US208

Dual 8 inch Direct-Radiating Subwoofer



Overview

The US208 is a dual 8 inch, ultra-compact, direct radiating subwoofer that is designed to provide extended low frequency response and solid musicality. Its 2.5 inch voice coils, strong ceramic magnets, and low-turbulence port permits an optimal tuning to be achieved in an enclosure that is unusually small for a dual 8 inch subwoofer.

For overhead suspension, fourteen M6 suspension points allow either horizontal or vertical orientation. For ground stacking, the supplied vibration isolators may be threaded into any three M6 mounting points to prevent spurious vibrations and "walking". When stacking enclosures, the vibration isolators nest in recesses surrounding the mounting points in the cabinet below. The input is mounted on a chamfer at the rear of the enclosure, allowing cable access without requiring additional space between the enclosure and a wall or stage.

The US208 is perfectly suited for restaurants and nightclubs, auditoriums and lecture halls, A/V screening rooms, and home theatres. Its small size allows it to be used under seating or built into small cavities.

Performance Specifications[1]

Operating Mode
Single-amplified w/ DSP

Operating Range [2]
33 Hz to 141 Hz

Nominal Beamwidth
Spherical within operating range

Transducers
LF: (2) 8.0" woofers, 2.5" voice coil; ceramic magnet

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

Nominal Sensitivity @ Input Voltage [4] (half / whole space)
98 dB / 92 dB @ 2.83 V

Nominal Maximum Continuous SPL (half / whole space)
131 dB / 125 dB peak
125 dB / 119 dB continuous

Equalized Sensitivity @ Input Voltage [5] (half / whole space)
94 dB / 88 dB @ 2.83 V

Equalized Maximum SPL [6] (half / whole space)
127 dB / 121 dB peak
121 dB / 115 dB continuous

Recommended Power Amplifier
500 W to 750 W @ 8 Ω

Physical Specifications

Connections
(2) Neutrik NL4 Speakon
Pin 1+/-: LF1 + LF2
Pin 2+/-: No Connection

Mounting / Suspension Points
(14) M6 eye bolt angle points

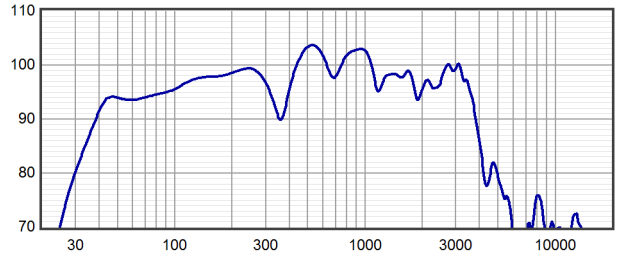
Dimensions / Weight
See pages 4 & 5

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

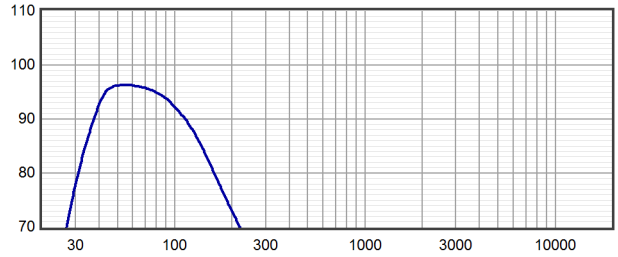
Options

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

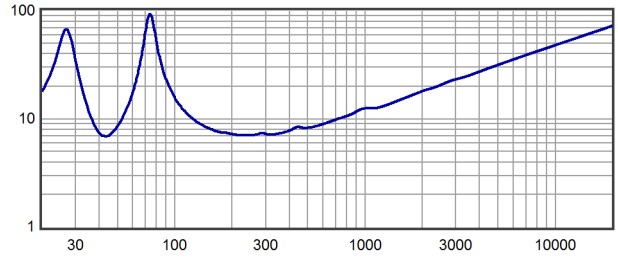
Axial Sensitivity (dB SPL, 2.83 V @ 1 m, half space)[7, 8]



Axial Processed Response (dB, half space)[7, 9]



Impedance (ohms)



Technologies

The 8 inch woofers in the US208 have 2.5 inch voice coils, strong ceramic magnet structures, and silicone impregnated spiders for high excursion and long term stability. This allows the pair of woofers to handle 500 watts of long term power, and provides the motor strength required to operate effectively in such a small enclosure.

