

Product Guide**C 0888** 165mm (6.5") 100V 10W Coaxial Surface Mount Speaker

C 0888 165mm (6.5") Surface Mount Coaxial Speaker

- ✓ Stylish architectural enclosure.
- ✓ High performance two way coaxial driver.
- ✓ Concealed fixings for a neat installation.
- ✓ High quality speaker driver developed for BGM, paging and emergency warning applications.
- ✓ UV stabilised ABS cabinet.
- ✓ Neutral white finish.



Application

This wall mount cabinet speaker offers real innovation in both design and performance. Ideal for shops, galleries, restaurants, hotels, offices, etc. Able to be mounted either vertically or horizontally, this cabinet is ideal for applications requiring both performance and a touch of style.

The cabinet is moulded from high impact ABS and supplied with a powdercoated steel mesh grill.

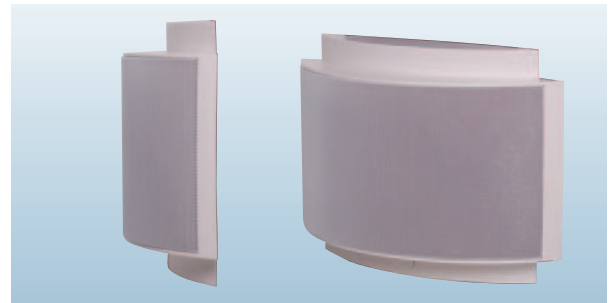
A 165mm (6.5") 10W high performance coaxial loudspeaker is fitted ensuring high quality paging and background music. The bass response has been extended to give depth and warmth to both music and speech.

About Redback® Speaker Drivers

Each custom designed speaker and transformer combination has been specifically engineered to ensure a wide frequency range and dispersion angle, plus a high sound pressure level (SPL) ensuring excellent music and speech intelligibility; which is critical for emergency paging applications.

Each transformer is fitted with multiple power tapings which are selected via the tabs on the internal transformer.

Installation Guidelines



The cabinet may be mounted in vertical or horizontal orientation. Fixings are concealed behind flush mount caps. To prevent UV degradation the ABS plastic has added polymer, allowing speakers to be installed in areas where direct sunlight is common.

Connection is via three way terminal block (pos., neg. & earth).

Testing

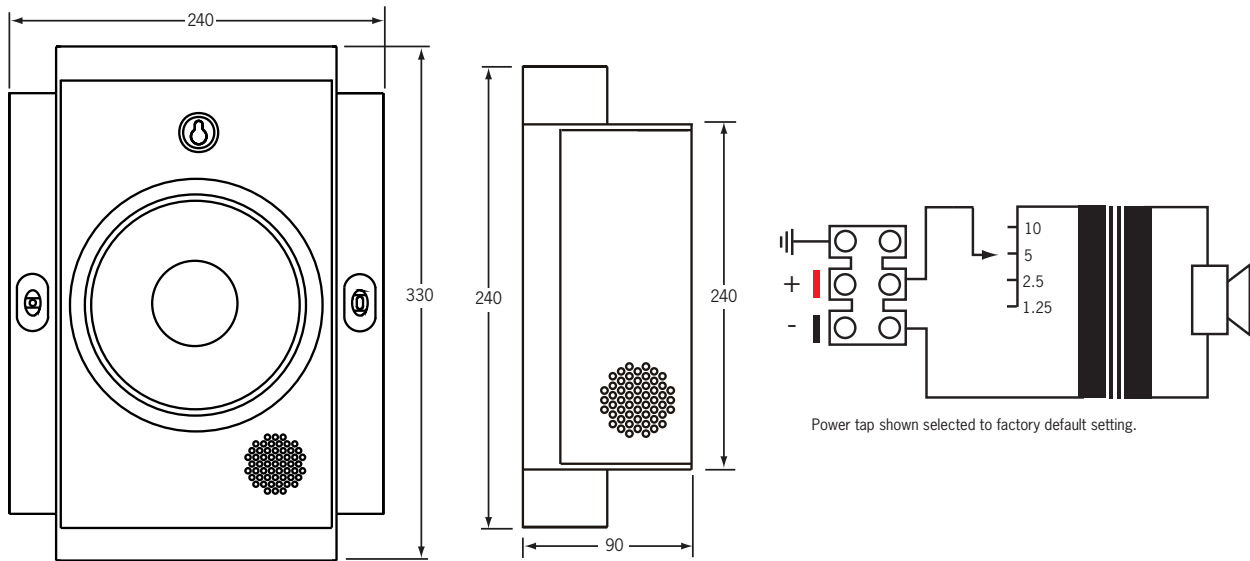
Redback® drivers are engineered and manufactured to stringent specifications ensuring maximum reliability under all operating conditions. Each driver has a power rating well above the max tapping of the transformer, ensuring reliable operation and excellent longevity. A strict quality control procedure is employed during every step of the manufacturing process. Finally, every finished speaker is 100% QC checked prior to shipping.

