GEO S805

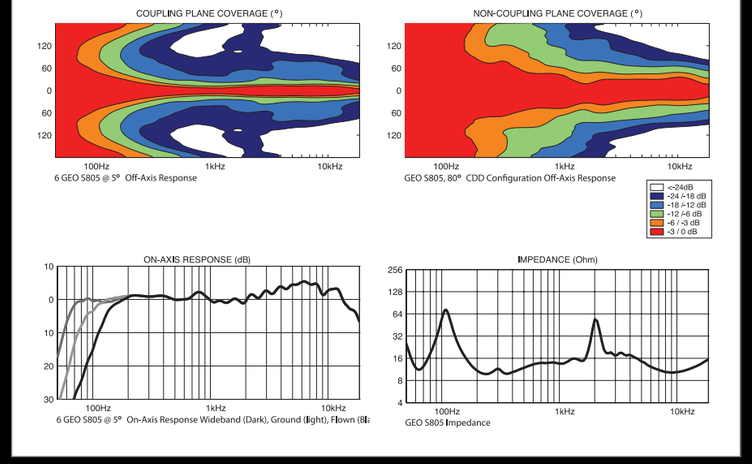
Rear view

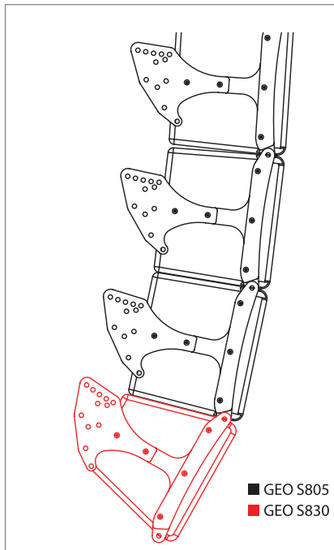
Front/Side view

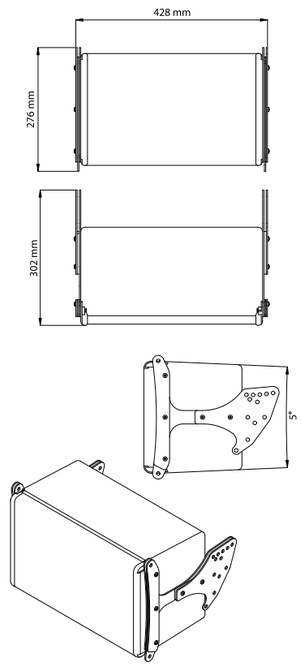
The GEO S805 is compact, high-output array module designed for use in vertical tangent arrays. The Hyperboloid Reflective Wavesource allows multiple GEO S8 loudspeakers to radiate tangent wavefronts with coherent output.

The 5° wavesource is optimized for the construction of curved vertical arrays that deliver equal power to equal coverage areas for consistent SPL from front to rear of the audience area.

Advanced DSP algorithms, applied by the NXAMP/NX242 TDcontroller, precisely integrate GEO S systems with CD12 SubBass cabinets, so they may be flown together, without causing any interference between the GEO S and CD12 wavefronts.







Specifications

GEO S805 PRODUCT FEATURES	
Components	LF 1x 8" (20cm) Neodymium Hi-flux 16Ω Driver HF: 1x 1" Throat Neodymium Driver on a Hyperboloid Reflective Wavesource
Height x Width x Depth	406 x 250 x 219mm (16" x 9 7/8" x 5 5/8")
Shape	5° Trapezoid
Weight	13kg (28.6lbs) net
Connectors	2x NL4MP 4-pole SPEAKON (In & Through)
Construction	Baltic Birch Ply finish with structured black coating. Dark grey carpet is optional.
Fittings	Grill Perforated Steel
Flying	Integral flying system. Intercabinet Angle Adjustments = 17.5° & 30°

