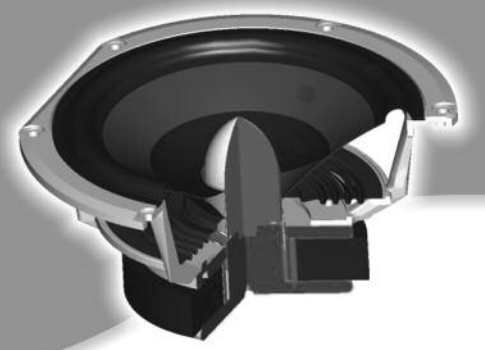


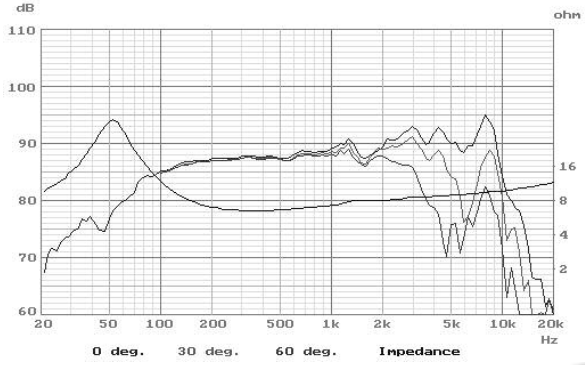
850489
4.5" PHASE PLUG - HDS134

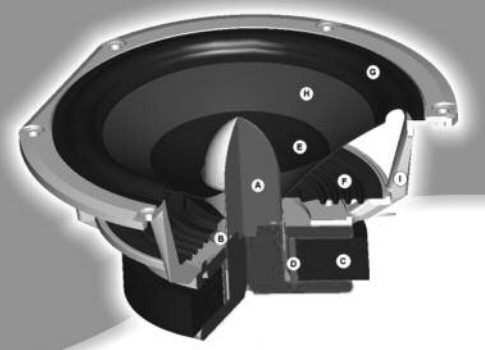
WOOFER/MID 6½" - HDS 182 - 182 WR 33 102 SD AL PH LS 8 ohm
A High End mid-woofer with a rigid aerodynamic cast aluminium basket profile and a ventilated spider.
The static phase plug eliminates air compression between the dust cap and the magnet assembly.
This phase plug feature also gives the driver a very low distortion magnet system and with the aluminium shortening ring and copper capped pole piece, both contribute as heatsinks for the large 26mm voice coil, reducing power compression and give a more linear flux field for the voice coil to work in thus increasing this drivers performance to optimum levels. The three or five layer sandwich cone improves accuracy and consistency of sound reproduction over the entire frequency range, creating a more "musical" driver. The double bonded cone, cap and coil assembly ensures that the speaker cone will respond to every coil movement in a way never achieved before, reducing cone break-up, increasing response, and performance especially at high volume levels. This premium mid-woofer uses an abundance of Peerless' experience and resources to produce an exceptionally refined driver.
Peerless recommend a ported box volume of between 15 to 25 litres and parallel configurations for larger boxes
Peerless recommend a ported box volume of between 15 to 25 litres and parallel configurations for larger boxes.
F(ratio) for this driver is 102, and the driver is very suitable for vented boxes.

25 ltr box. 1 port. Diameter 70 mm. Length 145 mm. Tuning freq 45 Hz. Response, - 3 dB app. at 48 Hz.
25 ltr box. 1 port. Diameter 55 mm. Length 80 mm. Tuning freq 45 Hz. Response, - 3 dB app. at 48 Hz.
15 ltr box. 1 port. Diameter 55 mm. Length 110 mm. Tuning freq 52 Hz. Response, - 3 dB app. at 55 Hz.
15 ltr box. 1 port. Diameter 40 mm. Length 50 mm. Tuning freq 52 Hz . Response, - 3 dB app. at 55 Hz.

