

850136
8" WOOFER CSX

WOOFER 8" - CSX217H - 217 WR 33 102 SD 4L

High end woofer with a large four layer voice coil and heavy magnet. Inverted dust cap, multi-layer sandwich cone, rubber roll surround. Well suited for reflex designs where this driver excels in producing a deep dry bass due to its low resonance frequency and premium construction. The excellent midrange response makes this unit suitable for wide range applications and is very easy to set up and filter. In fact it can perform admirably in a simple 2 way system making cabinet and crossover design easy and box size reasonable, yet producing large quantities deep, warm, accurate sound. F(ratio) for this driver is 99, and the driver is very suitable for vented boxes.

25 ltr box. 1 port. Diameter 70 mm. Lenght 120 mm. Tuning freq 50 Hz. Response, - 3 dB appr at 52 Hz.

40 ltr box. 1 port. Diameter 70 mm. Lenght 85 mm. Tuning freq 45 Hz. Response, - 3 dB appr at 45 Hz.

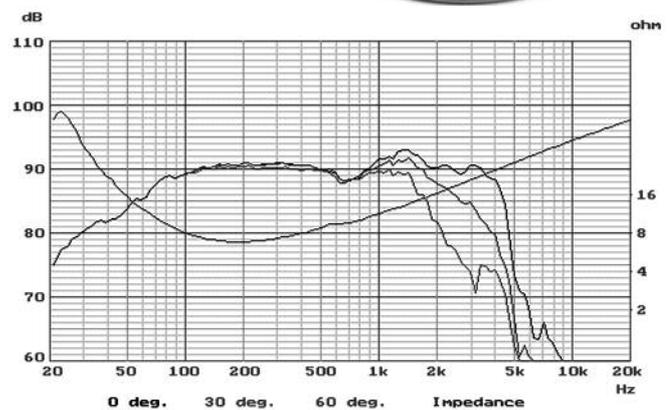
60 ltr box. 1 port. Diameter 70 mm. Lenght 65 mm. Tuning freq 40 Hz. Response, - 3 dB appr at 40 Hz.

Cross-over freq from 1500-3000 Hz is recommendable for this model.

Thiele Small parameters:

Nominal impedance	Zn	(ohm)	
Minimum impedance/at freq.	Zmin	(ohm/Hz)	
Maximum impedance	Zo	(ohm)	
DC resistance	Re	(ohm)	
Voice coil inductance	Le	(mH)	
Capacitor in series with 8 ohm (for impedance compensation)	Cc	(µF)	
Resonance Frequency	fs	(Hz)	
Mechanical Q factor	Qms		
Electrical Q factor	Qes		
Total Q factor	Qts		
F (Ratio fs/Qts)	F	(Hz)	
Mechanical resistance	Rms	(Kg/s)	
Moving mass	Mms	(g)	
Suspension compliance	Cms	(mm/N)	
Effective cone diameter	D	(cm)	
Effective piston area	Sd	(cm ²)	
Equivalent volume	VAS	(ltrs)	
Force factor	Bl	(N/A)	
Reference voltage sensitivity			
Re 2.83V 1m at 188 Hz (Measured)		(dB)	89.5
Voice coil diameter	d	(mm)	33
Voice coil length	h	(mm)	14
Voice coil layers	n		4
Flux density in gap	B	(T)	0.95
Total useful flux		(mWb)	0.90
Height of the gap	hg	(mm)	6
Diameter of magnet	dm	(mm)	102
Height of magnet	hm	(mm)	20
Weight of magnet		(kg)	0.68
<u>Power handling:</u>			
Long term Max System Power (IEC) (W)			150
Code			850136