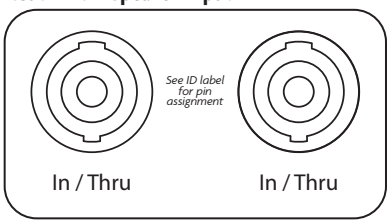
The enclosure shell is constructed of Baltic birch plywood, while the ports are constructed of articluated plywood. The port design makes use of all available frontal area, minimizes turbulence, and smoothly guides the air flow to the center of the enclosure.

The specially-selected vibration isolators are much more effective than conventional loudspeaker feet. They are constructed of high-compliance neoprene for a high coefficient of friction, and allow up to 4 mm of lateral displacement.

The net result is a subwoofer that provides low frequencies with a very authoritative character in a package that fits into very small spaces.

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.*

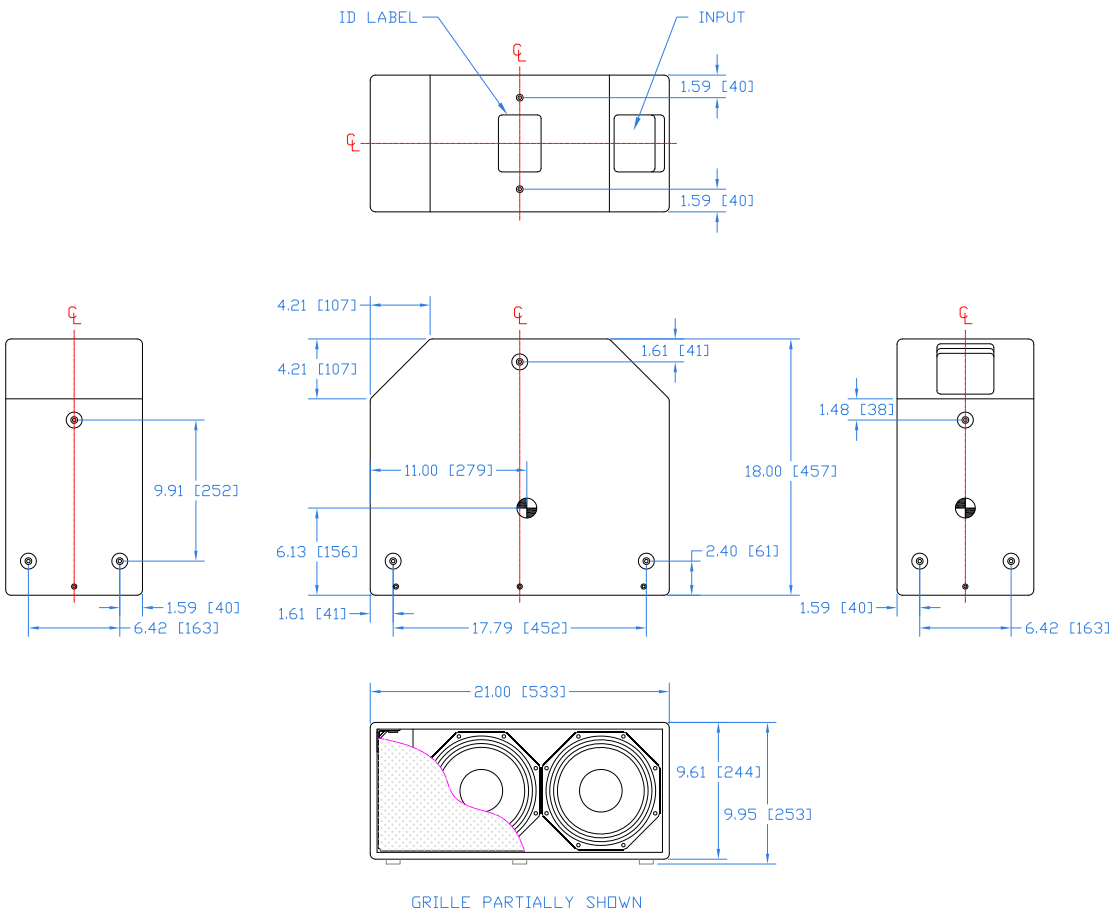
[7] **Resolution** *All response graphs are subjected to 1/6 octave cepstral smoothing with a gaussian weighting function.*

[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.*

Notes:
1. Net Weight = Approx. 42.0 lb / 19.1 kg
2. Symbol ◎ = M6 x 1.0 eye bolt angle point in 0.250 [6.35] deep foot recess
3. Symbol ◎ = M6 x 1.0 eye bolt angle point
4. Symbol ⊕ = CoG
5. Three vibration isolation feet thread into suspension points on bottom side of enclosure.