Parameters			Free Air	Common	Baffled
Nominal impedance	Zn	(ohm)		8	
Minimum impedance/at freq.	Zmin	(ohm/Hz)		8.6/335	
Maximum impedance	Zo	(ohm)		42.9	
DC resistance	Re	(ohm)		5.8	
Voice coil inductance	Le	(mH)		1.0	
Capacitor in series with 8 ohm (for impedance compensation)	Cc	(µF)			8
Resonance Frequency	fs	(Hz)	53.2		52.2
Mechanical Q factor	Qms		2.83		2.88
Electrical Q factor	Qes		0.44		0.45
Total Q factor	Qts		0.38		0.39
F (Ratio fs/Qts)	F	(Hz)			133
Mechanical resistance	Rms	(Kg/s)		1.23	
Moving mass	Mms	(g)	10.4		10.8
Suspension compliance	Cms	(mm/N)		0.86	
Effective cone diameter	D	(cm)		10.5	
Effective piston area	Sd	(cm²)		86	
Equivalent volume	VAS	(ltrs)		8.8	
Force factor	Bl	(N/A)		6.8	

Reference voltage sensitivity Re 2.83V 1m at 259 Hz (Measured)		(dB)	87.9
Voice coil diameter	d	(mm)	26
Voice coil length	h	(mm)	13
Voice coil layers	n		2
Height of the gap	hg	(mm)	6
Diameter of magnet	dm	(mm)	90
Height of magnet	hm	(mm)	15
Weight of magnet		(kg)	0.4
Code	850489		





HDS - HIGH DEFINITION SOUND

A new class of mid-bass drivers from Peerless.

By introducing the High Definition Sound (HDS) class, Peerless has pushed the performance limits of mid-bass drive units. The main applications for the range are demanding two and three way box systems where the visual and sonic performance must be second to none. In the design the emphasis has been put in to achieve long time reliability and very low distortion combined with soft clipping and astounding bass performance for the size.

A. Aluminum Phase Plug
The aluminum spacer eliminates compression under the dust cap and serves as heat sink for the coil to reduce power compression.

B. Long Voice Coil
The 1 inch voice coil is long in a narrow gap to ensure sustained BL over long excursions.

C. 15mm Magnet System
The magnet is higher than normal magnets used in conventional speakers to avoid bottoming of the coil to the pole piece and increase the max SPL.

D. Distortion Reduced Motor
A long 2 layer voice coil normally results in high self induction and impedance varying with excursion. Its many ampere-turns react on the magnetic field in the air gap. These two main factors causing motor distortion in mid-bass drivers are practically eliminated by the combined impact of the Aluminum Short Circuiting Ring (D) and the Aluminum Phase Plug (A) on the pole piece. At the same time they both contribute as heat sinks for the voice coil, reducing power compression. The result is unbelievable clean bass reproduction.

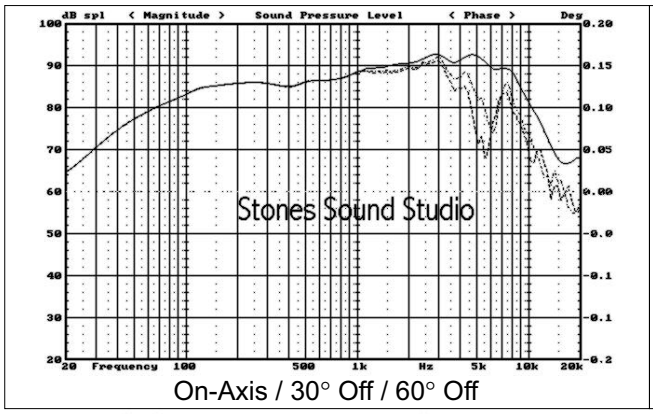
E. Double Bonded Dustcap
With Peerless new design we have two bonds on the dustcap and cone assembly. This way the dustcap and cone will respond to every coil movement in a way never seen before.

F. Progressive Spider
The progressive suspension is designed in house to achieve soft clipping and low distortion even under extreme load.

G. Rubber Surround
The surround is made from SBR rubber because of the wide operating temperature, low creep and long term reliability.

H. Laminated Sandwich Cone
The cone is constructed from a propriety cone material using a laminate of different polypropylene films and adhesives.
This creates a stiff but still dampened cone that will remain stable even under very large sound pressures.

I. Rigid Cast Aluminum Basket
The attractive rigid cast basket with an aerodynamic profile provides the necessary sturdy base for the magnet structure and suspension and allows for the long excursion of the cone. The spider is ventilated to achieve the lowest possible compression and allowing air to flow freely to create a cooling effect for the voice coil. The design of the basket front allows for very slim box designs and the edges are chamfered to reduce the necessary amount of countersinking.



On-Axis / 30° Off / 60° Off