



product specification

S

Dual 8 inch Coaxial Loudspeaker

prophile[™]
SERIES



Overview

The Prophile™ S 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. The S's coaxial driver gives it the ability to provide a stable, high fidelity image at close range, and its dedicated low frequency transducer provides additional mid bass impact. Its horizontal orientation, small vertical dimension, and trapezoidal shape allow it to be positioned extremely close to ceilings and under balconies. The S's low profile also makes it very useful as a 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 S 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 S is an excellent option any time limited space is available. Its high efficiency results in impressive levels, and its 100° x 100° coverage and coaxial design make it especially effective in close quarters. Low frequency extension to 80 Hz allows the S to provide impressive impact and enables it to integrate well with subwoofers. This makes it an ideal choice for small live reinforcement or dance club systems, high intensity DJ monitors, A/V screening rooms, high output fill systems, and more.

Performance Specifications¹

Operating Mode

Single-amplified w/ DSP

Operating Range²

80 Hz to 20 kHz

Nominal Beamwidth

100° x 100°

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 Impedance³

63 V / 500 W @ 8 Ω

Nominal Sensitivity @ Input Voltage⁴ (whole space)

98 dB @ 2.83 V

Nominal Maximum SPL (peak / continuous)

131 dB / 125 dB

Equalized Sensitivity @ Input Voltage⁵

96 dB @ 2.83 V

Equalized Maximum SPL⁶ (peak / continuous)

129 dB / 123 dB

Recommended Power Amplifier

500 W to 1000 W @ 8 Ω

Physical Specifications

Connections

(2) Neutrik NL4 Speakon

Pin 1+/-: Full Range

Pin 2+/-: NC

Mounting / Suspension Points

(8) 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 page 5

Finish

Black painted enclosure w/ matte black grille, or

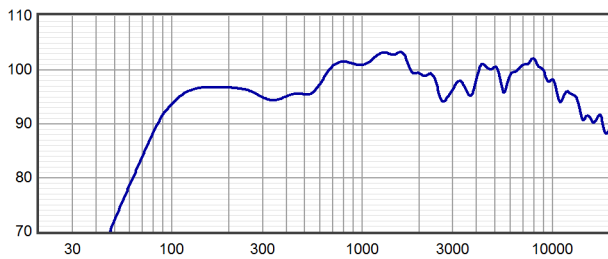
White painted enclosure w/ matte white grille

Options

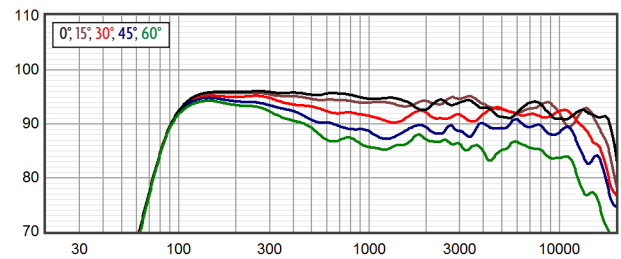
YK-S yoke bracket, Terminal strip input, Custom color finish,
Weather-resistant (WR) enclosure & hardware



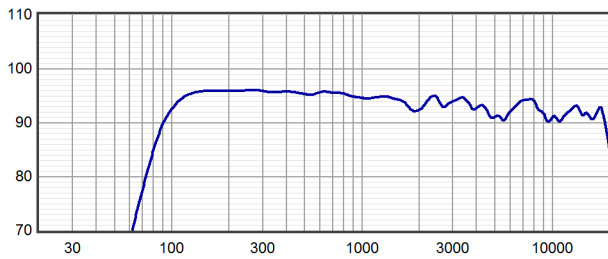
Axial Sensitivity (dB SPL, 2.83 V @ 1 m)^{7,8}