SYSTEM SPECIFICATIONS	GEO S805 WITH NXAMP/NX242 TDCONTROLLER
Frequency Response [a]	67Hz – 19kHz ± 3dB
Usable Range @-6dB [a]	60Hz – 20kHz
Sensitivity 1W @ 1m [b]	99dB SPL Nominal -97dB SPL Wideband
Peak SPL @ 1m [b]	Configuration dependent [d].
Dispersion [c]	Configuration dependent [d].
Non Coupling Plane	120° (configurable to 80°).
Directivity Index [c]	Not usable as a single cabinet. Configuration dependent [d].
Crossover Frequency	1.6kHz Passive
Nominal Impedance	16Ω
Recommended Amplifiers	1500 to 3000Watts into 4Ω / 4x cabinets per channel. Up to 6x cabinets per channel may be connected to large amplifiers capable of operating into low impedance loads.

SYSTEM OPERATION	
Electronic Controller	The NX TDcontroller presets are precisely matched to the GEO S8 Series cabinets and include sophisticated protection systems. Using GEO S8 Series cabinets without a properly-connected NX TDcontroller will result in poor sound quality and can damage components. The GEO S805 & S830 can be used without the optional CD12 Hypercardioid Sub. In this case the NX TDcontroller can be used in stereo. With the CD12 Hypercardiod Sub, each Sub channel requires two NX TDcontroller outputs and the NX TD will operate in mono.
HF Dispersion Configuration	After release of the front grill from its fittings, the HF Waveguide can be configured for 80° or 120° dispersion in the non-coupling plane.
Array Design	S805 and S830 cabinets, having tangent waveguides, can be mixed in the same array. Minimum configuration for Vertical Tangent Arrays is 5x S805 & 1x S830 (4x S805 for paging applications only). CD12s are optional. A a ratio of 1x CD12 per 3x full-range GEO modules is required for proper subbass output.
Speaker Cables	The GEO S805 and S830 are wired 1- & 1+ on both Speakon connectors, 2- & 2+ are not connected.
Rigging System	Please refer to the GEO User Manual before any operation.

SHIPPING & ORDERING	
Packaging	S830s are packaged in single units.
Shipping Weight & Volume	2x S830s: 29.2kg (64.2 lbs) 0.135 cu m (4.8 cu ft)

As part of a policy of continual improvement, NEXO reserves the right to change specifications without notice. [a] Response Curves and Data: Anechoic Far Field above 300Hz, Half-space below 300Hz. Usable Range Data: Frequency Response Capability with TD crossover slopes removed. [b] Sensitivity & Peak SPL: will depend on spectral distribution. Measured with band limited Pink Noise. Refers to the specified +/- 3dB range. Data are for Speaker + Processor + recommended amplifier combinations. [c] Directivity Curves and Data: 1/3 octave smoothed frequency response, normalized to On-Axis response. Data obtained by computer processing of off-axis response curves. [d] Please refer to the GEO User Manual.