Product Guide

C 0888 165mm (6.5") 100V 10W Coaxial Surface Mount Speaker



Dimensions & Transformer Detail



Specifications

Electrical

Power taps:	1.25 ,2.5 , 5 ,10W
SPL 1W @ 1m:	96dB @ 1kHz (+/- 2dB)
SPL Max:	104dB @ Full power octave bandwidth
Frequency response:	160Hz - 18kHz
Dispersion (1kHz/2kHz):	180° / 120°
Directivity Q Factor (1kHz/2kHz):	3.6 / 5.8
Connection:	3 way terminal block

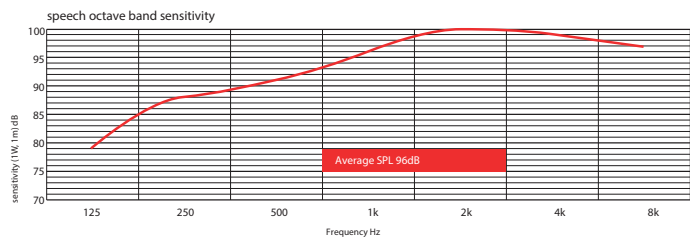
Mechanical

Grille material:	Steel mesh grille
Outer construction:	UV stabilised ABS
Driver construction:	Polypropylene woofer, mylar dome tweeter
Overall weight:	1.2kg
Colour:	White

Environmental

Operating temperature:	-10°C to +60°C
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Frequency Response (SPL 1W @ 1m)



Architect Specifications

The unit shall be the Redback model C 0888 or equal and approved. The enclosure shall be ported with an open back and constructed of high impact ABS plastic, treated with UV inhibitors. The bowed grille will be manufactured from mild steel construction with an epoxy coated finish. The speaker assembly shall comprise of a 160mm diameter bass/mid-range treated coned loudspeaker and shall be fitted with a 6 watt/100 volt line factory fitted transformer with the power taps clearly marked on the assembly. The C 0888 will be suitable for voice alarm applications and will be supplied with ceramic terminals to take 2 x 2.5mm² conductors and a thermal fuse rated at 150°. The loudspeaker shall have a wide-angle dispersion. The cone shall be a damped, high compliance type with a smooth extended frequency response.



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Loudspeaker Test Report

Manufacturer: Penton (UK) Ltd

Type: Cabinet

Model: PBC 10/TCO

For: Penton (UK) Ltd

Report No.: 1191/LS/PBC 10/TCO

Prepared By: A. N. Stacey B.Sc., AMIOA

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Electro-Acoustics:
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Offices in: Hong Kong and USA

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1. Object

- 1.1. The object of this Report is to present measurements of the acoustic performance of the PBC 10/TCO device.

2. Scope

- 2.1. The following characteristics were measured

- On-axis frequency response
- Polar response
- Impedance
- Applied voltage
- On-axis 3rd octave band sound pressure level

from which the following are calculated

- a) Directivity Index (dB), tabulated and graphical
- b) Directivity factor, Q
- c) Effective octave band impedance
- d) Octave band Sensitivity (dB @ 1m, 1W/oct)
- e) Overall Sensitivity:
 - dBA @ 1m, 1W
 - dBlin @ 1m, 1W
 - 250Hz-4kHz @ 1m, 1W
 - Speech shape @ 1m, 1W
- f) Acoustic Power (dB-PWL @ 1W), tabulated and graphical
- g) Octave band Power Apportionment (%)
- h) Impedance bode plot
- i) Expected maximum Sound pressure level (dB @ 1m)
- j) Frequency response chart
- k) Polar response charts

3. Method

- 3.1. The device was mounted in Free Space as shown in figure 1 – Mounting method C.
- 3.2. The measurements were made in an anechoic chamber.
- 3.3. Measurements were made as detailed in AMS Test Method document No. IR/1a/LS/Meth.
- 3.4. All measurements were made in general accordance with BS 6840: Part 5: 1995.