REVISIONS		
REV	DESCRIPTION	APPR / DATE
2	UPDATE ENCLOSURE DIMENSIONS; RELEASE TO PRODUCTION	RAF 6/11/14
3	UPDATE NOTES	RAF 2/11/26



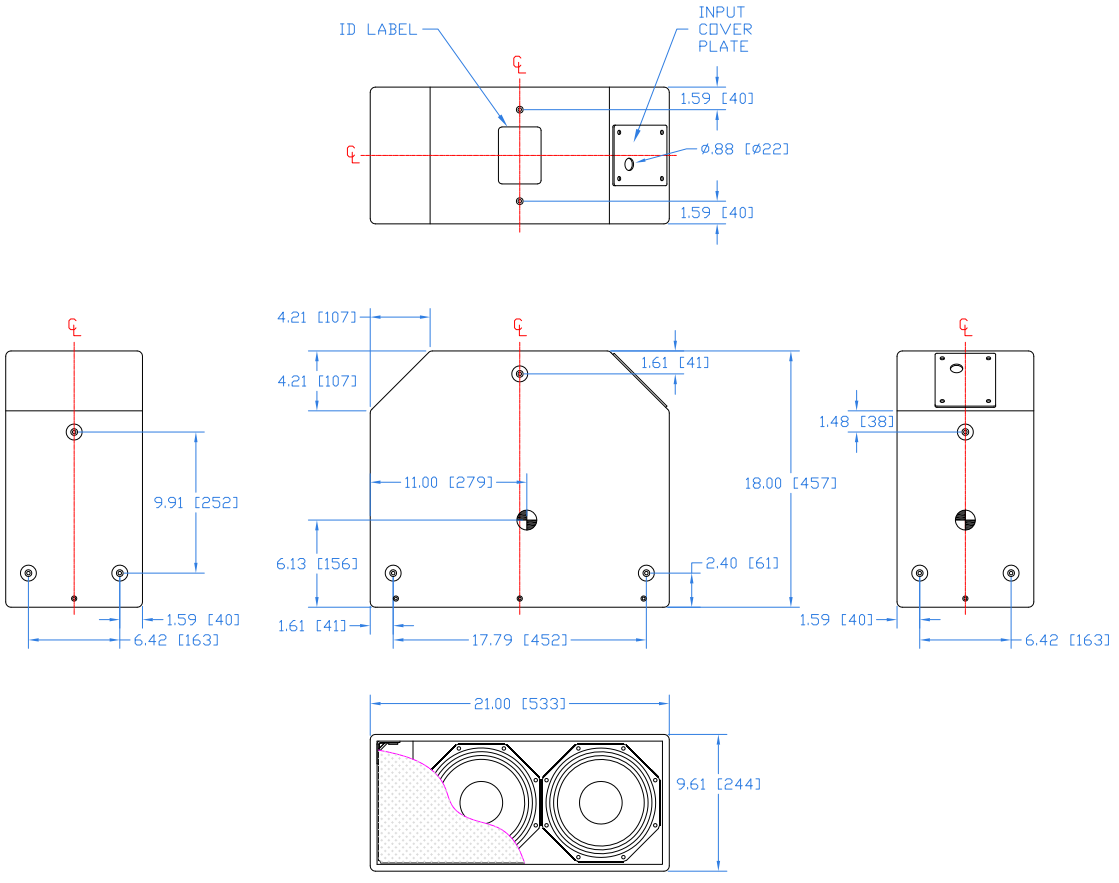
GRILLE PARTIALLY SHOWN

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, US208
		DRAWN: RAF 06/11/14	
		CHECKED: DWG 06/11/14	
		DES ENG:	A SHEET 1 OF 1 SCALE: 1:12
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Drawing is reduced. Do not scale.

Notes:
1. Net Weight <= Approx. 42.0 lb / 19.1 kg
2. Symbol ◎ = M6 x 1.0 eye bolt angle point in 0.250 [6.35] deep foot recess
3. Symbol ◎ = M6 x 1.0 eye bolt angle point
4. Symbol ◔ = CoG
5. Enlcosure construction:
   Fiberglass Reinforced Polyurethane

REVISIONS		
REV	DESCRIPTION	APPR / DATE
1	NEW ISSUE	RAF 1/25/16
2	UPDATE NOTES & INPUT COVER PLATE, REMOVE FEET	RAF 2/11/26



GRILLE PARTIALLY SHOWN

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, US208-WR
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		CHECKED: DWG 01/25/16	
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