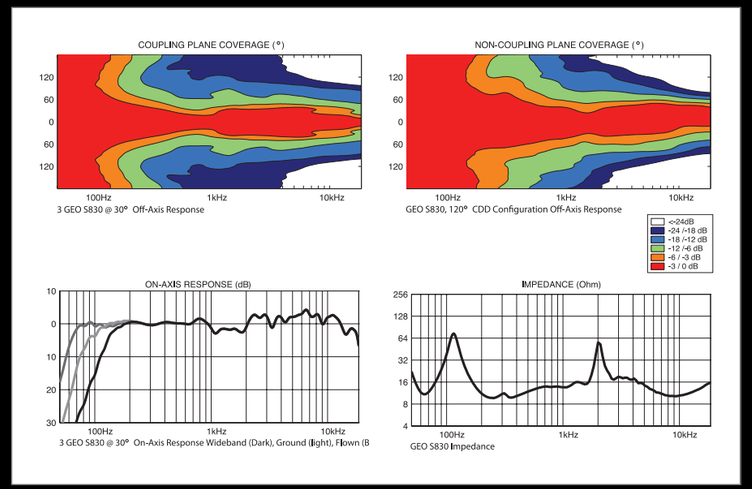
GEO S830

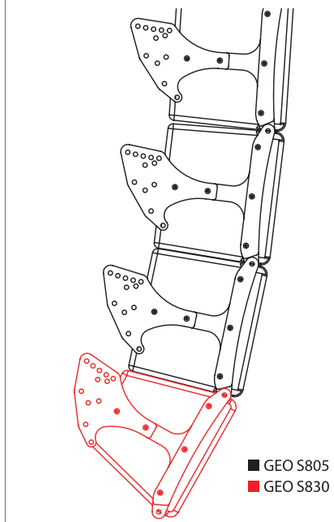
Rear view

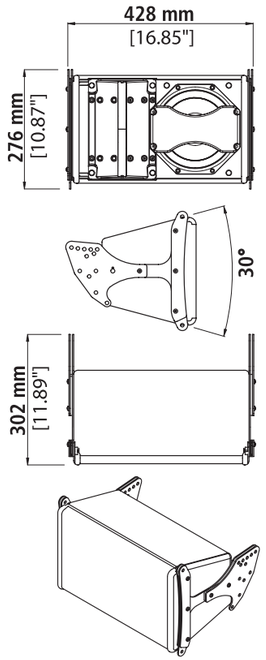
Front/Side view

The compact GEO S830 is a high-output array module intended for horizontal tangent arrays or as a downfill element in curved (tangent) vertical arrays to establish consistent SPL in all coverage areas. The HRW™ allows the 30° S830 and 5° S805 to be coherently arrayed together.

GEO S Series loudspeakers ship with 120° dispersion (in the non-coupling plane) Configurable Directivity Devices (CDD), but are field-changeable to 80° CDDs. To maximize downfill coverage, CDFs are used on GEO S830s for the bottom two rows of curved vertical arrays.







Specifications

GEO S830 PRODUCT FEATURES	
Components	LF 1x 8" (20cm) Neodymium Hi-flux 16Ω Driver HF: 1x 1" Throat Neodymium Driver on a Hyperboloid Reflective Wavesource
Height x Width x Depth	428 x 276 x 303mm (16 7/8" x 10 7/8" x 11 7/8")
Shape	30° Trapezoid
Weight	13kg (28.6lbs) net
Connectors	2x NL4MP 4-pole SPEAKON (In & Through)
Construction	Baltic Birch Ply finish with structured black coating. Dark grey carpet is optional.
Fittings	Grill Perforated Steel
Flying	Integral flying system. Intercabinet Angle Adjustments = .31° to 5° (logarithmic steps), 17.5° & 30°.

SYSTEM SPECIFICATIONS	GEO S830 WITH NXAMP/NX242 TDCONTROLLER
Frequency Response [a]	67Hz – 19kHz ± 3dB
Usable Range @-6dB [a]	60Hz – 20kHz
Sensitivity 1W @ 1m [b]	99dB SPL Nominal -97dB SPL Wideband
Peak SPL @ 1m [b]	Configuration dependent [d].
Dispersion [c]	Coupling Plane: Not usable as a single cabinet. Configuration dependent [d].
Non-Coupling Plane	120° (configurable to 80°).
Crossover Frequency	1.6kHz Passive
Nominal Impedance	16Ω
Recommended Amplifiers	1500 to 3000Watts into 4Ω / 4x cabinets per channel. Up to 6x cabinets per channel may be connected to large amplifiers capable of operating into low impedance loads.

SYSTEM OPERATION	
Electronic Controller	The NX TDcontroller presets are precisely matched to the GEO S8 Series cabinets and include sophisticated protection systems. Using GEO S8 Series cabinets without a properly-connected NX TDcontroller will result in poor sound quality and can damage components. The GEO S805 & S830 can be used without the optional CD12 Hypercardiod Sub. In this case the NX TDcontroller can be used in stereo. With the CD12 Hypercardioid Sub, each Sub channel requires two NX TDcontroller outputs and the NX TD will operate in mono.
HF Dispersion Configuration	After release of the front grill from its fittings, the HF Waveguide can be configured for 80° or 120° dispersion in the non-coupling plane.
Array Design	S805 and S830 cabinets, having tangent waveguides, can be mixed in the same array. Minimum configuration or Vertical Tangent Arrays is 5x S805 & 1x S830 (4x S805 for paging applications only). CD12s are optional. A a ratio of 1x CD12 per 3x full-range GEO modules is required for proper subbass output.
Speaker Cables	The GEO S805 and S830 are wired 1- & 1+ on both Speakon connectors, 2- & 2+ are not connected.
Rigging System	Please refer to the GEO User Manual before any operation.

