VECTOR CS1565 Series

Vector™ Performance Loudspeaker – 15” 2-Way Coaxial 60° x 45°

- *A space-efficient, professional performance loudspeaker for large indoor spaces*
- *Advanced 15” (381 mm) coaxial transducer with 60° x 45° HF horn*
- *Available with HF horn rotated 90° for horizontal orientation (model VECTOR CS1565-RH)*
- *Integrated HF compression driver with 3 inch (76 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*
- *40° trapezoidal enclosure affords a clean, unimposing appearance*
- *Rugged yet light construction for easy, reliable installation*
- *Concealed M10 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 CS1565 is a compact, trapezoidal speaker enclosure loaded with one 2-way coaxial transducer composed of a 15” (381 mm) LF driver and a 60° x 45° HF horn with 3” (76 mm) diaphragm compression driver. Advanced engineering and construction achieve a space-efficient speaker 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.

Note: Specify model VECTOR CS1565-RH for applications requiring the enclosure to be installed in a horizontal orientation. The VECTOR CS1565-RH is assembled with its high-frequency horn rotated 90°.

Advanced Coaxial Transducer

The transducer in the Vector CS1565 represents a revolutionary advancement in coaxial speaker design. Its high-frequency horn features a large 3 inch (76 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 throughout the critical voice band. 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, powerful ceramic 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, resulting in performance rivaling a more expensive bi-amplified design. Using a single magnet also reduces the speaker’s weight, size, and cost.

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Crestron Avia™ Digital Signal Processing

Every aspect of the Vector CS1565 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 CS1565 is particularly effective in systems where targeted pattern control is desirable, including front of house, delay fill, and foreground music applications. Its clean appearance and familiar format facilitate acceptance by architects and interior designers, and the 40° trapezoidal angle allows it to be mounted near walls or ceilings without obstructing sight lines. Concealed M10 mounting points are included to accommodate either an optional yoke bracket or forged shoulder eyebolts (each sold separately).

Note: Specify model VECTOR CS1565-RH for applications requiring the enclosure to be installed in a horizontal orientation. The VECTOR CS1565-RH is assembled with its high-frequency horn rotated 90°.

SPECIFICATIONS

Performance

Transducers: 15 inch (381 mm) woofer with 3 inch (76 mm) voice coil, coaxial horn with 3 inch (76 mm) titanium diaphragm compression driver, single ceramic magnet
Beamwidth: 60° x 45° nominal, available with horn rotated 90° for horizontal orientation (model VECTOR CD1565-RH)
Impedance: 8 Ohms nominal
Frequency Range: 43 Hz to 18 kHz (+3/-10 dB)
Power Handling: 400 Watts based on the AES power handling of the transducers
Nominal Sensitivity: 103 dB at 1W/1m whole space using band limited pink noise without processing
Nominal Maximum SPL: 135 dB peak, 129 dB continuous, at 400W/1m without processing
Equalized Sensitivity: 97 dB at 1W/1m using an EIA-426-B signal with processing
Equalized Maximum SPL: 129 dB peak, 123 dB continuous, at 400W/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: 400 to 800 Watts at 8 Ohms

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) M10 yoke points (yoke bracket sold separately)
Suspension: (12) M10 eyebolt angle points and (1) M10 pull back point (eyebolts sold separately)

Dimensions

Height: 30.00 in (762 mm)
Width: 20.73 in (527 mm)
Depth: 19.75 in (502 mm)

Weight

61.0 lb (27.7 kg)

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MODELS & ACCESSORIES

Available Models

VECTOR CS1565: Vector™ Performance Loudspeaker – 15” 2-Way Coaxial 60° x 45°
VECTOR CS1565-RH: Vector™ Performance Loudspeaker – 15” 2-Way Coaxial 60° x 45°, Rotated Horn

