DX896

Dual 8 inch Coaxial Loudspeaker



Overview

The DX896 coaxial loudspeaker provides the output capability of a dual 8 inch loudspeaker in an enclosure size typically associated with a single 8 inch, 2-way system. Its coaxial transducer can be rotated in 45° increments, which allows its coverage to be tailored to best suit an application's requirements, and its dedicated low frequency transducer provides additional low frequency directivity and mid bass impact. The enclosure's 25° rear chamfers allow it to be mounted close to walls; alternatively the enclosure may be rotated for mounting close to ceilings and under balconies. When rotated, the DX896's low profile also makes it very useful as a high output front fill system when placed on the edge of or installed into a stage apron.

Fulcrum Acoustic's **TQ**™ processing is an integral part of the DX896 design. Sound, innovative acoustical design combined with state of the art digital processing leads to exceptional clarity and precise transient response, even at very high sound pressure levels. The required digital signal processing can be provided by one of many supported platforms.

The DX896's 90° x 60° high frequency horn is particularly effective for systems where targeted pattern control is desirable. This makes it an ideal choice for small live reinforcement systems, nightclubs, restaurants, theme parks, A/V screening rooms, and more.

Performance Specifications[1]

Operating Mode
Single-amplified w/ DSP

Operating Range [2]
72 Hz to 20 kHz

Nominal Beamwidth (rotatable)
90° x 60°

Transducers
LF: 8.0" ceramic magnet woofer, 2.0" voice coil
HF/LF: Coaxial 1.7" titanium diaphragm compression driver; 8.0" woofer, 2.0" voice coil; single neodymium magnet

Power Handling @ Nominal Impedance [3]
63 V / 500 W @ 8 Ω

Nominal Sensitivity @ Input Voltage [4] (whole space)
100 dB @ 2.83 V

Nominal Maximum SPL (peak / continuous)
133 dB / 127 dB

Equalized Sensitivity @ Input Voltage [5]
97 dB @ 2.83 V

Equalized Maximum SPL [6] (peak / continuous)
130 dB / 124 dB

Recommended Power Amplifier
500 W to 1000 W @ 8 Ω

Physical Specifications

Connections
(2) Neutrik NL4 Speakon
Pin 1+/-: Full Range
Pin 2+/-: No Connection

Mounting / Suspension Points
(12) M6 x 1.0 eye bolt angle points, (2) M6 x 1.0 yoke points, (1) M6 x 1.0 pull back point

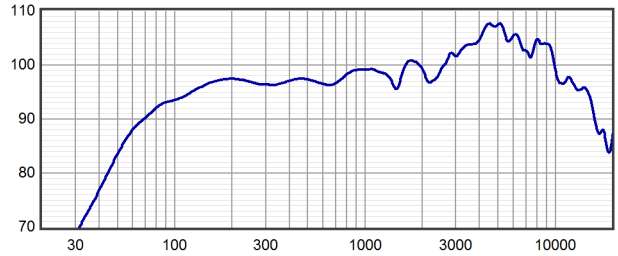
Dimensions / Weight
See pages 5 & 6

Finish
Black painted enclosure w/ matte black grille, or
White painted enclosure w/ matte white grille

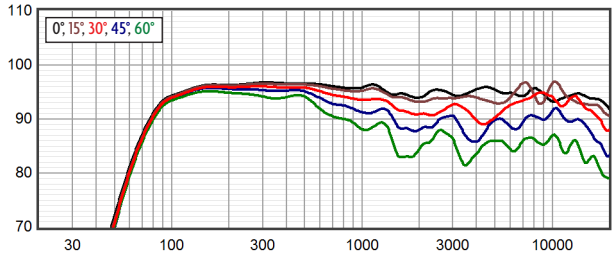
Options

YK-DX8 yoke bracket, Terminal strip input, Custom color finish, Weather-resistant (WR) enclosure & hardware