4. Results

- 4.1. The On-axis 3rd octave frequency response of the device is shown graphically in the appendix.
- 4.2. The Impedance bode plot of the device is shown graphically in the appendix.
- 4.3. Polar plots of the device are shown graphically in the appendix.
- 4.4. Tabulated values of Directivity index, Directivity factor, Sensitivity, Acoustic Power, Power Apportionment, Impedance and Maximum SPL are shown in the Summary data sheet given in the appendix.
- 4.5. The Directivity Index has been calculated using Gerzon' equal angle, weighted area method.

5. Notes

- 5.1. Sensitivity
The octave band sensitivity is produced in its useful form for calculations. It should be noted that the octave band sensitivity is given as dB @ 1m, 1W/Oct. To determine the output when only the overall power is known, then only the overall dBA or dBlin values should be used. For more detailed information refer to AMS Acoustics Data Sheet 'Loudspeaker Sensitivity – Interpretation of Results'.
- 5.2. Polar Plots
For convenience each polar plot has been normalized to 0dB. For this reason caution is advised when comparison of levels between octave bands is made. The reference axis frequency response should be used for comparison purposes.

6. Engineers Notes

Reference plane located parallel to driver and at rear of cabinet.

Reference point located concentric to driver and at rear of cabinet.

Loudspeaker Information

Manufacturer : Penton (UK) Ltd
Model Code : PBC 10/TCO
Type : Cabinet
Colour : White
Serial No. : None
Batch No. : None
Other Markings : None
Backbox : As Supplied
Grille : As Supplied
Weight (grammes) : 1400
Depth (mm) : 91 mm
Width (mm) : 332 mm
Height (mm) : 244 mm
Special Features : NM

Internal Details

Driver Types/Sizes : 150mm Coaxial driver
Driver Serial No.(s) : None
Driver Markings : Penton Label
Damping Material : None
Available Tappings : 10W, 5W, 2.5W, 1.25W (100V)

Electrical Details

Resonant Frequency(s) : See Impedance Plot
Cross-Over Frequency(s) : NM
Nominal Impedance (ohms): 8
Inductance : NM
Capacitance : NM

NM = Not Measured, NA = Not Applicable

Originator:

Countersigned:

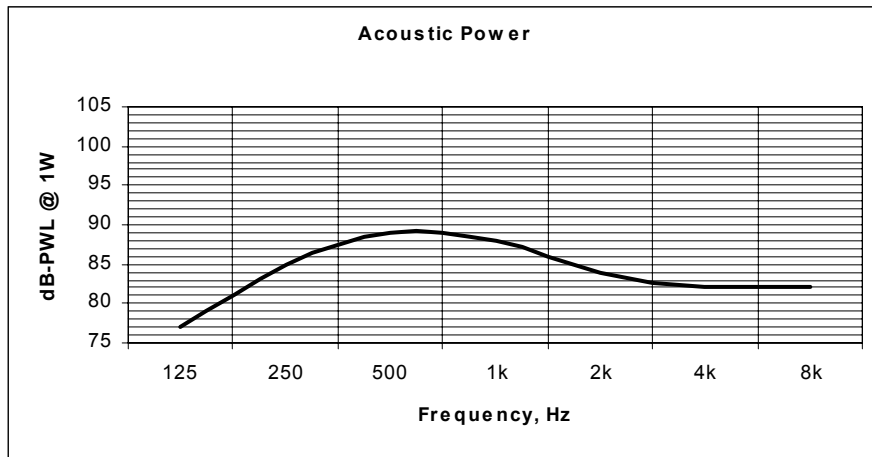
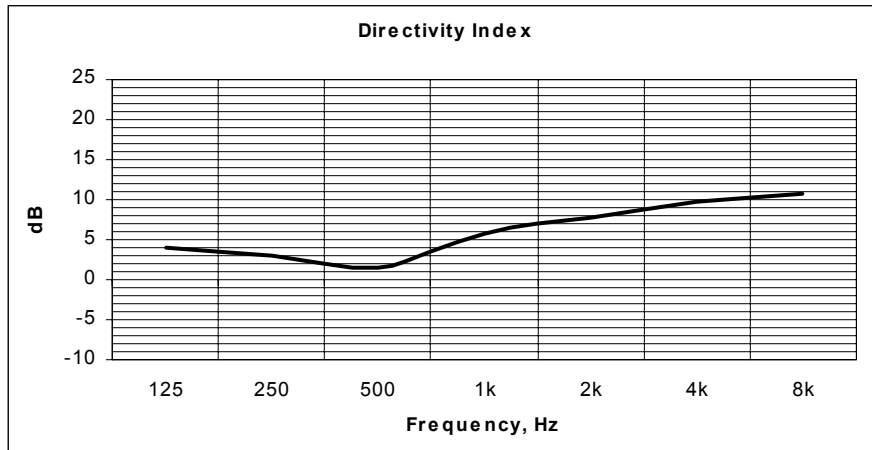