Available Accessories

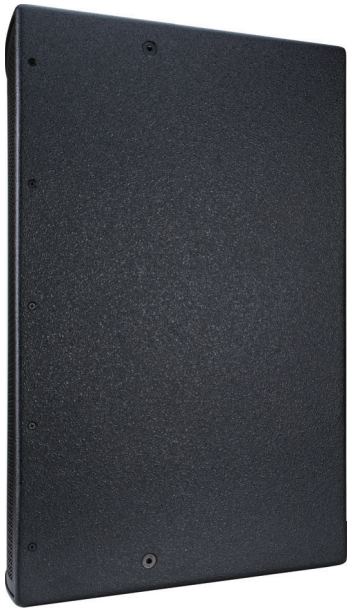
VECTOR YOKE15: Yoke Bracket for VECTOR CS1565 & CS1595
VECTOR EB10: M10 Forged Shoulder Eyebolt
VECTOR CONN2: Neutrik® NL2 speakON® 2-Pole Cable Connector
VECTOR CONN4: Neutrik® NL4 speakON® 4-Pole Cable Connector
DSP Series: Crestron Avia™ Digital Signal Processors
AMP-2800: 2-Channel Power Amplifier, 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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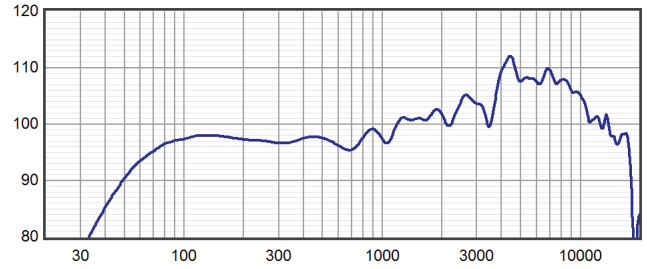
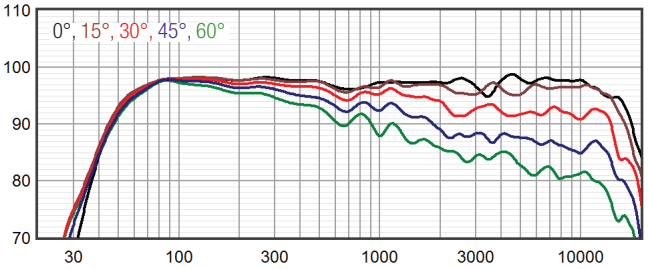
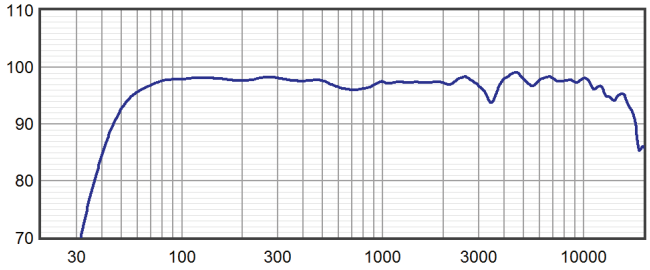


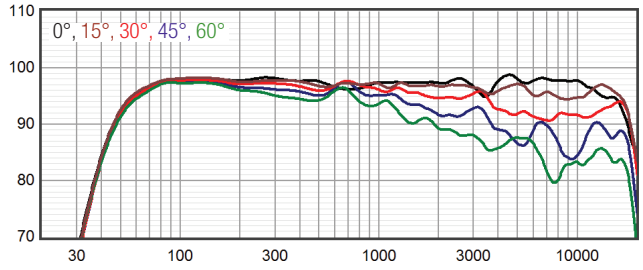
Axial Sensitivity (dB SPL, 1W/1m)
Plotted against frequency for a 1 watt swept sine wave, referenced to 1 m without processing



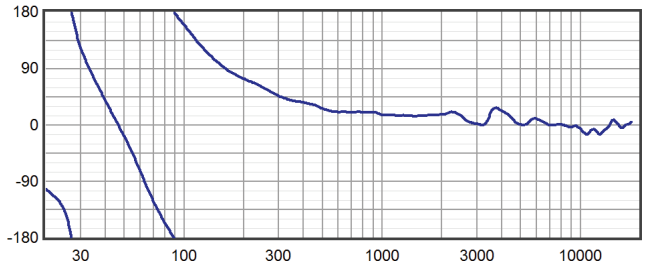
Horizontal Off Axis Response
The magnitude response at various angles off axis, with proceessing



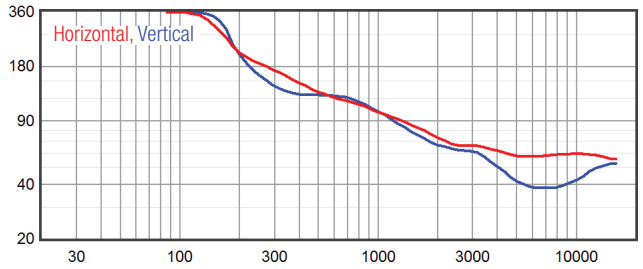
Axial Processed Response (dB)
The axial magnitude response with processing