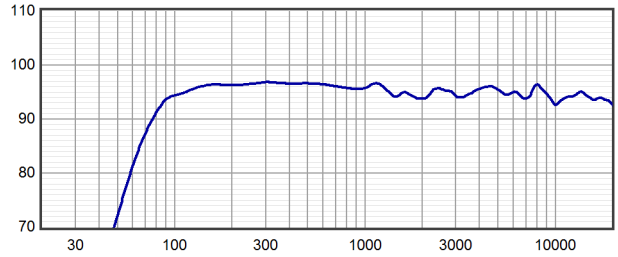
Axial Sensitivity (dB SPL, 2.83 V @ 1 m)[7, 8]



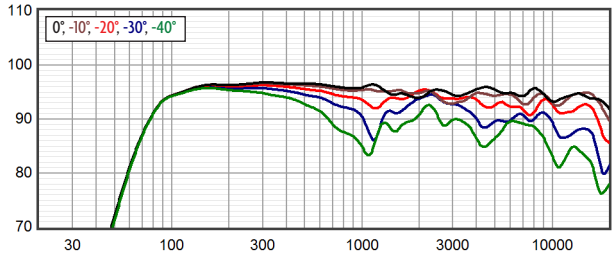
Horizontal Off Axis Response[7, 11]



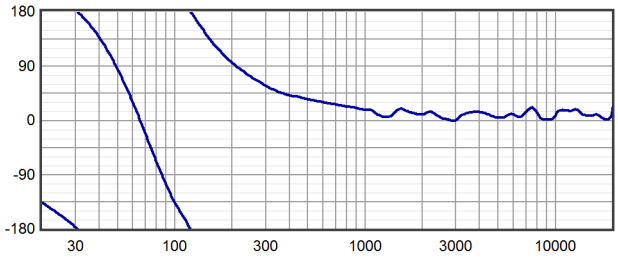
Axial Processed Response (dB)[7, 9]



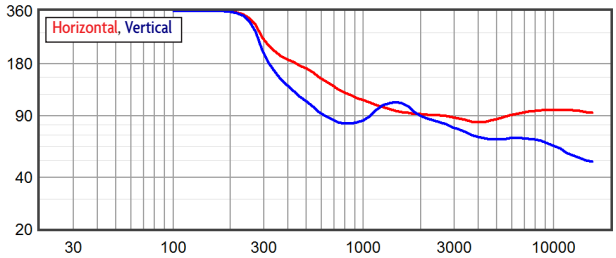
Vertical Off Axis Response[7, 11]



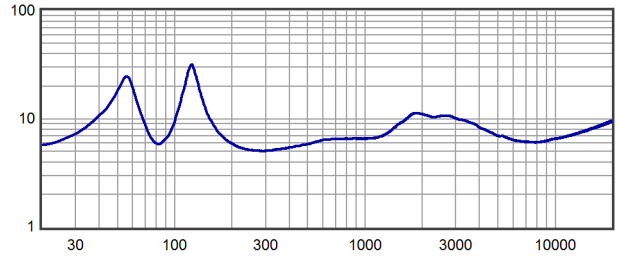
Axial Processed Phase Response (degrees)[7, 10]



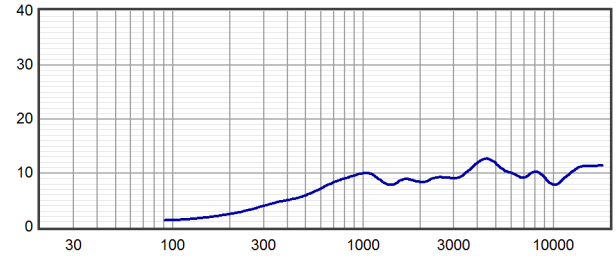
Beamwidth[7, 12]



