

Loudspeaker Test Report

Manufacturer: Penton (UK) Ltd.

Type: Column

Model: MUS40T

For: Penton (UK) Ltd.

Report No.: 1331/LS/MUS40T

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1.00 Object

1.01 The object of this Report is to present measurements of the acoustic performance of the MUS40T device.

2.00 Scope

2.02 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:

- (i) Directivity Index (dB), tabulated and graphical
- (ii) Directivity factor, Q
- (iii) Effective octave band impedance
- (iv) Octave band Sensitivity (dB @ 1m, 1W/oct)
- (v) Overall Sensitivity: dBA @ 1m, 1W
 dBlin @ 1m, 1W
 250Hz-4kHz @ 1m, 1W
 Speech shape @ 1m, 1W
- (vi) Acoustic Power (dB-PWL @ 1W), tabulated and graphical
- (vii) Octave band Power Apportionment (%)
- (viii) Impedance bode plot
- (ix) Expected maximum Sound pressure level (dB @ 1m)
- (x) Frequency response chart
- (xi) Polar response charts.

3.00 Method

- 3.01 The device was mounted in Free Space as shown in figure 1 - Mounting Method E.
- 3.02 The measurements were made in an anechoic chamber.
- 3.03 Measurements were made as detailed in AMS Test Method document No. IR/1a/LS/Meth.
- 3.04 All measurements were made in general accordance with BS EN 60268: Part 5: 1997.

4.00 Results

- 4.01 The On-axis 3rd octave frequency response of the device is shown graphically in the appendix.
- 4.02 The Impedance bode plot of the device is shown graphically in the appendix.
- 4.03 Polar plots of the device are shown graphically in the appendix.
- 4.04 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.
- 4.05 The Directivity Index has been calculated using Gerzon' equal angle, weighted area method.

5.00 Notes

5.01 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'.

5.02 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 are made. The reference axis frequency response should be used for comparison purposes.



6.00 Engineers Notes & Observations

Reference point located at the geometric centre of the loudspeaker enclosure.

Reference axis located normal to grille and includes reference point.



Loudspeaker Information

Manufacturer : Penton (UK) Ltd.
Model Code : MUS40T
Type : Column
Colour : White
Serial No. : None
Batch No. : None
Other Markings : None
Backbox : Metal
Grille : As Supplied
Weight (grammes) : 8200
Depth (mm) : 168 mm
Width (mm) : 146 mm
Height (mm) : 678 mm
Special Features : Rotary tapping selecting

Internal Details

Driver Types/Sizes : 6 x cone drivers
Driver Serial No.(s) : NM
Driver Markings : NM
Damping Material : Mineral fibre
Available Tappings : 2.5W, 5W, 10W, 20W, 40W (100V)

Electrical Details

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

NM = Not Measured, NA = Not Applicable

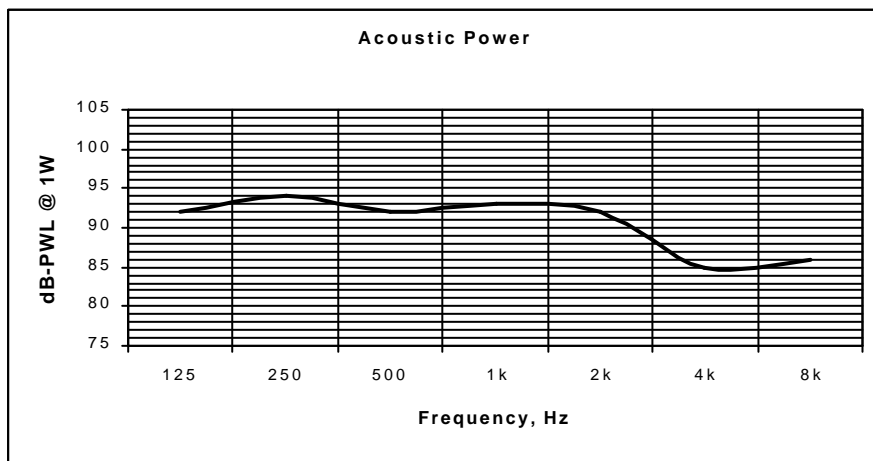
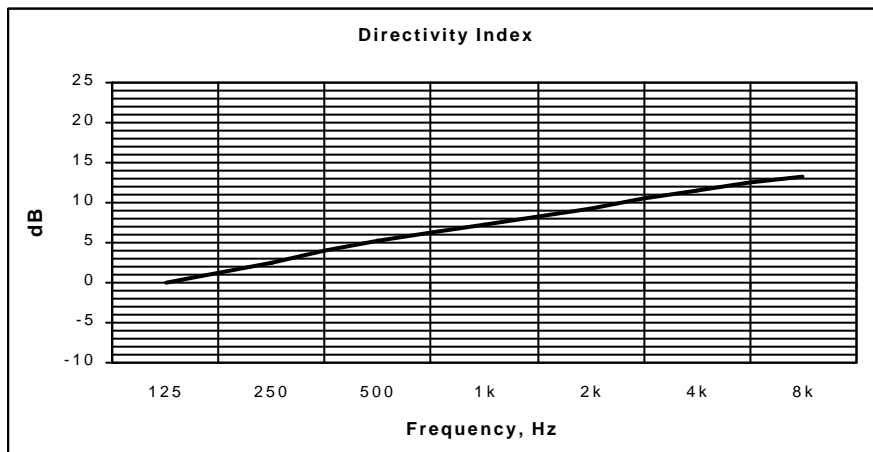