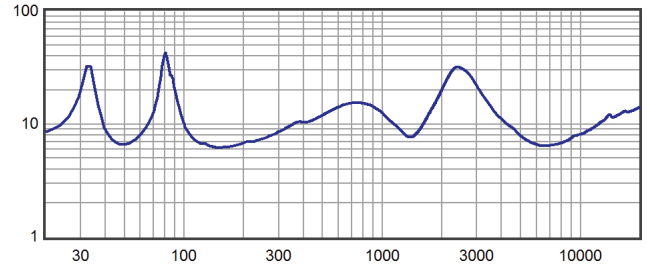
Vertical Off Axis Response
The magnitude response at various angles off axis, with proceessing



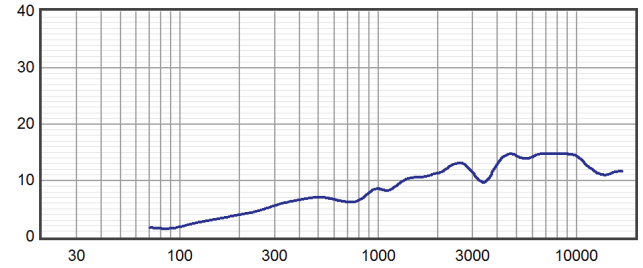
Axial Processed Phase Response (degrees)
The axial phase response with processing



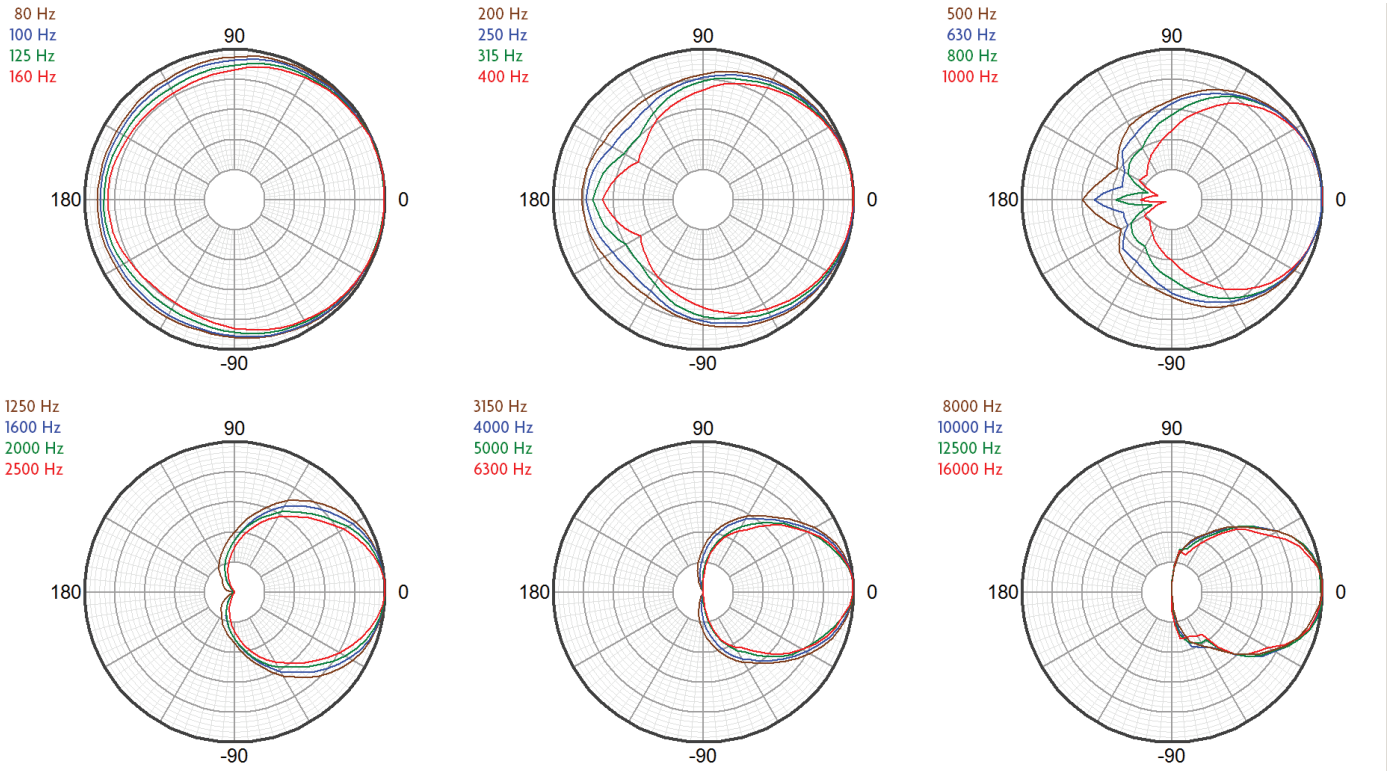
Beamwidth
The angle between the -6 dB points in the speaker’s polar response



