

Suggested enclosures

For those who want to build their own enclosures, but don't want to go through the design process using driver parameters, Peavey provides the following optimized designs:

ENCLOSURES	Net Volume cubic feet/liters	Vent diameter (qty) inches/mm	Vent length inches/mm	V _b box tuning frequency in Hz	F ₃ , -3 dB point in Hz
Sheffield® Pro™ 1200					
Small sealed box	.75/21.2	n/a	n/a	93 (resonance)	75
Small vented box	1.5/42.5	(2) 3/76	7.0/178	55	56
Medium vented box	2.0/56.6	(2) 3/76	4.5/114	50	49
Large vented box	2.5/70.8	(2) 3/76	4.5/114	45	43
Single reflex bandpass	Sealed 1.4/39.6 Vented 1.1/31.2	(1) 6/152	5.5/140	81	48-140
Sheffield Pro 1500					
Small sealed box	1.25/35.4	n/a	n/a	89 (resonance)	68
Small vented box	2.0/56.6	(2) 3/76	4.5/114	50	60
Medium vented box	3.0/85.0	(2) 3/76	4.125/105	42	50
Large vented box	4.0/113.3	(2) 3/76	3.5/89	38	45
Single reflex bandpass	Sealed 2.3/65.1 Vented 1.7/48.1	(2) 6/152	8.625/219	80	43-145

For Sheffield 1200:

- Small sealed box
Incredibly small. Great choice for use in a super-compact stage monitor or as a mid-range enclosure.
- Small vented enclosure.
Amazing portability, with high sound quality and maximum power handling. Adequate bass performance – a great choice for the vocal range.
- Medium vented enclosure.
Popular size for a 12" system, with an excellent mix of power handling and bass quality.
- Large vented enclosure.
Maximum bass performance from this 12" speaker. Power handling is reduced by about 15% due to enclosure size.
- Single-Reflex Bandpass.
Special enclosure design that uses the enclosure as an acoustic filter for shaped response. Great choice for a compact subwoofer system.

For Sheffield 1500:

- Small sealed box
Tiny 15" enclosure – makes a terrific stage monitor.
- Small vented enclosure.
Very small enclosure with strong performance and surprising bass for its size.
- Medium vented enclosure.
An excellent blend of power handling and bass performance that works very well for general PA and bass guitar enclosures.
- Large vented enclosure.
Strong, extended bottom end with usable response to a solid 40 Hz. Power handling is reduced by about 15% due to the enclosure size.
- Single-Reflex Bandpass.
Special enclosure design using the enclosure as an acoustic filter for shaped response. Great for a subwoofer system.

ONE YEAR LIMITED WARRANTY

NOTE: For details, refer to the warranty statement. Copies of this statement may be obtained by contacting Peavey Electronics Corporation, P.O. Box 2989, Meridian, MS 39335



Features and specifications subject to change without notice.

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SPECS

PEAVEY ELECTRONICS

Sheffield® Pro™ 1200 and Sheffield Pro 1500



INTRODUCTION

The Pro 1200 and Pro 1500 drivers are high quality, high efficiency woofers. They are an excellent choice for medium power subwoofer and full-range enclosure applications up to 400 Watts program.

PERFORMANCE

The Pro 1200 is an exceptional performer as the low end of a two-way enclosure or a very compact, moderate output subwoofer. Very smooth frequency response is combined with amazing bass response for its size, all with good efficiency and high sound quality.

The Pro 1500 has surprisingly smooth and extended frequency response, along with high efficiency and very strong bass performance. The 1500 delivers a solid bottom end in a variety of enclosure designs. It is an exceptional performer in bass guitar and subwoofer applications.

APPLICATIONS

The Pro 1200 and Pro 1500 drivers are excellent choices for a wide range of sound reinforcement, high-level playback, musical instrument, subwoofer, and monitor applications.

Both woofers are also great choices as replacement drivers. You can restore top performance to your aging instrument amps and speaker systems with these new, high quality loudspeakers.

The 15" driver can produce high sound pressure levels down to 40 Hz, while the 12" can be crossed over as high as 4 kHz. Both drivers are strong performers in multi-way systems.

ENCLOSURES

To assist with the growing interest in home-built enclosure designs, Peavey provides complete parameter data on these drivers as well as several recommended enclosures for each model. This information and much more can be found at www.peavey.com.

For best results, enclosures should be built of best-quality marine or other high grade plywood. If you must use construction grade plywood, inspect each sheet thoroughly - and do not use anything below BC grade. Use 3/4" thick material throughout, as thinner wood virtually guarantees poor enclosure performance.

Use a quality wood glue, fit joints tightly, and add internal bracing to stiffen the panels of the enclosure.

Look at commercially designed enclosures for ideas on good brace placement. Use wood screws or a pneumatic nailer to assemble the enclosure during gluing, to maximize joint strength.

Strength of the completed enclosure has a great effect on the bass performance of the finished system. Box panels that aren't stiff enough will vibrate – cancelling bass produced by the woofer, and creating unwanted sounds of their own. If your box vibrates or you don't think the box panels are stiff enough, add more bracing.