SHIPPING & ORDERING	
Packaging	S805s are packaged in single units.
Shipping Weight & Volume	2x S805s: 29.2kg (64.2 lbs) 0.135 cu m (4.8 cu ft)

As part of a policy of continual improvement, NEXO reserves the right to change specifications without notice. [a] Response Curves and Data: Anechoic Far Field above 300Hz, Half-space below 300Hz. Usable Range Data: Frequency Response Capability with TD crossover slopes removed. [b] Sensitivity & Peak SPL: will depend on spectral distribution. Measured with band limited Pink Noise. Refers to the specified +/- 3dB range. Data are for Speaker + Processor + recommended amplifier combinations. [c] Directivity Curves and Data: 1/3 octave smoothed frequency response, normalized to On-Axis response. Data obtained by computer processing of off-axis response curves. [d] Please refer to the GEO User Manual.

CD12 Sub-Bass

Front view

Rear/side view

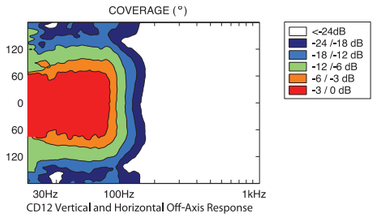
The compact CD12 exhibits innovative control of long wavelength LF energy. The CD12 applies microphone design techniques "in reverse" to produce a hyper-cardioid pattern from twin 12-inch horizontally-opposed woofers.

Sophisticated DSP algorithms, from the NX242 TDcontroller are applied individually to both dual-ported woofers, to produce high-impact forward gain, and +12dB rear attenuation. This means CD12 directs subbass energy towards the audience, and away from open microphones and reverberant surfaces, especially the rear wall.

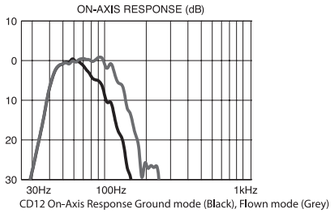
The CD12 is a hypercardioid subwoofer providing directional low-frequency output with dramatic LF reduction behind the cabinet(s). This is achieved by using the interaction of two independently-driven 12-inch drivers, highly specialised ports, and DSP control of the NX242TDcontroller.

To maximize CD12 performance:

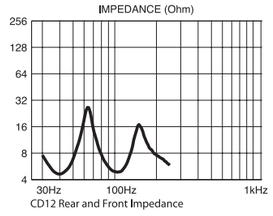
- Maintain at least one meter(3ft+) of free space around ground-stacked CD12(s). Objects or barriers within this space may interfere with controlled wavefront interaction.
- Drive the front and rear drivers with identical amplifier channels set to the same gain. CD12 operation is based on the assumption that front and rear sub-systems are identical in terms of the amplifier's electrical performance.
- When flying the CD12(s), use the linking bar to connect the CD12 bumper to the GEO Bumper and keep at least 50cm(20in) of space between the back of the GEO cabinets and the front of the CD12(s). It provides enough distance so that the GEO cabinets will not interfere with the CD12 wavefronts.
- When hanging or stacking multiple CD12 cabinets, confirm that they are oriented correctly with fronts forward and tops up. Do not hang one CD12 upside down relative to the others.