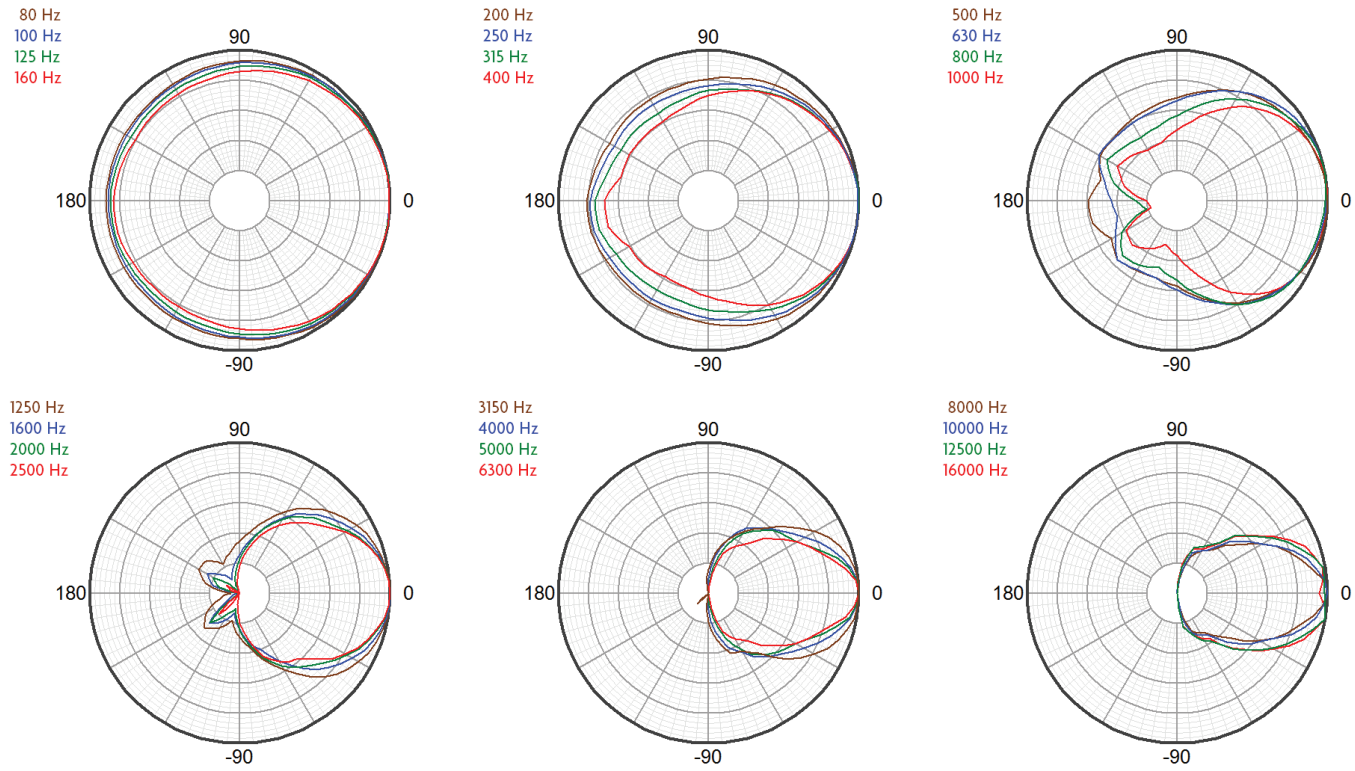
Impedance (Ohms)



