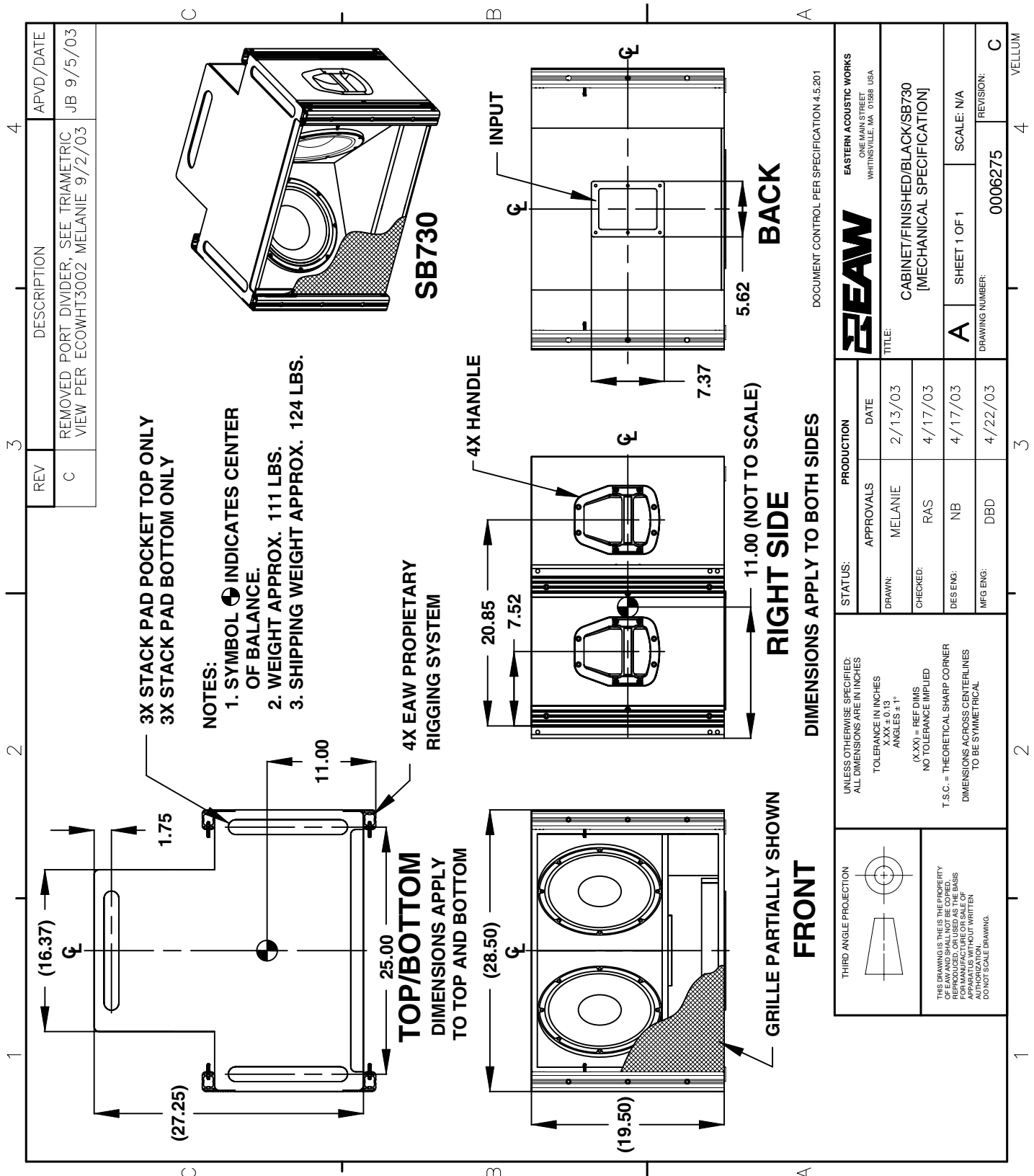
Calculated Axial Output Limit (whole space SPL)		
	Average	Peak
Sub	127 dB	133 dB

ORDERING DATA

Description	Part Number
SB730 Subwoofer	0006108
Optional Accessories	
KF730/SB730 Fly-Bar	0006265
Fly-Bar Spare Connecting Pin: 2.5 inch	0006266
Spare Connecting Pin: 1.5 inch	0006122
SB730 Caster Pallet	0006386