CD12 Vertical and Horizontal Off-Axis Response

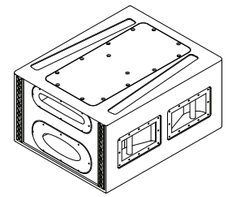


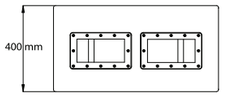
CD12 On-Axis Response Ground mode (Black), Flown mode (Grey)

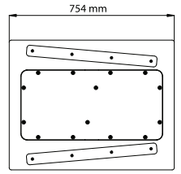


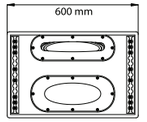
CD12 Rear and Front Impedance

2x CD12s flying with 5x GEO S805s and a GEO S830









SUB-BASS

Specifications

CD12 PRODUCT FEATURES	
Components	2x 12" (30cm) Long-excursion Neodymium 6Ω Driver
Height x Width x Depth	400 x 600 x 754mm (15 3/4" x 23 5/8" x 29 11/16")
Shape	Rectangular
Weight	35kg(78.4lbs) net
Connectors	2x NL4MP 4-pole SPEAKON (In & Through)
Construction	Baltic Birch Ply finish with structured black coating. Dark grey carpet is optional.
Flying points	Integral flying system.

SYSTEM SPECIFICATIONS	CD12 WITH NXAMP/NX242 TDCONTROLLER
Frequency Response [a]	42Hz – 130Hz ±3dB
Usable Range @-6dB [a]	39Hz – 150Hz
Sensitivity 1W @ 1m [b]	102dB SPL Nominal
Peak SPL @ 1m [b]	131 to 134dB Peak (500 to 1200W RMS Amp)
Dispersion [c]	Hypercardiod pattern 120° x 120° over the entire usable bandwidth.
Directivity	Control is achieved through DSP algorithms in the NXAMP/NX242 Digital TDcontroller (two channels of the NX TDcontroller are used for the process).
Directivity Index [c]	Q = 3.773DI = 5.7dB over the entire usable bandwidth.
Crossover Frequency	90 or 130Hz Active through NXAMP/NX242 Digital TDcontroller
Nominal Impedance	2x 6Ω
Recommended Amplifiers	2x amplifier channels are required for Hypercardioid operation, each rated at 1500 to 3000Watts into 4Ω per channel. Up to 2x complete CD12s per channel may be connected to a two-channel amplifier.

SYSTEM OPERATION	
Electronic Controller	The NX TDcontroller presets are precisely matched to the GEO S8 Series cabinets and include sophisticated protection systems. Using GEO S8 Series cabinets without a properly-connected NX TDcontroller will result in poor sound quality and can damage components.
Subbass	GEO S805 & S830 can be used without the optional CD12 Hypercardioid Sub. In this case the NX TDcontroller an be used in stereo. With the CD12 Hypercardioid Sub, each Sub channel requires two NX TDcontroller outputs, and the NX TD will operate in mono.
Speaker Cables	The front loudspeaker of the CD12 is wired 2+ & 2- while the rear loudspeaker is wired 1- & 1+. The CD12 must use separate cables to the GEO S805/S830.
Rigging System	Please refer to the GEO User Manual before any operation.

SHIPPING & ORDERING	
Packaging	CD12s are packaged individually. Minimum configuration for GEO Vertical Tangent Arrays is 5x S805 & 1x S830 (4x S805 for paging applications only). CD12s are optional: but a ratio of 1x CD12 per 3x full-range GEO modules is required for proper subbass output.
Shipping Weight & Volume	1x CD12 = 42.35kg(93.4 lbs), 0.29cu m (10.2cu ft)

As part of a policy of continual improvement, NEXO reserves the right to change specifications without notice. [a] Response Curves and Data: Half-space Anechoic below 200Hz. Usable Range Data: Frequency Response Capability with TD crossover slopes removed. [b] Sensitivity & Peak SPL: will depend on spectral distribution. Measured with band limited Pink Noise. Refers to the specified +/- 3dB range. Data are for Speaker + Processor + recommended amplifier combinations. [c] Directivity Curves and Data: 1/3 octave smoothed frequency response, normalized to On-Axis response. Data obtained by computer processing of off-axis response curves. [d] Please refer to the GEO User Manual.