

# VECTOR CD896 Series

## Vector™ Performance Loudspeaker – Dual 8” 2-Way Coaxial 90° x 60°

- > A compact, professional performance loudspeaker for smaller sound-reinforcement and fill applications
- > Dual 8” (203 mm) LF transducers for increased efficiency and output
- > Advanced coaxial transducer with 90° x 60° HF horn
- > Available with HF horn rotated 90° for horizontal orientation (model VECTOR CD896-RH)
- > Integrated HF compression driver with 1.7 inch (43 mm) titanium diaphragm
- > Delivers superior performance in combination with a Crestron Avia™ DSP
- > Precisely tuned for accurate, uncolored sound reproduction
- > Produces high intelligibility and natural sound quality for speech and program material
- > Achieves smooth bandwidth performance both within and beyond the specified coverage pattern
- > Uniform directionality affords consistent, targeted pattern control
- > Capable of high SPLs without coloration or distortion
- > Provides excellent cost-benefit compared to more conventional designs
- > 25° rear-beveled enclosure affords a clean, unimposing appearance in tight spaces
- > Rugged yet light construction for easy, reliable installation
- > Concealed M6 mounting points
- > Yoke bracket or forged shoulder eyebolts available separately
- > Neutrik® speakON® input and pass-through connections

Crestron® Vector™ Performance Loudspeakers provide a professional sound reinforcement speaker solution for large indoor spaces and venues. Featuring a revolutionary coaxial transducer design complemented by advanced **Crestron Avia™** digital signal processing, Vector loudspeakers deliver exceptional intelligibility and natural sound quality for speech reinforcement, foreground music, and multimedia presentation applications. Compact, aesthetically-pleasing enclosures afford remarkable performance in less space. A choice of sizes and coverage patterns is offered to address the varying applications and room geometries found in auditoriums, theaters, lecture halls, houses of worship, convention centers, hotel ballrooms, sports facilities, night clubs, and public spaces.

The Vector CD896 is a very compact speaker enclosure loaded with one 2-way coaxial transducer plus a second dedicated low-frequency transducer. The coaxial transducer is composed of an 8” (203 mm) LF driver and a 90° x 60° HF horn with 1.7” (43 mm) diaphragm compression driver. The second LF transducer is another 8” driver. Advanced engineering and construction of the complete speaker achieves a space-efficient design with high output capability and consistent pattern control.

Its integrated coaxial transducer aligns the low-frequency and high-frequency elements to produce precise transient response and uniform directionality across the entire frequency range. The two 8” LF drivers work together to achieve an increase in overall output and improved mid-bass impact.



*Note: Specify model VECTOR CD896-RH for applications requiring the enclosure to be installed in a horizontal orientation. The VECTOR CD896-RH is assembled with its high-frequency horn rotated 90°.*

### Advanced Coaxial Transducer

The LF/HF transducer in the Vector CD896 represents a revolutionary advancement in coaxial speaker design. Its high-frequency horn features a large 1.7 inch (43 mm) titanium diaphragm compression driver, which operates at frequencies lower than typical, allowing the high-frequency horn to smooth the response of the low frequency section to reduce shadowing of the woofer by the horn. The woofer's large radiating surface works in conjunction with the high-frequency horn to improve directional control at the lower end of the horn's frequency range resulting in better pattern control. The large diaphragm also allows the compression driver to produce higher sound pressure levels without distortion to deliver incredibly clear and dynamic sound quality for both speech and program material.

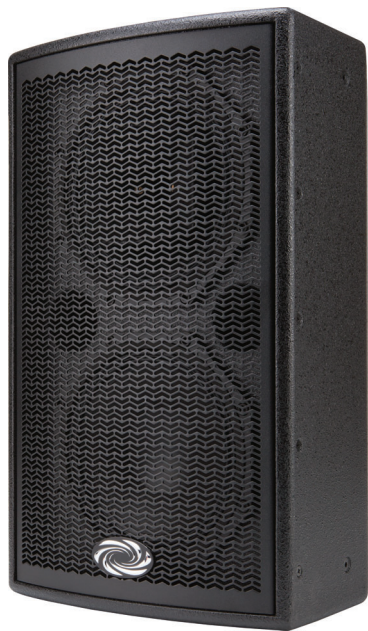
The complete coaxial transducer assembly employs a single neodymium magnet with dual-gap geometry, which minimizes the spacing between the compression driver and woofer voice coils. This integrated approach virtually eliminates the delay between the two drivers, allowing a passive crossover to be used to seamlessly blend the horn and woofer into a single point source. The reduced demand on the internal crossover helps to maximize efficiency and damping, and the use of a single neodymium magnet reduces the speaker's weight, size, and cost.