ENCLOSURE

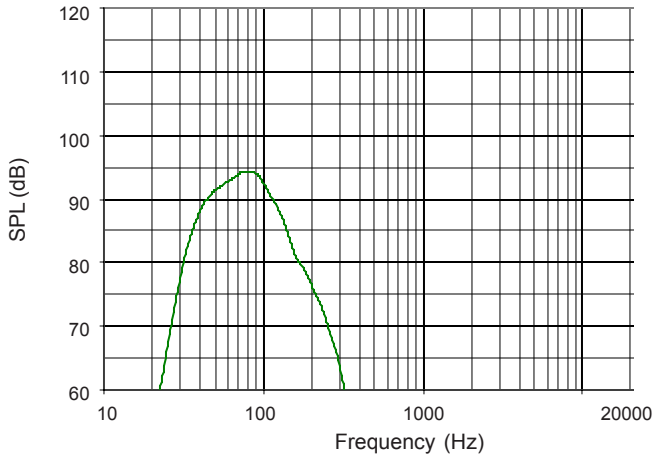
Material	Baltic birch plywood
Finish	Wear resistant textured black paint
Grille	Powder-coated perforated steel



PERFORMANCE DATA See NOTES GRAPHIC DATA Notes for details

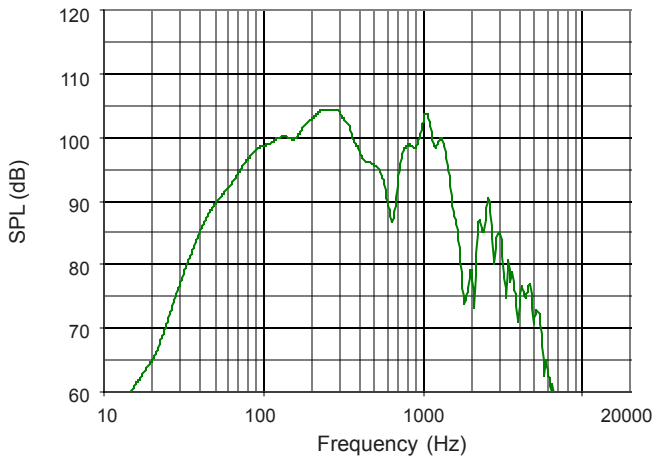
Frequency Response: Processed Single-amplified

Sub 1/2 = green



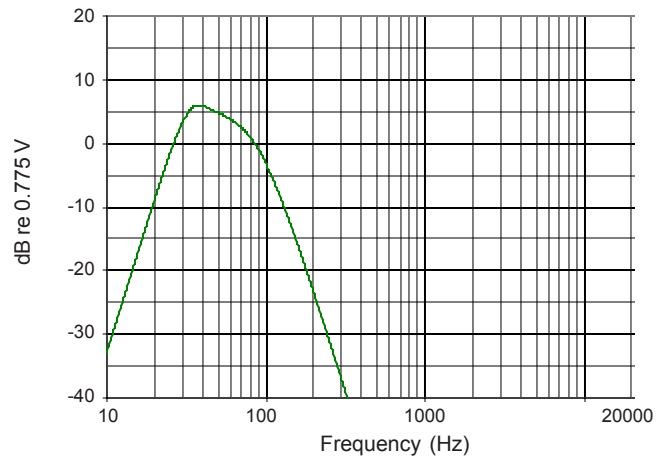
Frequency Response: Unprocessed

Sub 1/2 = green



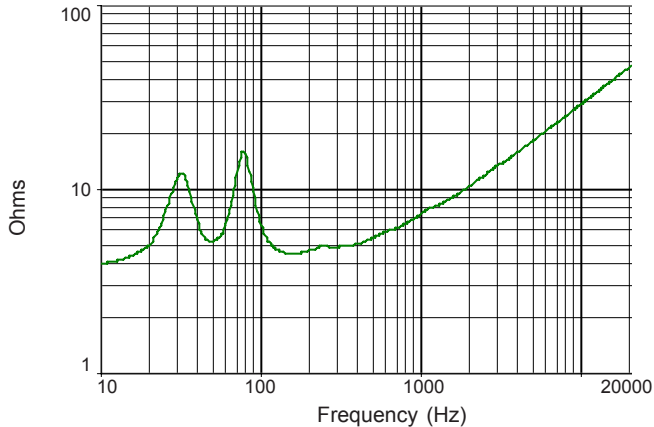
Frequency Response: Digital Signal Processor