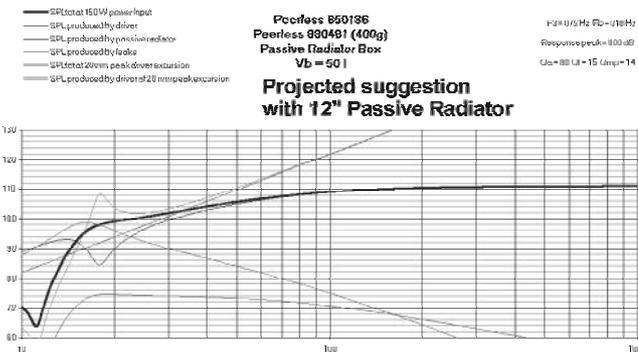
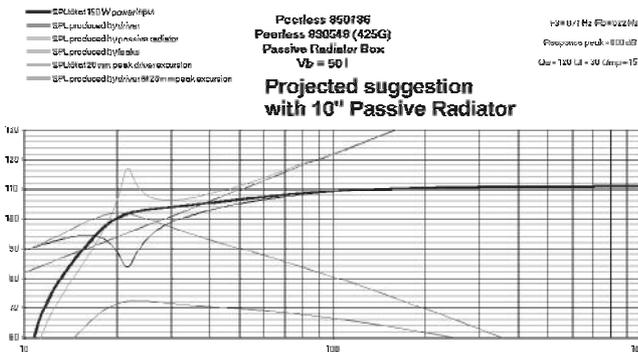
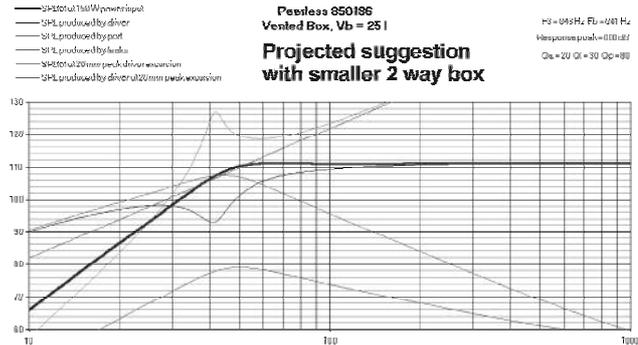
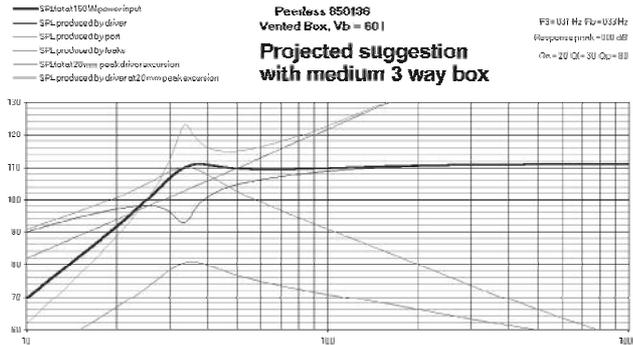
	Free Air	Common	Baffled
Nominal impedance		8	
Minimum impedance/at freq.		6.6/188	
Maximum impedance		76.5	
DC resistance		5.9	
Voice coil inductance		2.6	
Capacitor in series with 8 ohm (for impedance compensation)		21	
Resonance Frequency	28.2		27.4
Mechanical Q factor	3.50		3.61
Electrical Q factor	0.29		0.30
Total Q factor	0.27		0.28
F (Ratio fs/Qts)			99
Mechanical resistance		1.54	
Moving mass	30.5		32.4
Suspension compliance		1.04	
Effective cone diameter		17.3	
Effective piston area		235	
Equivalent volume		79.7	
Force factor		10.4	





850136 8" WOOFER CSX

Below are some theoretical projections of how well this driver will perform in a ported box design. Useable bass of below 30Hz is quite achievable and as low as 25Hz with a bit of port tuning. Peerless have suggested box volumes of between 25 and 60 liters, leaving you quite a range in your box design considerations. Put simply, the larger the box, the deeper the bass. Also for your consideration we have included some projected response graphs of this driver if used in a cabinet with the Peerless XLS range of passive radiators. 50L box volume is for comparison only. Smaller box volumes are applicable with minimal loss in bass extension. Tweeter crossover should be kept between 1500 and 3000Hz.



Below are some theoretical calculations for crossover design. Peerless always recommend 12 dB per octave crossovers for all these drivers because it affords excellent protection for each driver with minimal phase problems. The design below also accommodates Bi-wiring/Amping. However they stress that this by no means is the best solution for all circumstances. So please use this as a suggestion only, 3 way designs with the 821615 midrange are also worthy of your consideration. Multiple driver designs will produce more bass and SPL. The simple basket design of the 850136 allows use in isobaric and bandpass boxes.

2500Hz - 3rd order Butterworth calculated with rated impedance (used 811827 tweeter) including conjugate. Values can be rounded +/- 10%. Use of multiple capacitors to achieve these odd values is fine.

- C1 = 8.11uF
- C2 = 24.35uF
- C3 = 14.36uF
- L1 = 0.25mH
- L2 = 0.56mH
- L3 = 0.19mH
- R = 7.4ohm
- C = 47.8uF