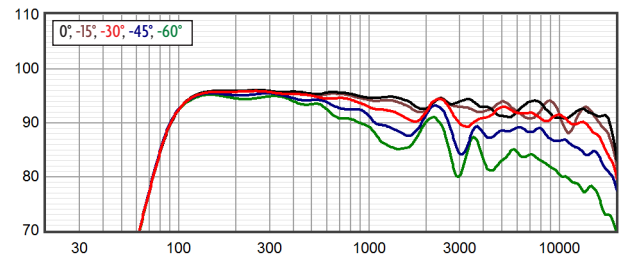
Horizontal Off Axis Response^{7,11}



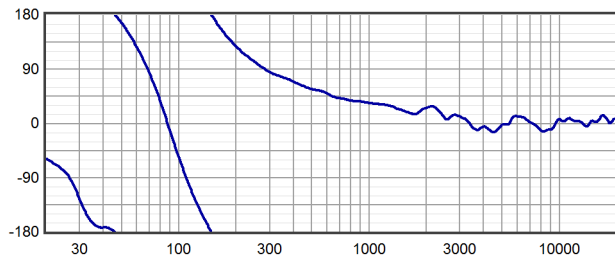
Axial Processed Response (dB)^{7,9}



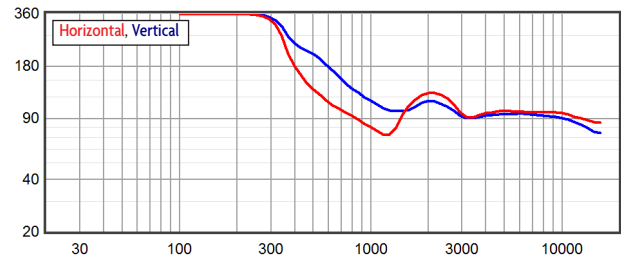
Vertical Off Axis Response^{7,11}



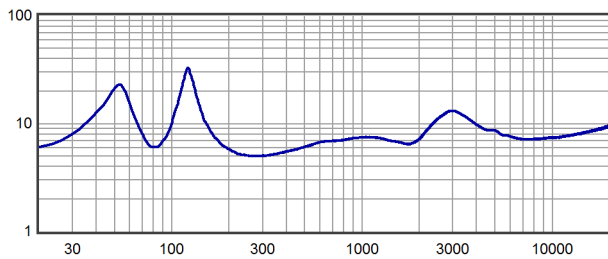
Axial Processed Phase Response (degrees)^{7,10}



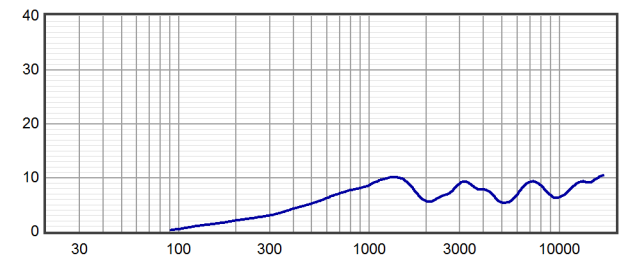
Beamwidth^{7,12}



Impedance (ohms)