Sub = green

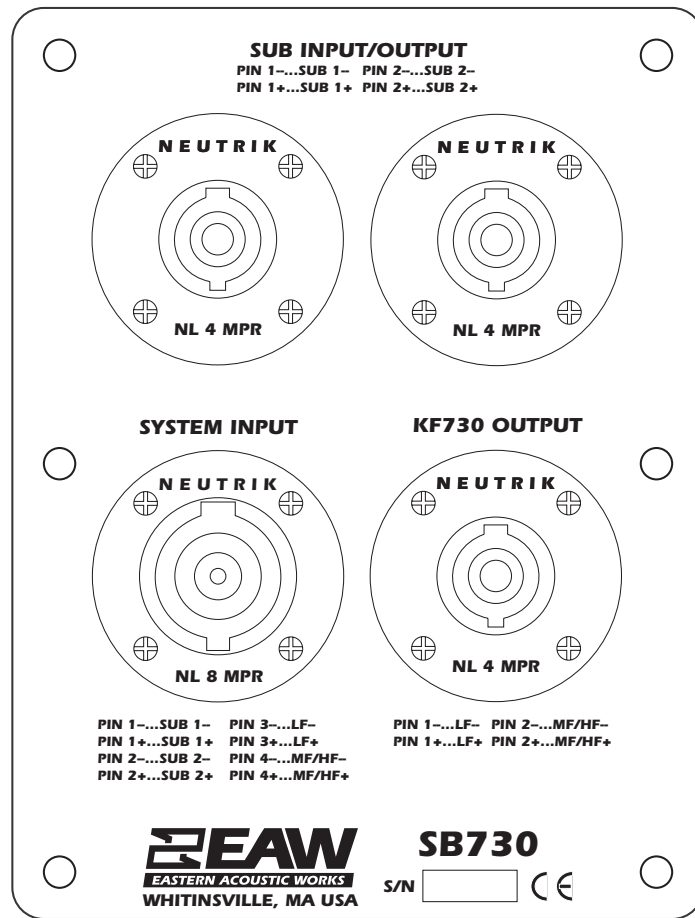


Impedance Magnitude

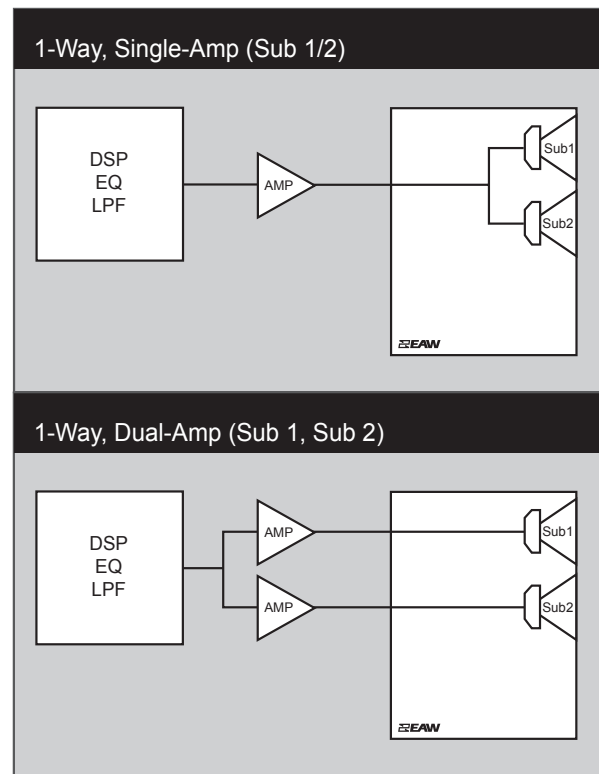
Sub 1/2 = green



INPUT PANEL



SIGNAL DIAGRAM



LEGEND

- DSP:** User-supplied Digital Signal Processor for EQ, crossover, and delay.
- 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.
- PWR AMP:** User-supplied Power Amplifier.
- XVR:** Passive LPFs, HPFs, and EQ integral to the loudspeaker.

NOTES

TABULAR DATA

- 1. Primary Measurement/Data Processing System:** FChart: proprietary EAW software.
- 2. Secondary Measurement System:** Brüel & Kjær 2012.
- 3. Microphone Systems:** Earthworks M30; Brüel & Kjær 4133
- 4. Measurements:** Dual channel FFT; length: 32 768 samples; sample rate: 48 kHz; logarithmic sine wave sweep.
- 5. 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 +/-1°, resolution 1°.
- 6. Environment:** Measurements time-widowed and processed to eliminate room effects, approximating an anechoic environment. Data processed as anechoic or fractional space, as noted.
- 7. Measurement Distance:** 7.6 to 8.0 m. Data is referenced to other distances using the Inverse Square Law.
- 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. Peak Sensitivity:** Highest axial SPL measured within the 20 Hz to 20 kHz bandpass 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.
- 17. 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.
- 18. Accelerated Life Test:** Maximum test input voltage applied with an EIA-426B defined spectrum; measured with recommended signal processing and Recommended Protection Filter.
- 19. 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.
- 20. Recommended High Pass Filter:** This should be used to help protect the loudspeaker from excessive input signal levels below the Operating Range.

GRAPHIC DATA

- 1. Resolution:** To remove insignificant fine details, 1/12 octave cepstral smoothing was applied to acoustic frequency response and 1/3 octave cepstral smoothing was applied to the beamwidth and impedance data. Other graphs are plotted using raw data.
- 2. Frequency Responses:** The variation in acoustic output level with frequency for a constant input signal of 2 volts (4 ohm nominal impedance), 2.83 volts (8 ohm nominal impedance), or 4 volts (16 ohm nominal impedance) referenced to a distance of 1 m. For processed systems, this applies where the processor gain is 0 dB in the Processor Frequency Response graph.
- 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. Referenced to 20 m.
- 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).