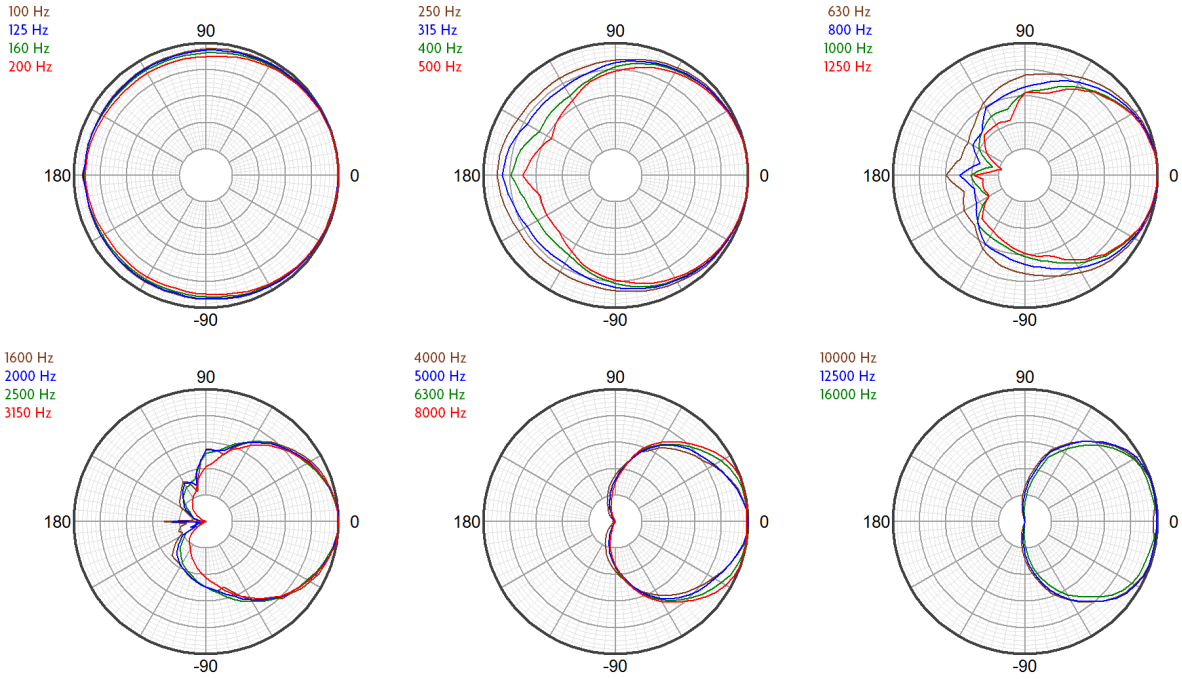
Impedance (ohms)



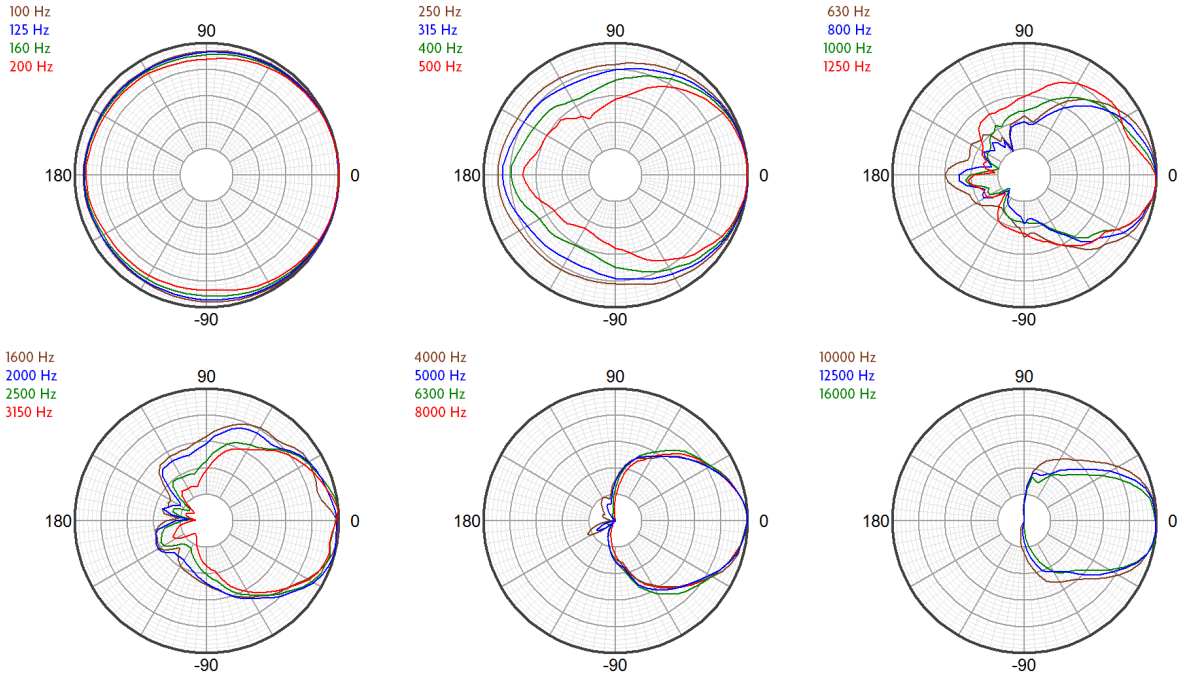
Directivity Index (dB)[13]