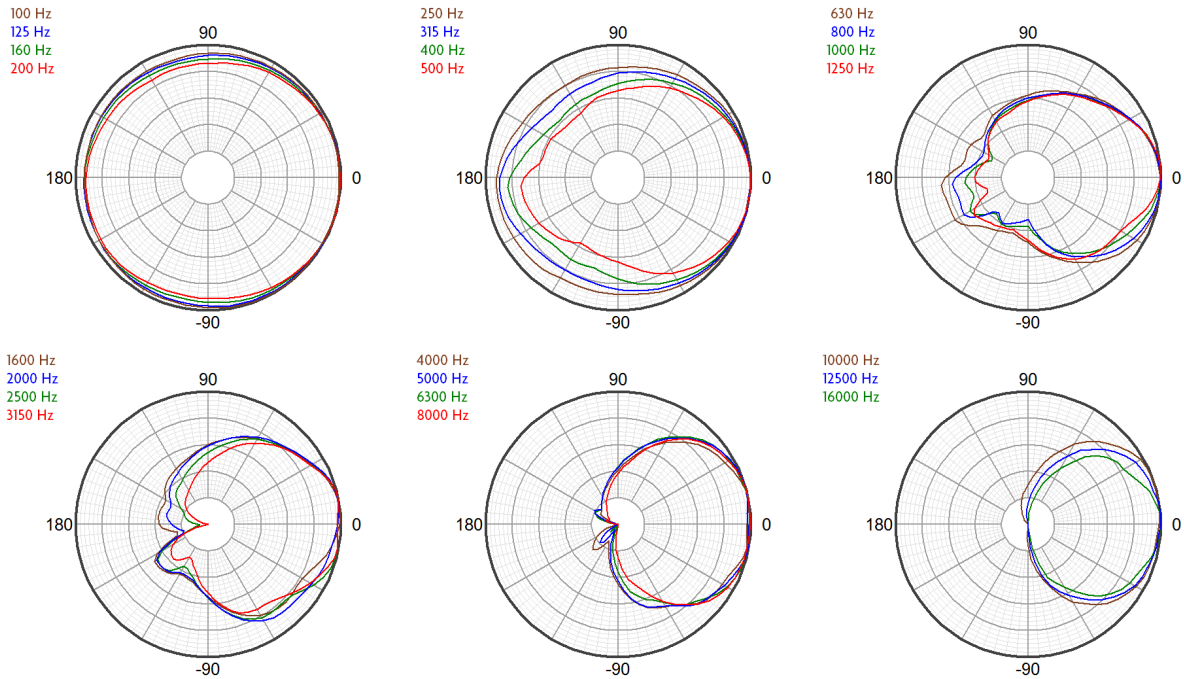


Directivity Index (dB)¹³

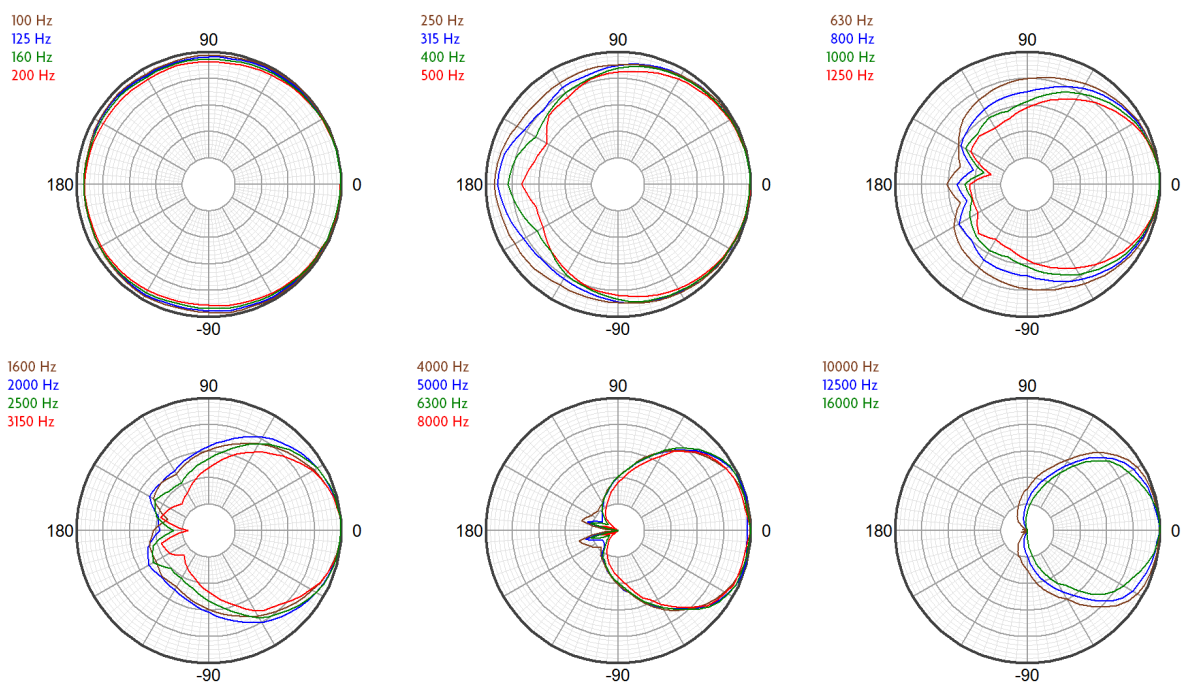




Horizontal Polar Response (30 dB Scale, 6 dB per Major Division)



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





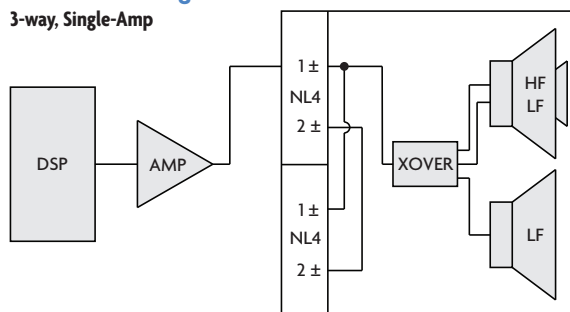
Technologies

The Prophile S 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 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.

Connection Diagram

3-way, Single-Amp



Mechanical Specification Drawings

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

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 processing applied.
- ¹² **Beamwidth** The angle between the -6 dB points in a loudspeaker's polar response.
- ¹³ **Directivity Index (Di)** 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 $10^{Di/10}$.