### Dual Low-Frequency Drivers

The Vector CD896 employs two mutually-coupled 8” LF transducers to achieve its high efficiency and impactful performance in a relatively small enclosure.

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## Crestron Avia™ Digital Signal Processing

Every aspect of the Vector CD896 is designed to take advantage of the signal refining abilities of a [Crestron Avia DSP](#). Vector loudspeakers and Crestron Avia processing work synergistically to produce a superior speaker system tuned for accurate, uncolored reproduction of voice and program signals. Precision signal processing is employed to accomplish what can't be done physically, strategically eliminating harsh-sounding resonances caused by horn reflections while retaining every nuance of the original signal.

Further refinements are employed to maximize transient response and deliver smooth bandwidth performance both within and beyond the speaker's nominal coverage pattern. The result is an extremely natural sounding speaker system with superior pattern control, improved intelligibility, reduced listener fatigue, and higher gain before feedback.

## Versatile Installation

The Vector CD896 is particularly effective in applications where compact dimensions and targeted pattern control are desirable. Such applications include front fill, delay fill, under-balcony, small front of house, and foreground music, especially when mated with a subwoofer. Its clean appearance facilitates acceptance by architects and interior designers, and its 25° beveled rear corners allow it to be mounted close to walls or ceilings without obstructing sight lines. Concealed M6 mounting points are included to accommodate either an optional [yoke bracket](#) or forged shoulder [eyebolts](#) (each sold separately).

*Note: Specify model VECTOR CD896-RH for applications requiring the enclosure to be installed in a horizontal orientation. The VECTOR CD896-RH is assembled with its high-frequency horn rotated 90°.*

## SPECIFICATIONS

### Performance

**LF Transducer:** 8 inch (203 mm) woofer with 2 inch (51 mm) voice coil and ceramic magnet

**LF/HF Transducers:** 8 inch (203 mm) woofer with 2 inch (51 mm) voice coil, coaxial horn with 1.7 inch (43 mm) titanium diaphragm compression driver, single neodymium magnet

**Beamwidth:** 90° x 60° nominal, available with horn rotated 90° for horizontal orientation (model VECTOR CD896-RH)

**Impedance:** 8 Ohms nominal

**Frequency Range:** 72 Hz to 20 kHz (+3/-10 dB)

**Power Handling:** 500 Watts based on the AES power handling of the transducers

**Nominal Sensitivity:** 100 dB at 1W/1m whole space using band limited pink noise without processing

**Nominal Maximum SPL:** 133 dB peak, 127 dB continuous, at 500W/1m without processing

**Equalized Sensitivity:** 97 dB at 1W/1m using an EIA-426-B signal with processing

**Equalized Maximum SPL:** 130 dB peak, 124 dB continuous, at 500W/1m with processing

### Processing & Amplification

**Digital Signal Processing:** Requires processing using one output channel of a [Crestron Avia DSP](#), settings provided via model-specific "Speaker Profiles" in the Crestron Avia Audio Tool software ([SW-AAT](#))

**Amplification:** Requires a single channel of amplification

**Recommended Amplifier Power:** 500 to 1000 Watts at 8 Ohms

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## Connections

**Input:** (2) Neutrik NL4 speakON 4-pole chassis connectors;  
Pins 1 +/-: Speaker input and pass-through;  
Pins 2 +/-: Pass-through only

## Environmental

For indoor use only

## Construction

**Enclosure:** Void-free, exterior grade Baltic Birch plywood; black painted finish

**Grille:** Steel, black powder coat finish

**Yoke Mounting:** (2) M6 yoke points ([yoke bracket](#) sold separately)

**Suspension:** (12) M6 eyebolt angle points and (1) M6 pull back point ([eyebolts](#) sold separately)

## Dimensions

**Height:** 19.75 in (502 mm)

**Width:** 11.75 in (298 mm)

**Depth:** 11.03 in (280 mm)

## Weight

31.0 lb (14.1 kg)