Manufacturer : Penton (UK) Ltd.
 Model Code : MUS40T
 Mounting : Full-Space, Free Field
 Transformer Tapping : 40W

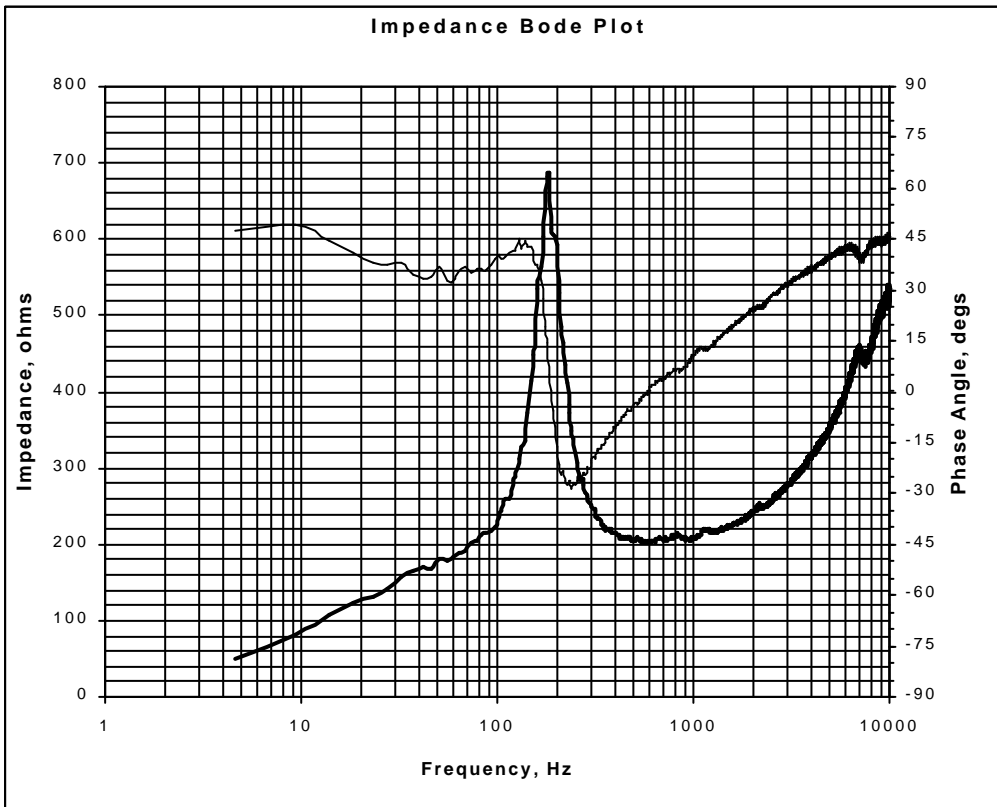
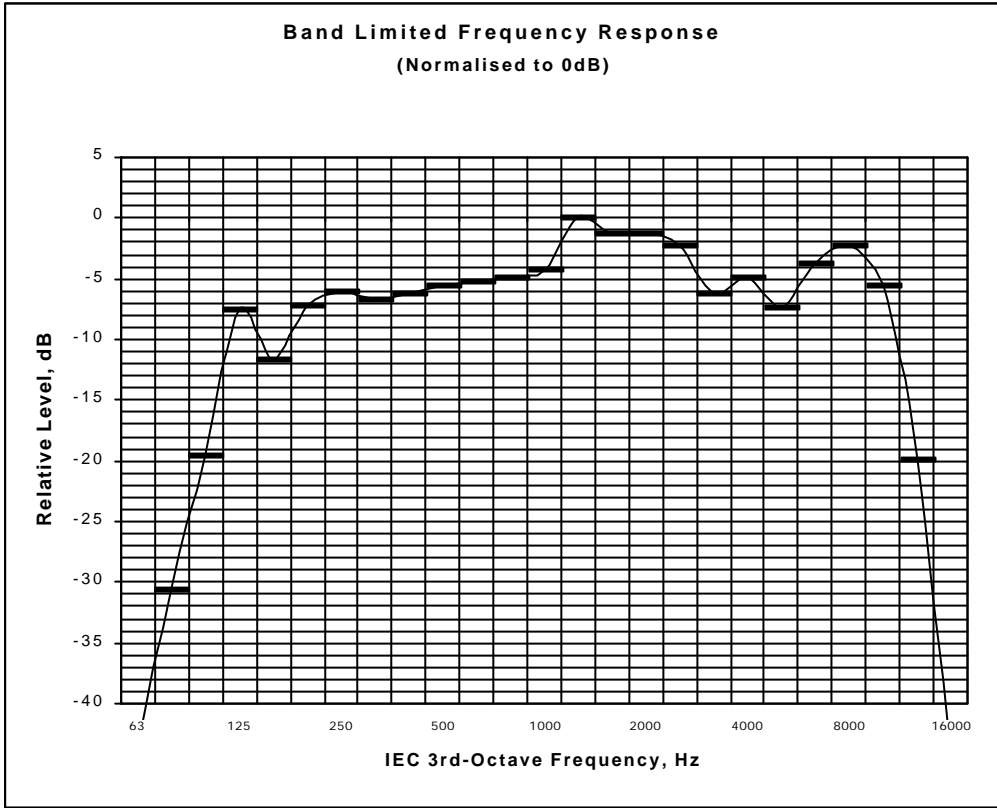
Reference Axis Located at : 0 degrees