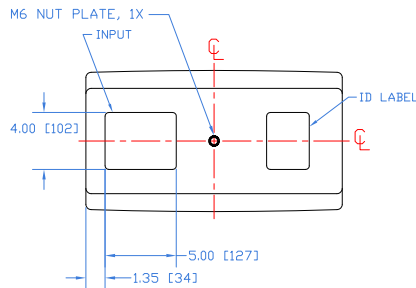
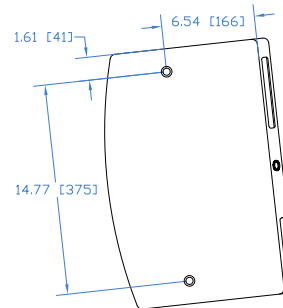
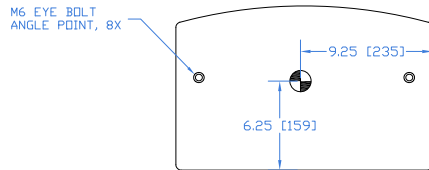
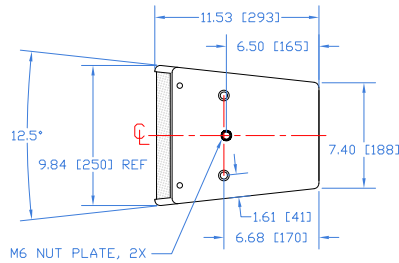
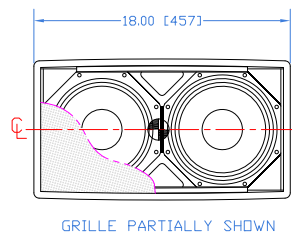


product specification

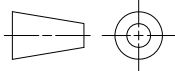
Notes:

1. Net Weight = Approx. 34.0 lb / 15.4 kg
2. Ship Weight = Approx. 39.0 lb / 17.7 kg
3. Symbol = M6 eye bolt angle point
4. Symbol = M6 nut plate
5. Symbol = CoG

REVISIONS		
REV	DESCRIPTION	APPR / DATE
3	REDESIGN ENCLOSURE TO MATCH OTHER PROPHILE SERIES LOUDSPEAKERS	RAF 5/25/10
4	CORRECT REAR HEIGHT DIMENSION	RAF 6/14/10
5	ADD SHIPPING WEIGHT	RAF 6/14/10
6	OMNIMOUNT TO 'THIRD PARTY' IN NOTE 5	RAF 1/13/12
7	REMOVE PAN/TILT MOUNT POINTS	RAF 7/28/16