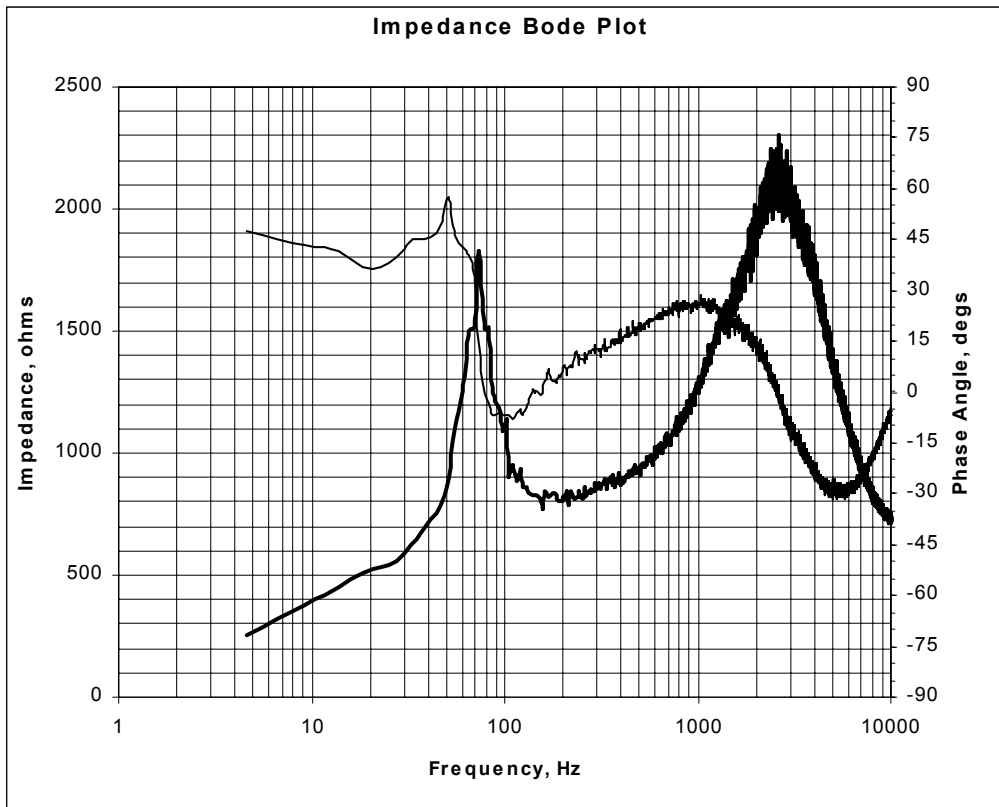
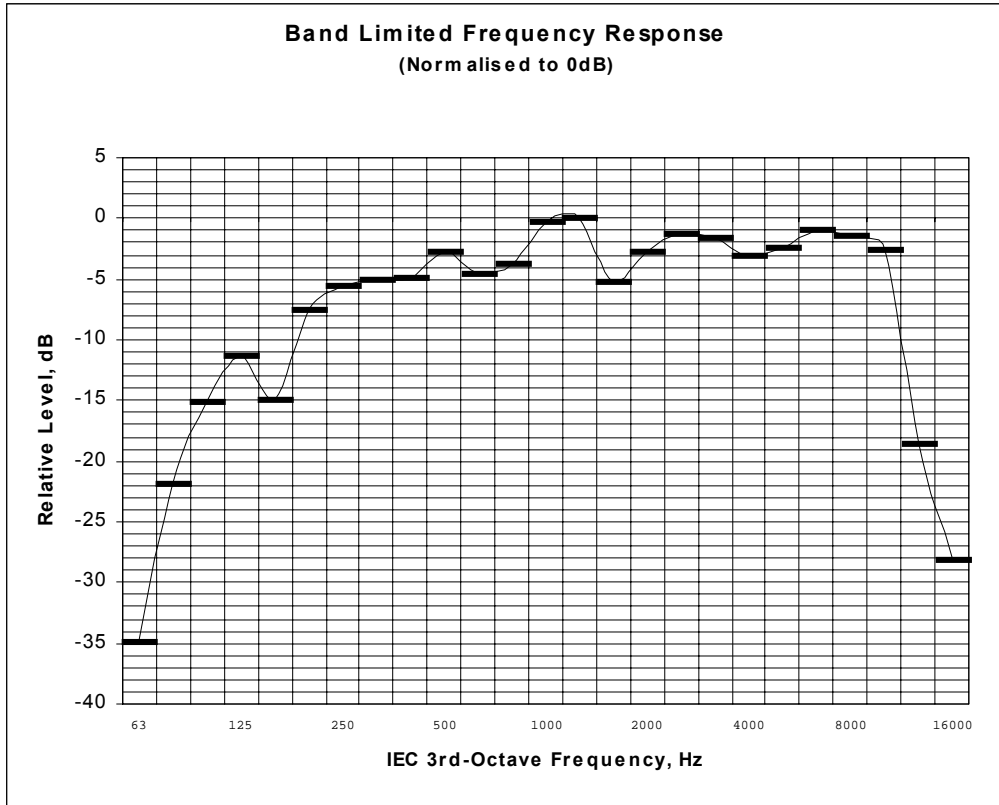
Manufacturer : Penton (UK) Ltd
 Model Code : PBC 10/TCO
 Mounting : Half-Space, Free Field
 Transformer Tapping : 10W