Parameter	Frequency (Hz)							dB	dBA
	125	250	500	1k	2k	4k	8k		
Axial Q	1.0	1.8	3.3	5.2	8.5	14.6	21.1		
Directivity Index (dB on Axis)	0.0	2.6	5.2	7.2	9.3	11.6	13.2		
Sensitivity (dB @ 1m, 1W/Oct)	90	95	94	97	98	94	98	96	95
Sensitivity(dB @ 1m, 1Wt)250Hz-4kHz								96	96
Sensitivity(dB @ 1m, 1W)Speech Shape								94	91
Acoustic Power (dB-PWL @ 1W)	92	94	92	93	92	85	86		
Apportioned Power (%)	14	11	16	16	16	14	9		
Effective Impedance (Ohms)	239	302	207	208	220	255	334		
Expected maximum SPL (dB @ 1m)	97	101	102	105	106	102	104	112	111

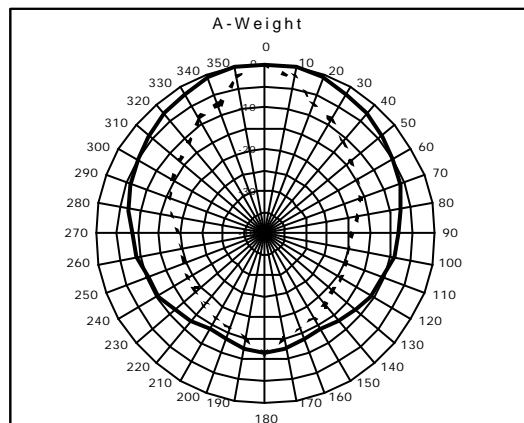
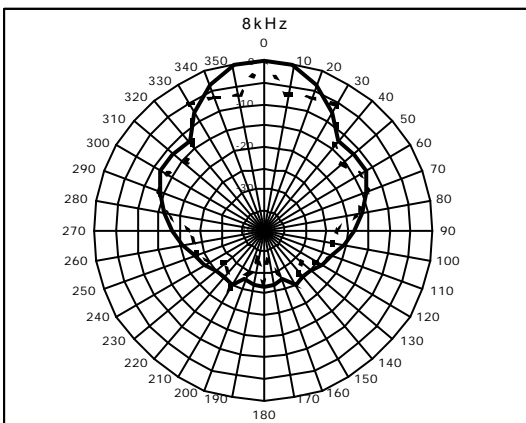
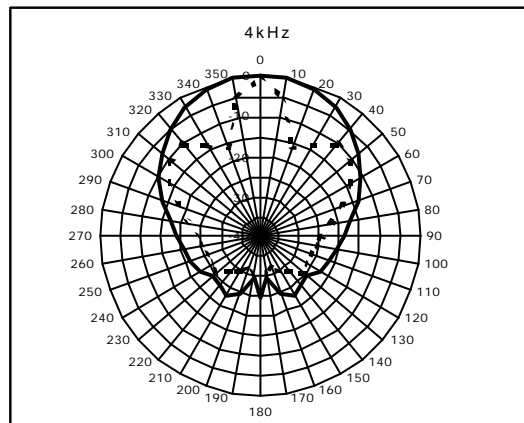
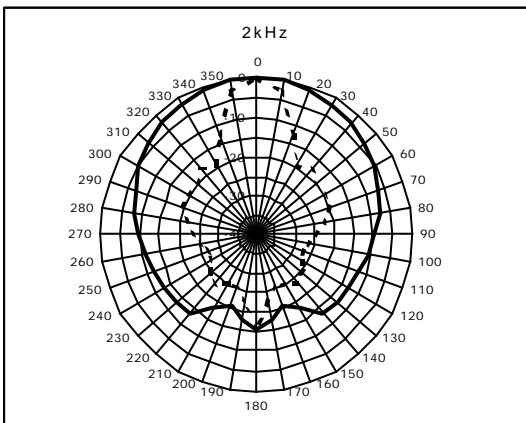
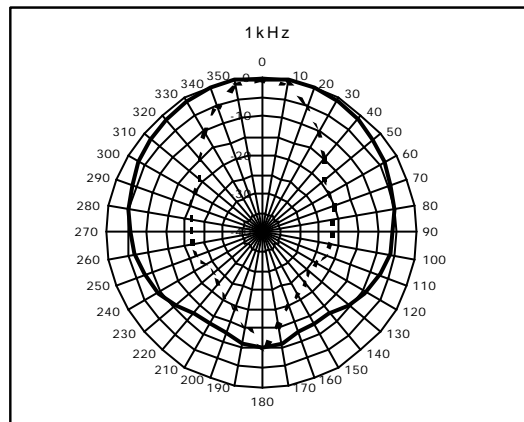
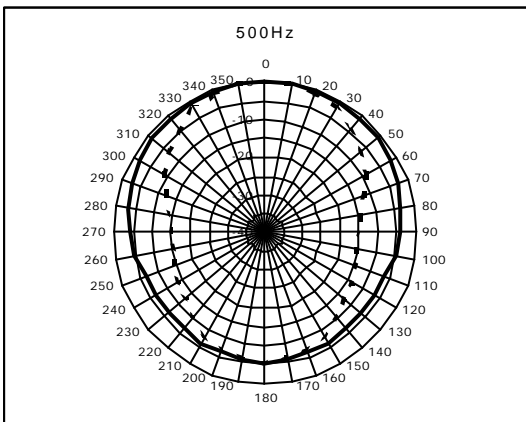
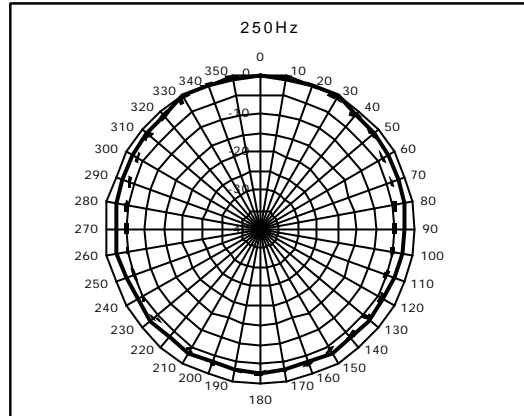
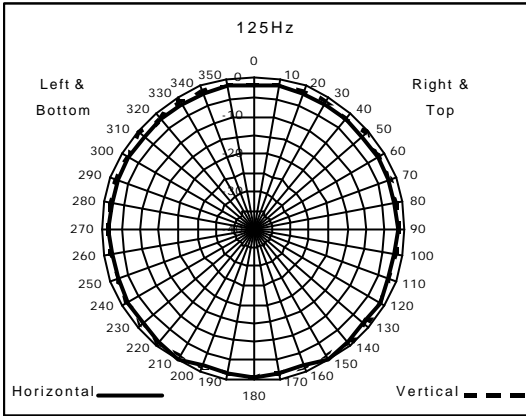
Test Signal: Pink Noise(100Hz-10kHz)