## MODELS & ACCESSORIES

### Available Models

**VECTOR CD896:** Vector™ Performance Loudspeaker – Dual 8” 2-Way Coaxial 90° x 60°

**VECTOR CD896-RH:** Vector™ Performance Loudspeaker – Dual 8” 2-Way Coaxial 90° x 60°, Rotated Horn

## Available Accessories

**VECTOR YOKE8D:** Yoke Bracket for VECTOR CD896 Series

**VECTOR EB6:** M6 Forged Shoulder Eyebolt

**VECTOR CONN2:** Neutrik® NL2 speakON® 2-Pole Cable Connector

**VECTOR CONN4:** Neutrik® NL4 speakON® 4-Pole Cable Connector

**DSP Series:** Crestron Avia™ Digital Signal Processors

**AMP-2800:** 2-Channel Power Amplifier, 800W/Ch.

**AMP-4600:** 4-Channel Power Amplifier, 600W/Ch.

**VECTOR SUBS15:** Vector™ 15” Performance Subwoofer

**VECTOR SUBS18:** Vector™ 18” Performance Subwoofer

**VECTOR SUBD18:** Vector™ Dual 18” Performance Subwoofer

Notes:

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at <https://www.crestron.com/How-To-Buy/Find-a-Representative> or by calling 855-263-8754.

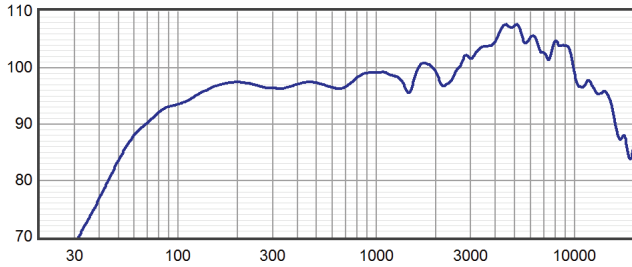
The specific patents that cover this and other Crestron products are listed online at <https://www.crestron.com/legal/patents>.

Certain Crestron products contain open source software. For specific information, visit <https://www.crestron.com/opensource>.

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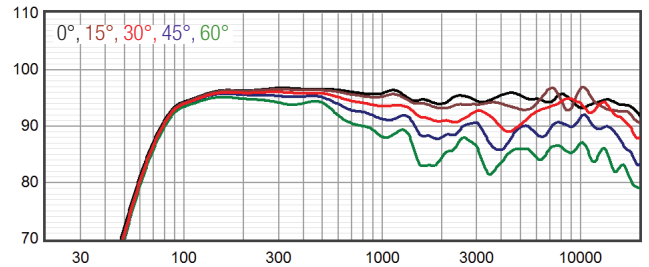


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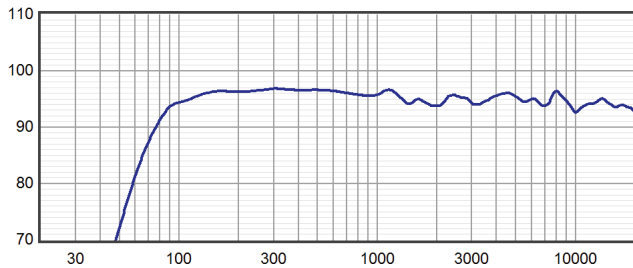
**Axial Sensitivity (dB SPL, 1W/1m)**

Plotted against frequency for a 1 watt swept sine wave, referenced to 1 m without processing