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



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



Technologies

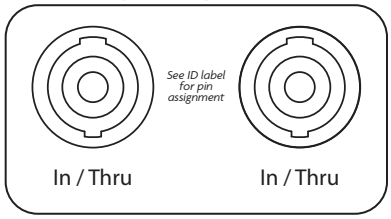
The DX896 includes a neodymium based coaxial driver, which allows the compression driver diaphragm to be positioned very close to the woofer voice coil. This allows the system to maintain coherent summation and consistent off axis response through a 3-way passive crossover, allowing it to be driven with a single amplifier channel.

The compression driver's 1.75 inch diameter diaphragm operates to a relatively low frequency. This allows the high frequency horn to smooth the polar response of the low frequency section in the frequency range where the horn would otherwise cause shadowing. The coaxial woofer's large radiating surface works in conjunction with the HF horn to improve directional control at the low frequency limit of the horn's operating range, increasing directional control beyond what can be accomplished by the horn alone.

The two low frequency devices both operate down to the lowest frequencies, resulting in mutual coupling that provides unusually high efficiency and impact in the critical 80 Hz to 500 Hz range.

Connections

Neutrik NL4 Speakon Input



Mechanical Specification Drawings

2D and 3D DWG dimensional drawings are available for download at www.fulcrum-acoustic.com/resources

Notes

[1] **Performance Specifications** *All acoustic specifications rounded to nearest whole number. External DSP with Fulcrum Acoustic-provided settings is required to achieve the specified performance.*

[2] **Operating Range** *The frequency range within which the processed response is within 10 dB of the average.*

[3] **Power Handling** *Based on the AES power handling of the transducers.*

[4] **Nominal Sensitivity** *The 1-meter-referenced SPL produced by a 1 watt band limited pink noise signal, with no processing applied.*

[5] **Equalized Sensitivity** *The 1-meter-referenced SPL produced when an EIA-426-B signal is applied to an equalized loudspeaker system, at a level which produces a total power of 1 watt, in sum, to the loudspeaker subsections.*

[6] **Equalized Maximum SPL** *The 1-meter-referenced SPL produced when an EIA-426-B signal is applied to an equalized loudspeaker system, at a level which drives at least one subsection to its rated power.*

[7] **Resolution** *All response graphs are subjected to 1/6 octave cepstral smoothing with a gaussian weighting function.*

[8] **Axial Sensitivity** *The SPL plotted against frequency for a 1 watt swept sine wave, referenced to 1 m with no signal processing.*

[9] **Axial Processed Response** *The axial magnitude response with recommended signal processing applied.*

[10] **Axial Processed Phase Response** *The axial phase response with recommended signal processing applied, and latency removed.*