THIRD ANGLE PROJECTION



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UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES

TOLERANCE IN INCHES
.XX1 .XX±.015 .XXX±.005
FRACTIONS ±1/32
ANGLES ±1/2°

(XXX) = REF DIMS NO TOLERANCE IMPLIED

TSC = THEORETICAL SHARP CORNER

DIMENSIONS ACROSS CENTERLINES TO BE SYMMETRICAL

STATUS PRODUCTION

APPROVALS DATE

DRAWN: DWG 4/29/09

CHECKED: RAF 1/08/10

DES ENG:

MFG ENG:

FULCRUM ACOUSTIC, LLC
670 LINWOOD AVE., LINWOOD, MA 01525 USA

TITLE: Mechanical Spec, S

B SHEET 1 OF 1 SCALE: 1:12

DWG. NO. 820-100-020 REV 7

Drawing is reduced. Do not scale.

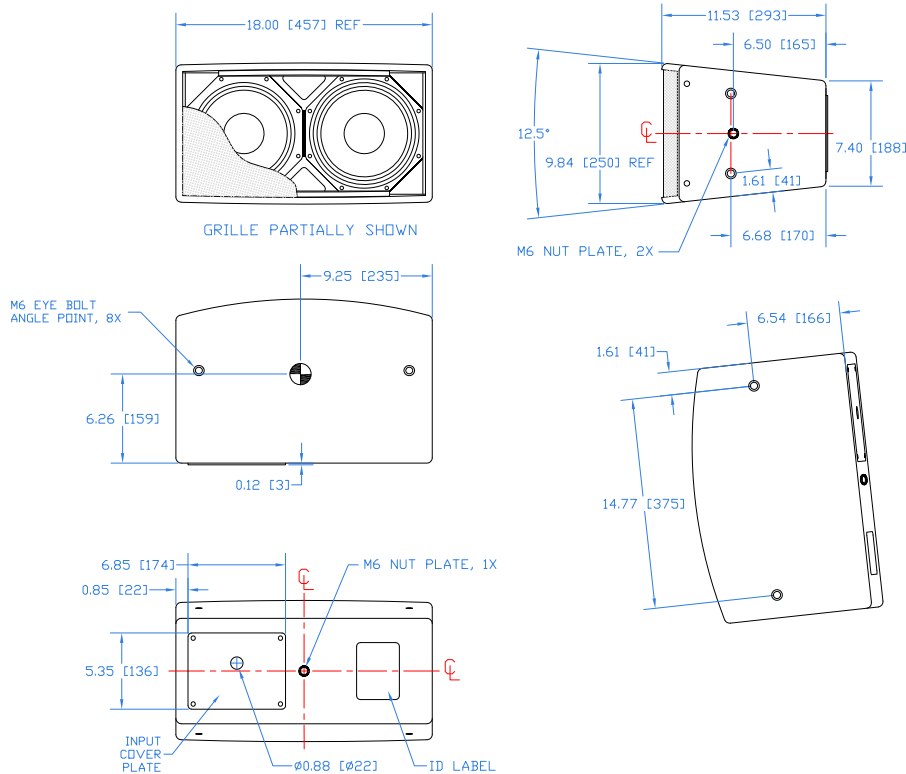


product specification, weather-resistant (WR) version

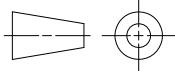
Notes:

1. Net Weight = Approx. 34.0 lb / 15.4 kg
2. Ship Weight = Approx. 39.0 lb / 17.7 kg
3. Symbol = M6x1.0 eye bolt angle point
4. Symbol = M6x1.0 nut plate
5. Symbol = CoG
6. Enclosure material: PVC