Reference Axis Located at : 0 degrees

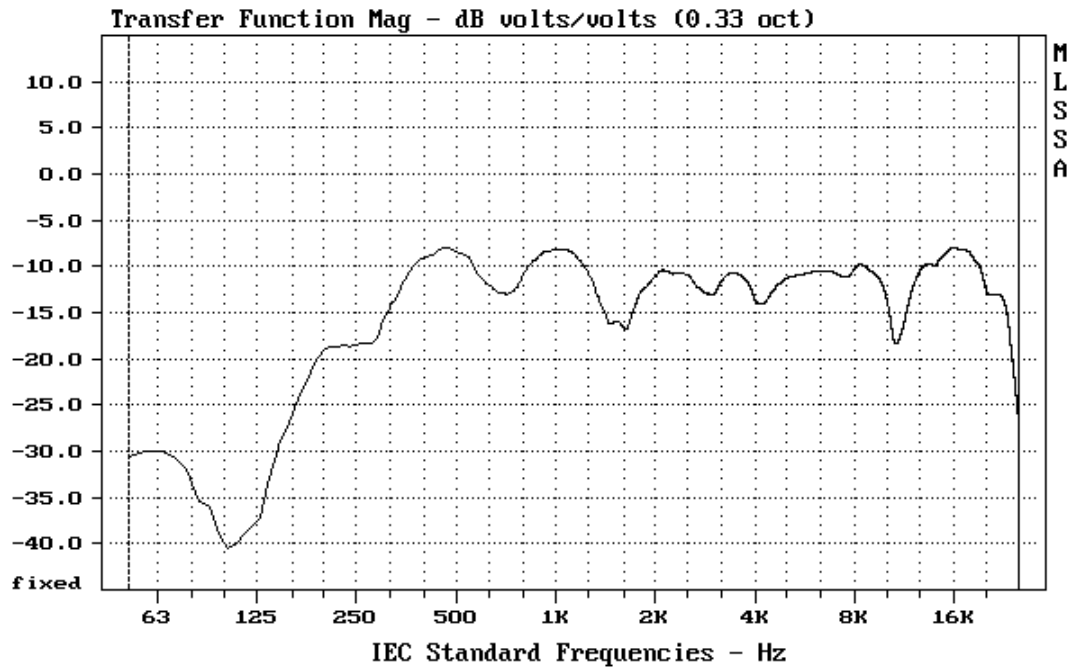
Parameter	Frequency (Hz)								dB	dBA
	125	250	500	1k	2k	4k	8k			
Axial Q	2.5	2.0	1.4	3.7	5.9	9.5	12.1			
Directivity Index (dB on Axis)	4.0	3.0	1.5	5.7	7.7	9.8	10.8			
Sensitivity (dB @ 1m, 1W/Oct)	77	85	88	92	92	91	90	89	88	
Sensitivity(dB @ 1m, 1W)250Hz-4kHz									89	89
Sensitivity(dB @ 1m, 1W)Speech Shape									86	83
Acoustic Power (dB-PWL @ 1W)	77	85	89	88	84	82	82			
Apportioned Power (%)	18	19	15	12	8	10	15			
Effective Impedance (Ohms)	887	824	894	1156	1788	1499	829			
Expected maximum SPL (dB @ 1m)	80	88	89	92	91	91	92	99	98	