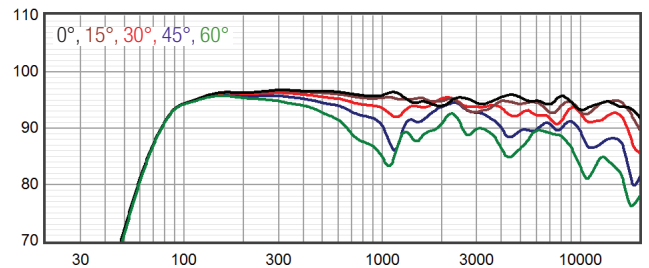
**Horizontal Off Axis Response**

The magnitude response at various angles off axis, with processing



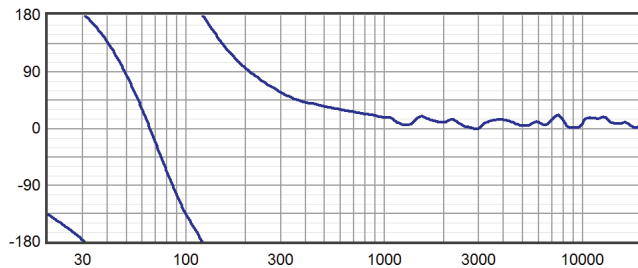
**Axial Processed Response (dB)**

The axial magnitude response with processing



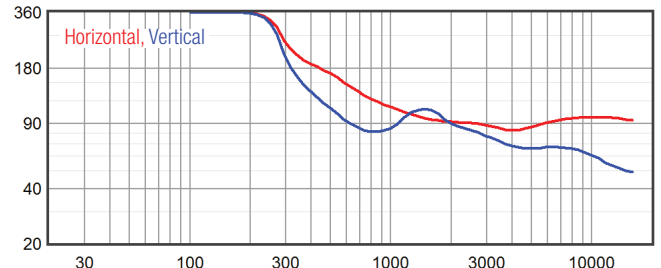
**Vertical Off Axis Response**

The magnitude response at various angles off axis, with processing



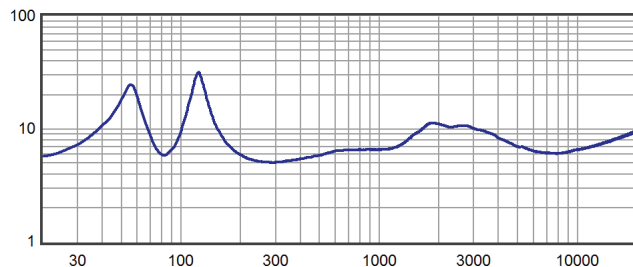
**Axial Processed Phase Response (degrees)**

The axial phase response with processing

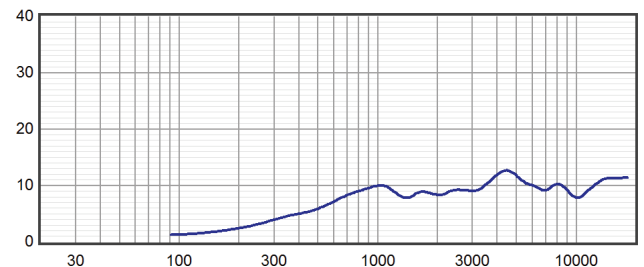


**Beamwidth**

The angle between the -6 dB points in the speaker's polar response



**Impedance (Ohms)**

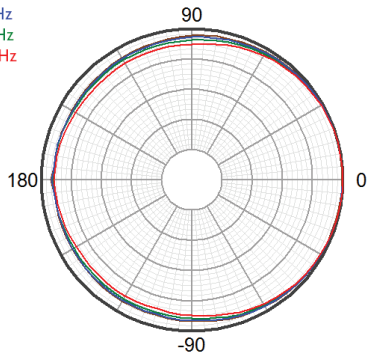


**Directivity Index (dB)**

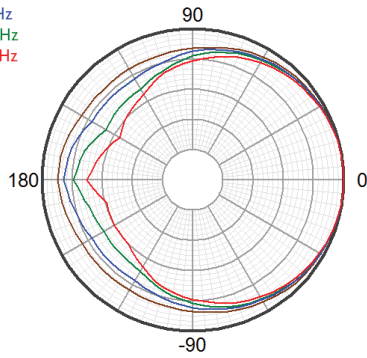
The ratio of the on-axis sound pressure squared to the spherical average of the sound pressure squared at a particular frequency expressed in dB. To convert the directivity index (Di) to directivity factor (Q) use the formula:  $10 \text{ Di}/10$

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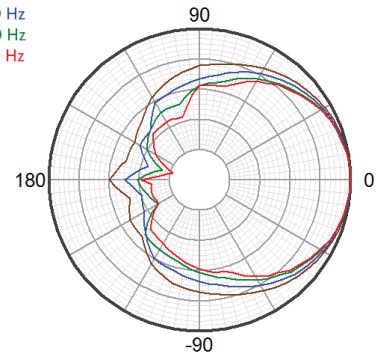
100 Hz  
125 Hz  
160 Hz  
200 Hz