REV	DESCRIPTION	APPR / DATE
1	WR VERSION OF PROPHILE S	DWG 7/23/11
2	GENERAL DRAWING UPDATES	RAF 1/14/16
3	REMOVE PAN/TILT MOUNT POINTS	RAF 7/28/16
4	CHANGE COVER PLATE, ADD ID LABEL	RAF 1/21/21



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TOLERANCE IN INCHES
.XX1 .XX±.015 .XXX±.005
FRACTIONS ±1/32
ANGLES ±1/2°

(XXX) = REF DIMS NO TOLERANCE IMPLIED

TSC = THEORETICAL SHARP CORNER

DIMENSIONS ACROSS CENTERLINES TO BE SYMETRICAL

STATUS PRODUCTION

APPROVALS DATE

DRAWN: DWG 7/23/11

CHECKED:

DES ENG:

MFG ENG:

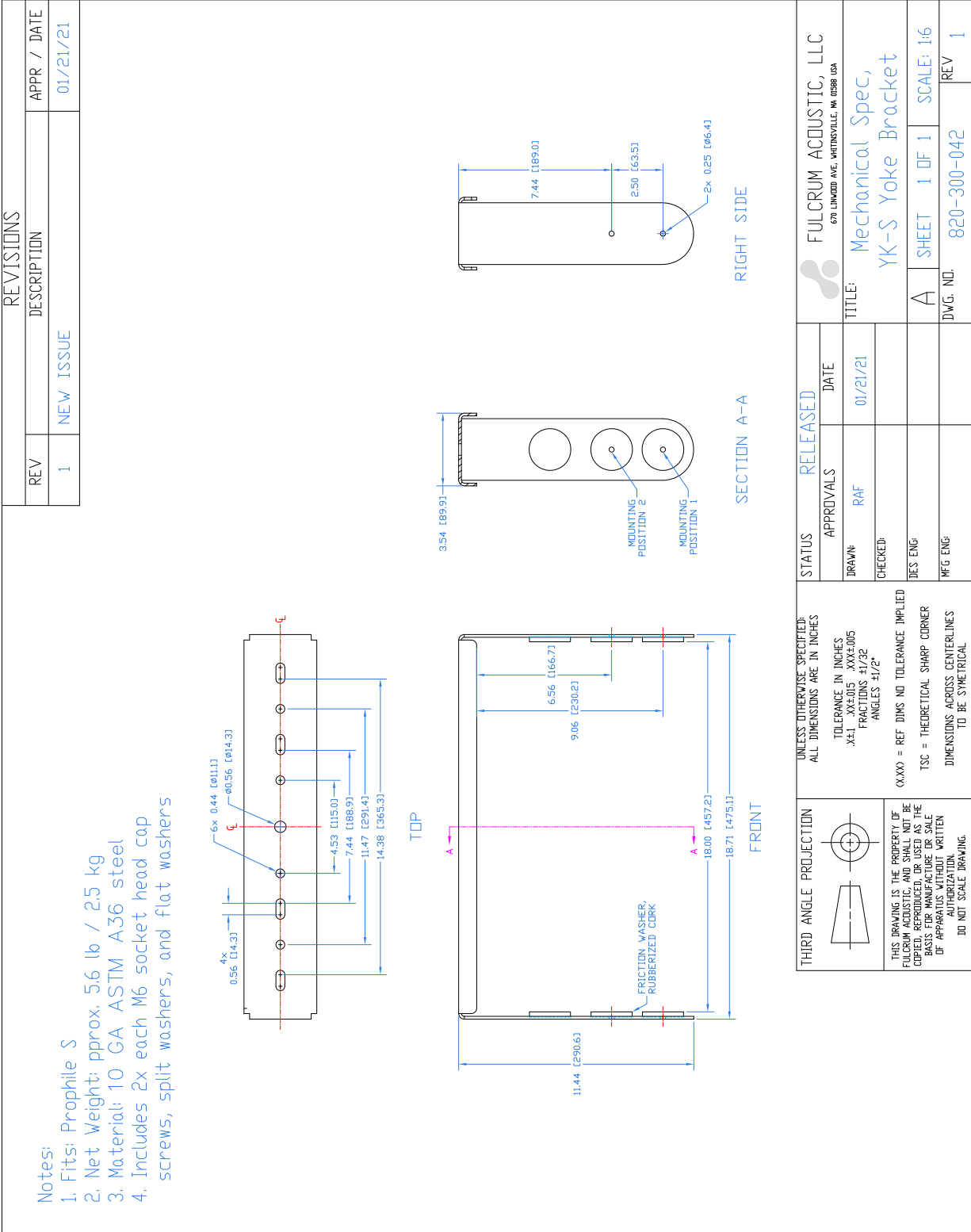
FULCRUM ACOUSTIC, LLC
670 LINWOOD AVE, LINWOOD, MA 01525 USA

TITLE: Mechanical Spec, S-WR


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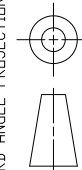
Drawing is reduced. Do not scale.



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STATUS	RELEASED	DATE	DATE	 FULCRUM ACOUSTIC, LLC 670 LINDOOD AVE. WHTINSVILLE, IN 46088 USA
DRAWN	RAF	01/21/21	01/21/21	TITLE: Mechanical Spec, YK-S Yoke Bracket
CHECKED:				A SHEET 1 OF 1 SCALE: 1:6 DWG. NO. 820-300-042 REV 1
TIES ENG				
MFG ENG				

THIRD ANGLE PROJECTION



UNLESS OTHERWISE SPECIFIED:
 ALL DIMENSIONS ARE IN INCHES
 TOLERANCE IN INCHES