Test Signal: Pink Noise(100Hz-10kHz)

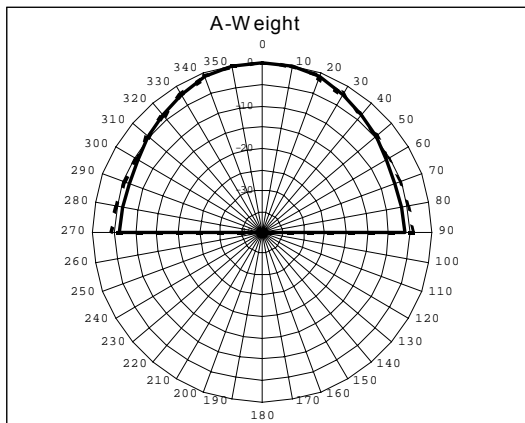
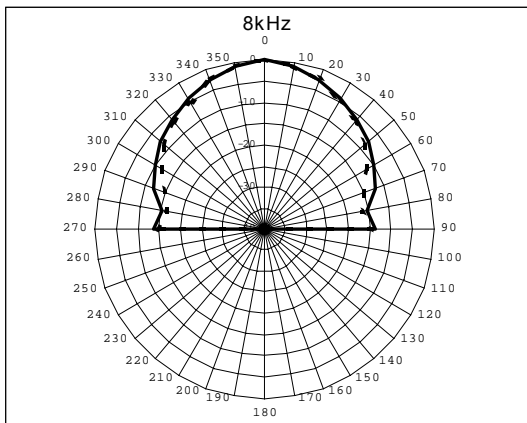
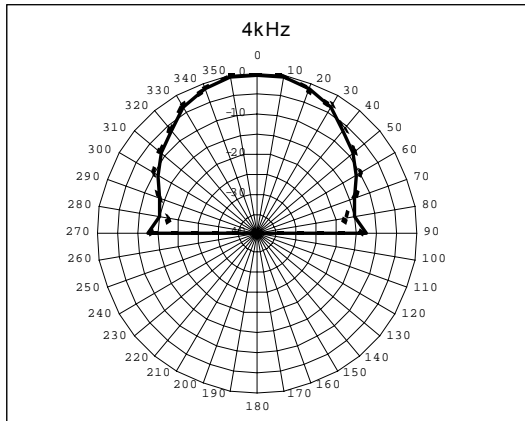
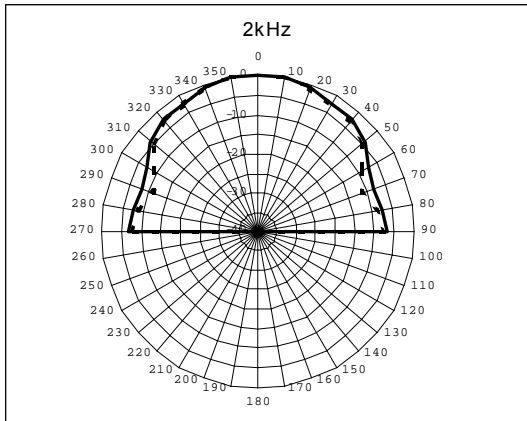
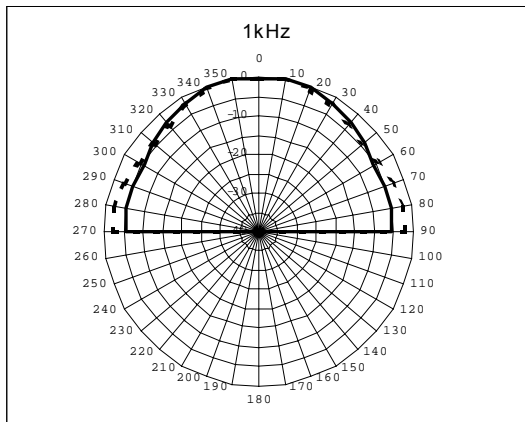
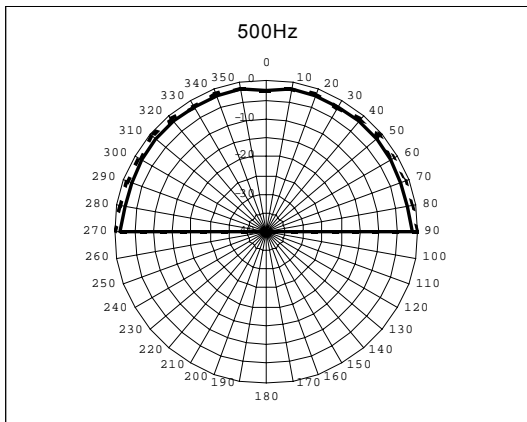
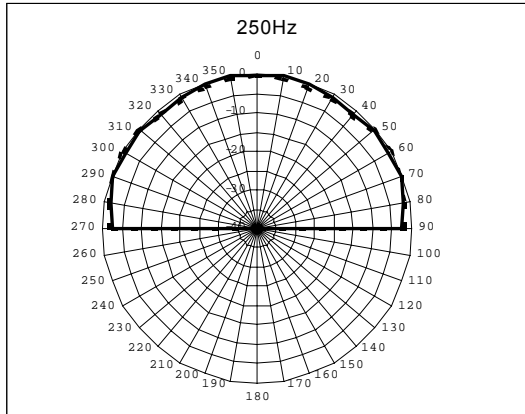
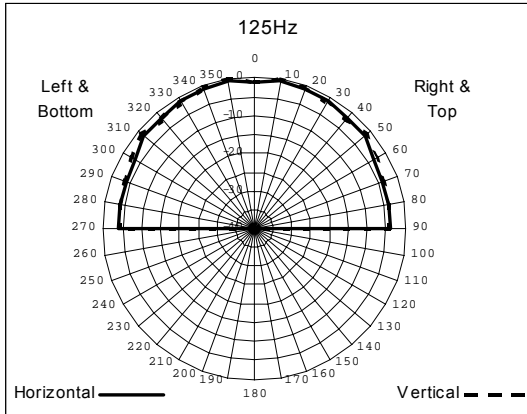