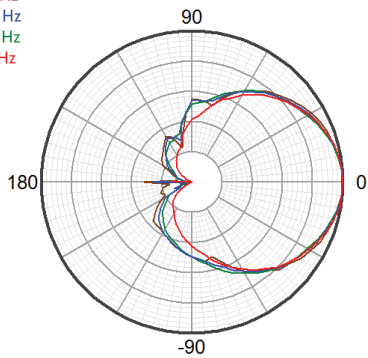
250 Hz  
315 Hz  
400 Hz  
500 Hz



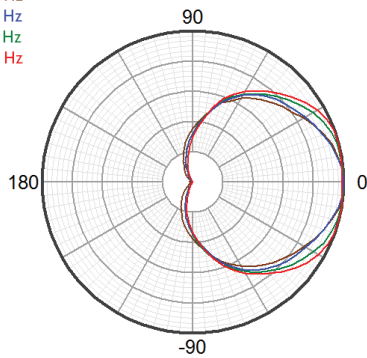
630 Hz  
800 Hz  
1000 Hz  
1250 Hz



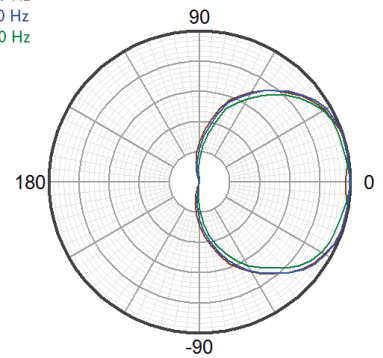
1600 Hz  
2000 Hz  
2500 Hz  
3150 Hz



4000 Hz  
5000 Hz  
6300 Hz  
8000 Hz

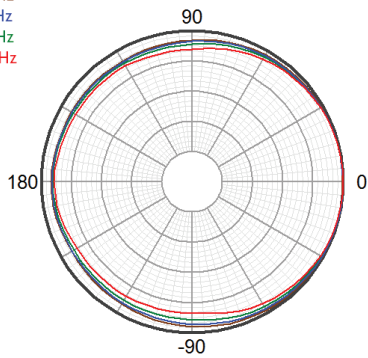


10000 Hz  
12500 Hz  
16000 Hz

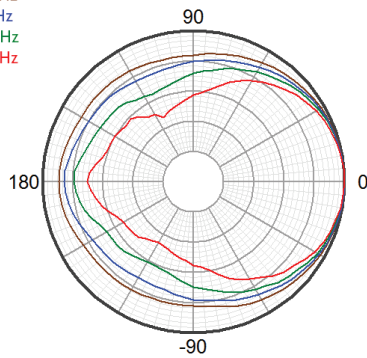


**Horizontal Polar Response (30 dB Scale, 6 dB per Major Division)**

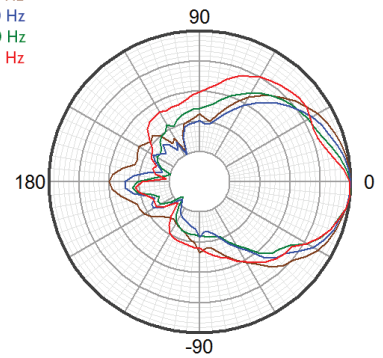
100 Hz  
125 Hz  
160 Hz  
200 Hz



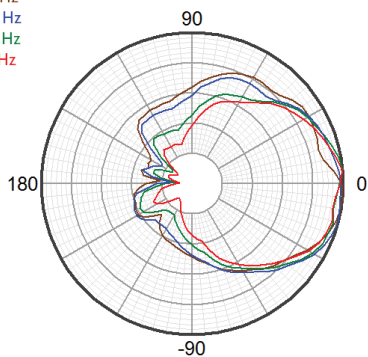
250 Hz  
315 Hz  
400 Hz  
500 Hz



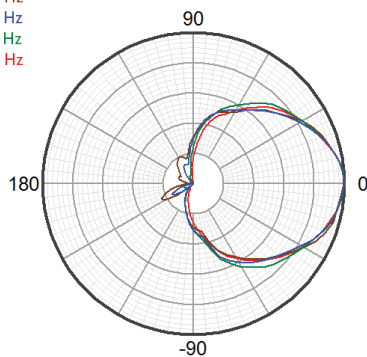
630 Hz  
800 Hz  
1000 Hz  
1250 Hz



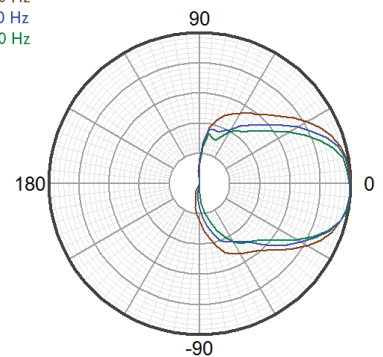
1600 Hz  
2000 Hz  
2500 Hz  
3150 Hz



4000 Hz  
5000 Hz  
6300 Hz  
8000 Hz



10000 Hz  
12500 Hz  
16000 Hz



**Vertical Polar Response (30 dB Scale, 6 dB per Major Division)**

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