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 FRACTIONS 41/32
 ANGLES 41/2°

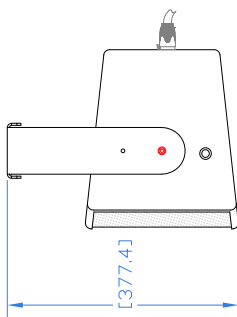
Ø.XXX = REF DIMS NO TOLERANCE IMPLIED
 TSC = THEORETICAL SHARP CORNER
 DIMENSIONS ACROSS CENTERLINES
 TO BE SYMMETRICAL

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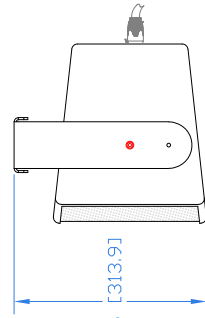
REVISIONS	
REV	DESCRIPTION
1	NEW ISSUE
	APPR / DATE RAF 01/21/21

Notes:
The YK-S yoke bracket is designed to mount the Prophile S loudspeaker 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.

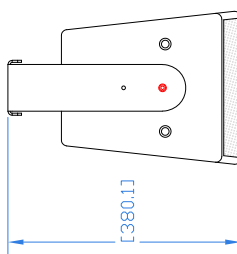


14.86 [377.4]



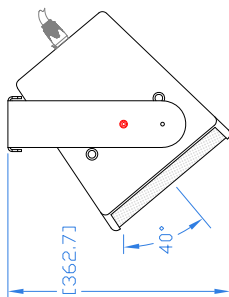
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MOUNTING POSITION 1



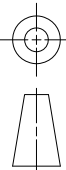
14.97 [380.1]

MOUNTING POSITION 2



14.28 [362.7]

40°

THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS ARE IN INCHES	STATUS	RELEASED	DATE	FULCRUM ACOUSTIC, LLC 670 LINDOOD AVE. WHTINSVILLE, IN 45886 USA
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		DRAWN CHECKED: TIES ENG MFG ENG			
					TITLE: YK-S + Prophile S Assembly
					A SHEET 1 OF 1 SCALE: 1:8
					DWG. NO. 820-300-043 REV 1

Drawing is reduced. Do not scale.