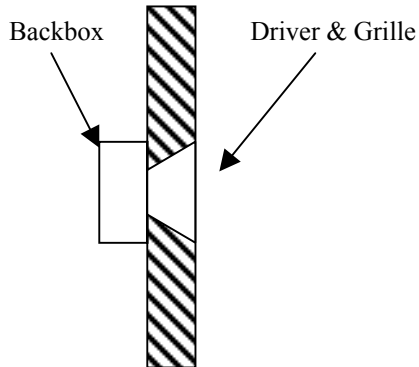
Wide Band Frequency Range
(Valid from 60Hz to 20kHz)



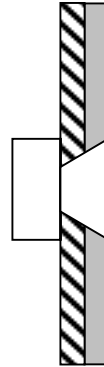
Note: The wide band frequency response is derived using MLS methods and does not relate to the sensitivity values given in the summary table.



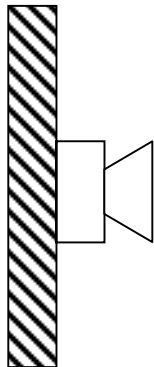
Loudspeaker Mounting Methods



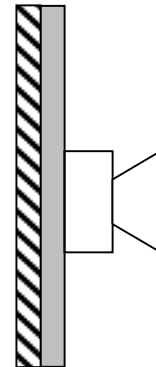
Mounting Method A
Loudspeaker Mounted
in a Reflective Baffle



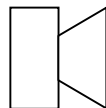
Mounting Method B
Loudspeaker Mounted
in an Absorbent Baffle



Mounting Method C
Loudspeaker Mounted
on a Reflective Baffle



Mounting Method B
Loudspeaker Mounted
on an Absorbent Baffle



Mounting Method E
Loudspeaker not Attached to any
Surface and Radiation Unaffected by
nearby Reflecting Surfaces