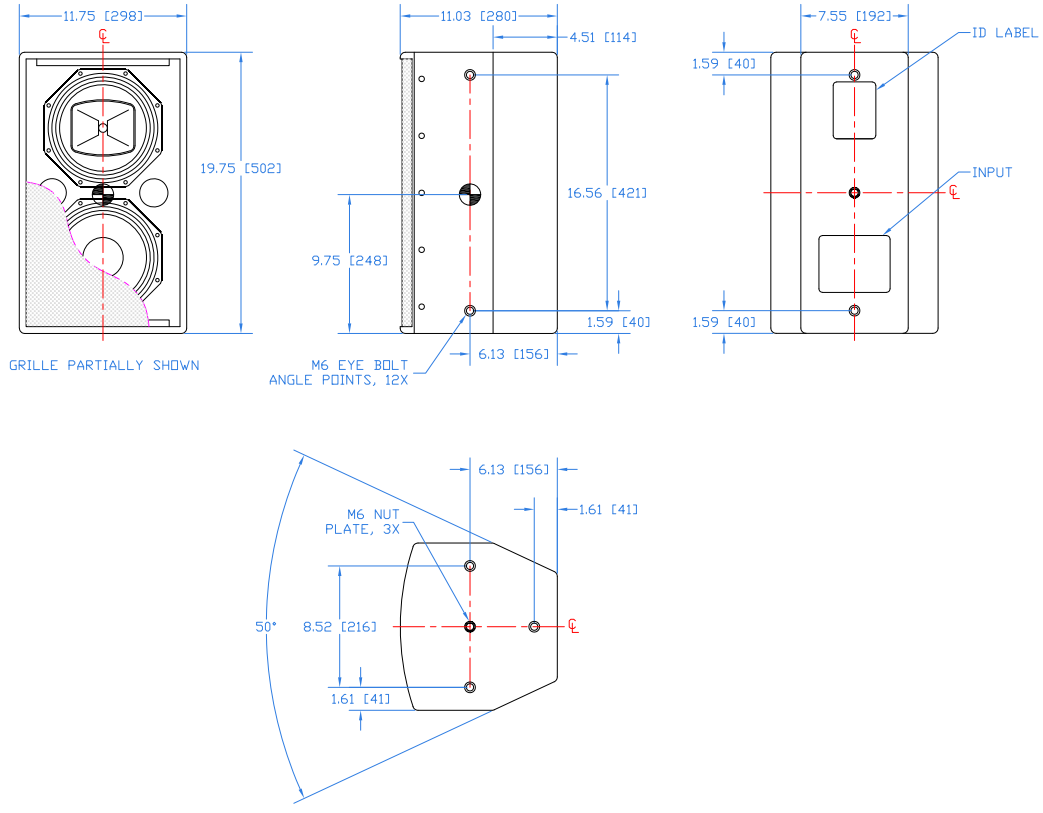
[11] **Horizontal / Vertical Off Axis Responses** *The magnitude response at various angles off axis, with recommended signal proceessing applied.*

[12] **Beamwidth** *The angle between the -6 dB points in a loudspeaker's polar response.*

[13] **Directivity Index (D_i)** *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 to directivity factor (Q) use the formula* $10^{Di/10}$.

Notes:
1. Net Weight = Approx. 31.0 lb / 14.1 kg
2. Symbol ◎ = M6x1.0 eye bolt angle point
3. Symbol ○ = M6x1.0 nut plate
4. Symbol ⊕ = CoG

REVISIONS		
REV	DESCRIPTION	APPR / DATE
2	ALIGNED PRIMARY EB ANGLE POINTS AND NUT PLATES W/ COG, ADDED REAR NUT PLATE FOR PULL BACK POINT, ADDED COG, ADDED OMNI 60 POINTS	RAF 1/7/10
3	ADD SHIPPING WEIGHT	RAF 12/7/11
4	OMNIMOUNT TO "THIRD PARTY" IN NOTE 5	RAF 1/13/12
5	REMOVE PAN/TILT MOUNT POINTS	RAF 7/28/16
6	DIM FORMAT UPDATES	RAF 1/20/21
7	UPDATE NOTES	RAF 8/18/25



THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES TOLERANCE IN INCHES .X±.1 .XX±.015 .XXX±.005 FRACTIONS ±1/32 ANGLES ±1/2° (X.XX) = REF DIMS NO TOLERANCE IMPLIED TSC = THEORETICAL SHARP CORNER DIMENSIONS ACROSS CENTERLINES TO BE SYMETRICAL	STATUS RELEASED	FULCRUM ACOUSTIC, LLC 1 MAIN STREET, WHITINSVILLE, MA 01588 USA
		APPROVALS / DATE	TITLE: Mechanical Spec, DX896
		DRAWN: DWG 4/29/09	
		CHECKED: RAF 5/3/09	
		DES ENG:	B SHEET 1 OF 1 SCALE: 1:12
		MFG ENG:	DWG. NO. 820-100-027 REV 7