Vents used in the examples require standard Schedule 40 PVC pipe for vent construction. The pipe should be dadoed tightly into the back of the baffle and glued firmly in place with high quality epoxy or high strength



industrial hot glue. Rough up the outside of the pipe to improve the glue bond.

Be sure to account for the displacement of the vent, bracing, horn (if used) and woofer in your enclosure design before building it, or it will be smaller than its intended volume. This can reduce bass output and mis-tune the enclosure.

Line the inside of sealed and vented enclosures with batting such as polyester quilt stuffing. The batting material should conform to California bedding fire codes. Attach the batting with spray adhesive or staples, and keep it away from the end of the vent tube where it could be pulled in by air flow.

When building a bandpass enclosure, design a panel or door to be removable for access to the woofer. Use foam weatherstrip to seal the panel along with enough screws and bracing to prevent leaks and buzzes. Fill the sealed volume loosely with polyester fiber, but leave the vented volume empty. Place the magnet of the woofer in the vented side for improved cooling.

A full range of handles, protective corners, cabinet covering, grille materials and crossovers are available through Peavey Accessories.

Peavey does not supply hardware required for the manufacturing of flying systems, and recommends that builders should not suspend or fly any enclosure not certified for such applications.

These instructions are a general guideline for design. Proper construction techniques, good planning and common sense will result in a reliable, high quality, high performance system.

Peavey in no way accepts liability for any damage, accidents or injury that may result from construction or use of enclosures using this information.

PARAMETERS

Thiele-Small parameters for Sheffield® Pro™ 1200 and Sheffield Pro 1500 drivers follow. This data is for use in designing enclosures. Numerous software packages are available that use this data to simulate the response of the driver and enclosure together for optimum performance in any application.

PARAMETER DEFINITIONS

Z_{nom}: The nominal impedance of the driver in Ohms.

R_{evc}: DC resistance of the driver in Ohms, also known as Re.

S_d: The functional radiating surface area of the cone assembly, in meters².

BL: Efficiency of the voice coil and magnet system in Telsa Meters.

F_o: Also known as Fs, the free air resonance of the driver.

V_{as}: Volume of air having the same compliance (springiness) as the driver's suspension.

C_{ms}: Restorative force of the driver's suspension in micrometers/Newton.

M_{ms}: The total mass of the moving parts of the loudspeaker, including the air load, in grams.

Q_{ms}: Resonance characteristics of the mechanical factors of the loudspeaker.

Q_{es}: Resonance characteristics of electrical factors of the loudspeaker.

Q_{ts}: Resonance characteristics of the electrical and mechanical factors combined together.

X_{max}: Distance the cone can move in one direction before the coil begins to leave the magnetic gap.

L_e: Inductance of the voice coil in millihenries.

SPL: Typical sound pressure level at 1 Watt, 1 meter.

n_o: Electrical-to-acoustical conversion efficiency in percent

V_d: Air displacement of the driver from negative Xmax to positive Xmax, in milliliters.

P_{max}: Maximum continuous program power in Watts.

Disp: Volume displaced by the driver inside the cabinet when mounted on its rear flange, in inches³.

SPECIFICATIONS		
	Sheffield® Pro™ 1200	Sheffield Pro 1500
Part #	00458370	00458380
Size:	12" / 305 mm nominal Frame OD 12-1/4" / 311 mm Bolt circle 11-5/8" / 295 mm, 8 holes Cutout diameter 11-1/16" / 281 mm Depth 4.-7/8" / 124 mm	15" / 380 mm nominal Frame OD 15-5/32" / 385 mm Bolt circle 14-9/16" / 370 mm, 8 holes Cutout diameter 14" / 356 mm Depth 6" / 152 mm
Impedance:	8 Ohms	8 Ohms
Power Capacity:	800 W peak 400 W program 300 W continuous	800 W peak 400 W program 300 W continuous
Sensitivity:	96.5 dB 1 Watt / 1 meter	98.0 dB 1 Watt / 1 meter
Usable Frequency Range:	50 Hz ~ 4 kHz	40 Hz ~ 3 kHz
Cone:	Impregnated cellulose	Impregnated cellulose
Voice Coil Diameter:	2.5" / 63 mm	.5" / 63 mm
Voice Coil Material:	2 layers, thermally bonded copper wire Kapton former Nomex stiffener	2 layers, thermally bonded copper wire Kapton former Nomex stiffener
Net weight:	11 lb. / 5.0 kg	12.5 lb. / 5.7 kg
Z _{nom} (Ohms)	8	8
R _{evc} (Ohms)	5.58	5.54
S _d (M ²)	0.0507	0.0824
BL (T/M)	11.34	12.26
F _o (Hz)	50.3	42.1
V _{as} (liters)	72.97	183.4
C _{ms} (uM/N)	199.9	190.2
M _{ms} (gm)	50.11	75.15
Q _{ms}	4.128	3.749
Q _{es}	.687	.727
Q _{ts}	589	.609
X _{max} (mm)	3.6	3.6
L _e (mH)	.33	.33
SPL (1w 1m)	96.5	98
n _o (%)	1.31	1.82
V _d (milliliters)	365.0	593.3
P _{max} (watts pgm.)	400	40
Disp (inches ³ /ml)	121 / 1983	196 / 3212

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