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 Di/10



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



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

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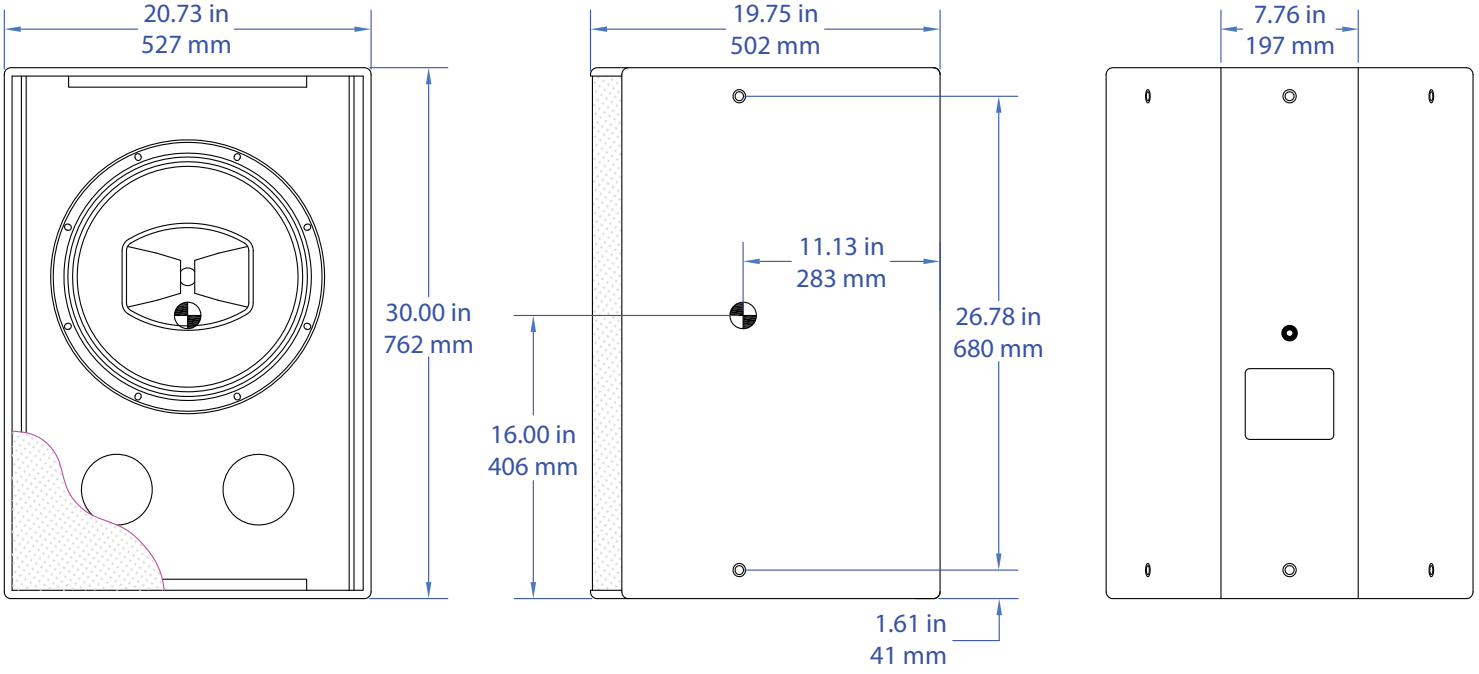
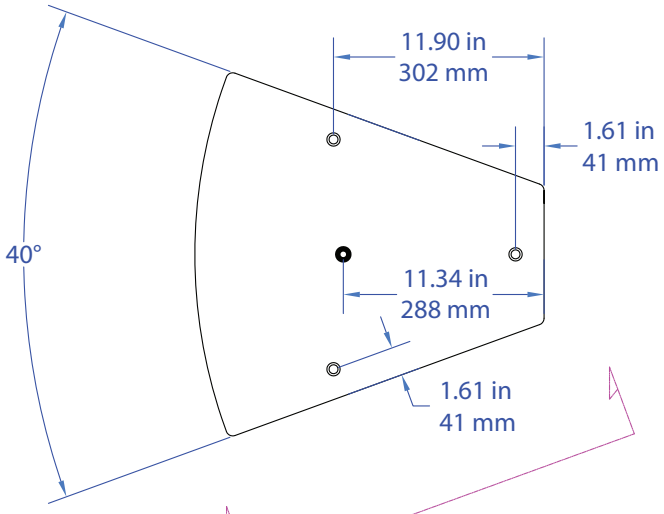
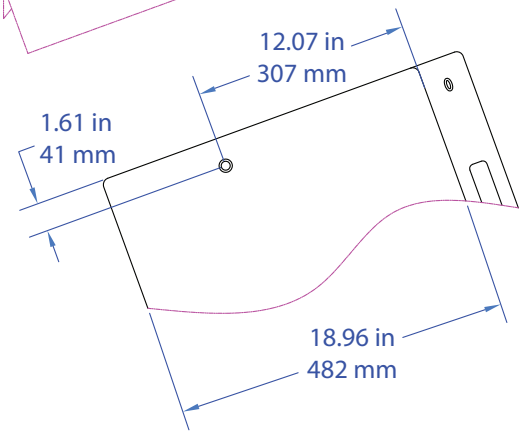




Symbol Key:
- = M10 Eyebolt angle point
- = M10 Nut plate
- = CoG



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Specifications subject to change without notice. Revised 09/12/19