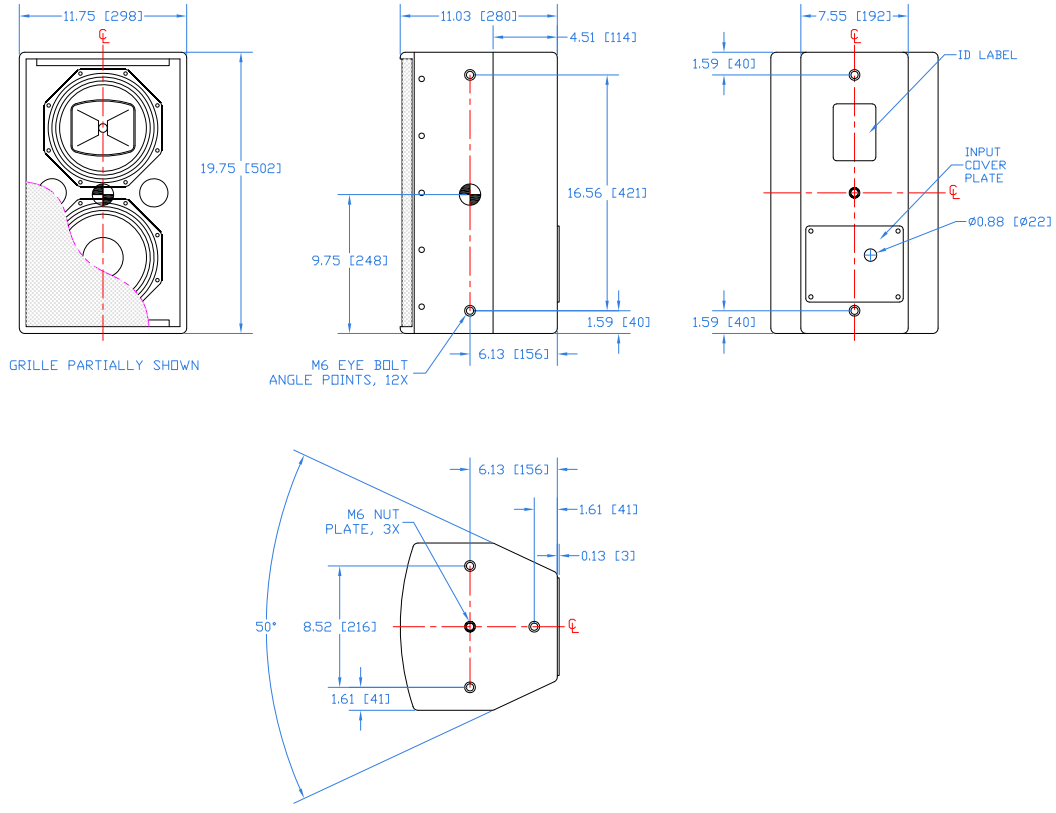
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Drawing is reduced. Do not scale.

Notes:
1. Net Weight = Approx. 31.0 lb / 14.1 kg
2. Symbol ◎ = M6x1.0 eye bolt angle point
3. Symbol ○ = M6x1.0 nut plate
4. Symbol ◓ = CoG
5. Enclosure construction: PVC

REVISIONS

REV	DESCRIPTION	APPR / DATE
1	NEW ISSUE	RAF 12/01/15
2	REMOVE PAN/TILT MOUNT POINTS	RAF 7/28/16
3	CHANGE COVER PLATE, DIM UPDATES	RAF 1/20/21
4	UPDATE NOTES, INPUT COVER PLATE	RAF 8/19/25

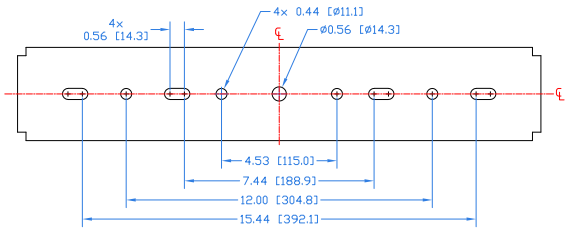


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		DRAWN: RAF 12/01/15	
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		DES ENG:	B SHEET 1 OF 1 SCALE: 1:12
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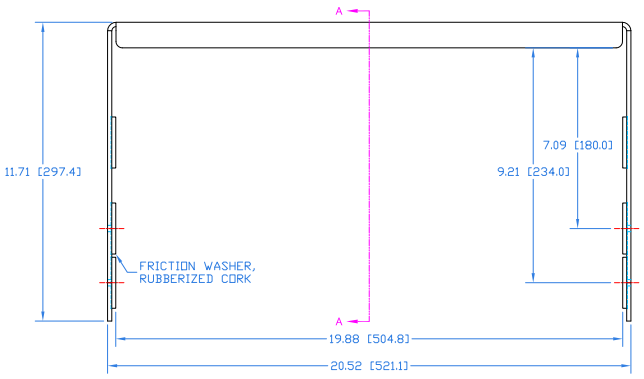
Drawing is reduced. Do not scale.

Notes:
1. Fits: DX8 Series
2. Net Weight: Approx. 7.7 lb / 3.5 kg
3. Material: 8 GA ASTM A36 steel
4. Includes 2x each M6 socket head cap screws, split washers, and flat washers

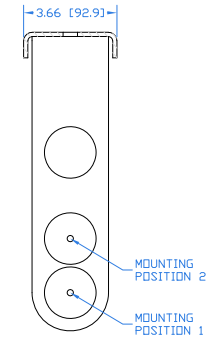
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REV	DESCRIPTION	APPR / DATE
1	NEW ISSUE	06/29/20
2	UPDATE WASHERS	06/26/25



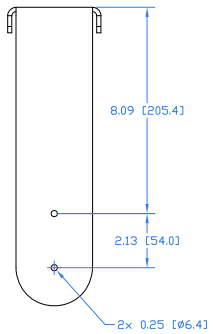
TOP



FRONT



SECTION A-A



RIGHT SIDE

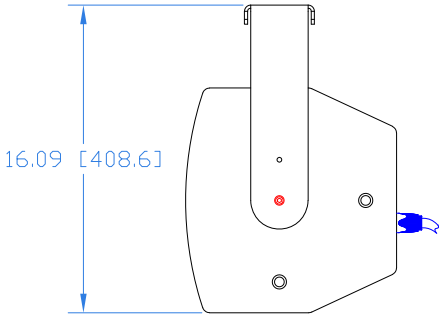
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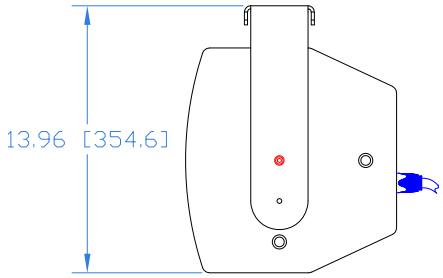
Notes:
The YK-DX8 yoke bracket is designed to mount DX8 Series loudspeakers in a horizontal orientation. It is fitted with two mounting holes which allow the installer to vary the distance between the loudspeaker enclosure and the mounting surface.

Note that the range of motion is restricted when the enclosure is mounted closer to the yoke. The maximum range of motion is achieved when the enclosure is mounted to the holes nearest the end of the bracket arms.

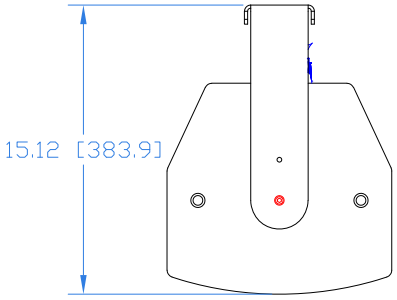
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REV	DESCRIPTION	APPR / DATE
1	NEW ISSUE	RAF 1/12/21
2	CHANGE DRAWING ORIENTATION	RAF 6/26/25

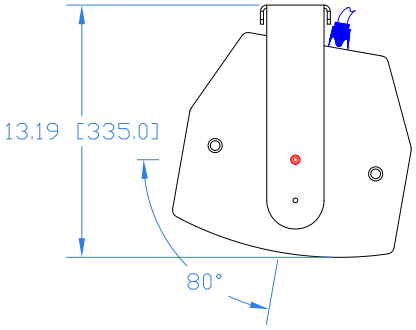


MOUNTING POSTION 1



MOUNTING POSTION 2





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Drawing is reduced. Do not scale.