MUS40T



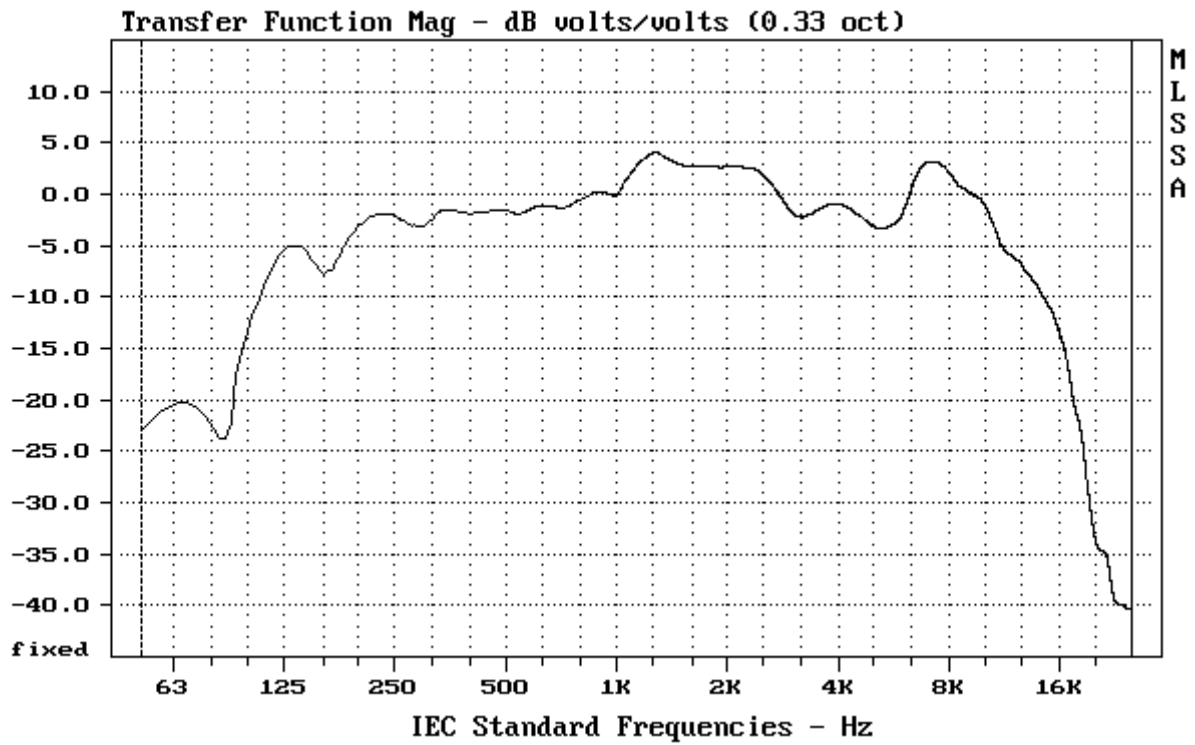
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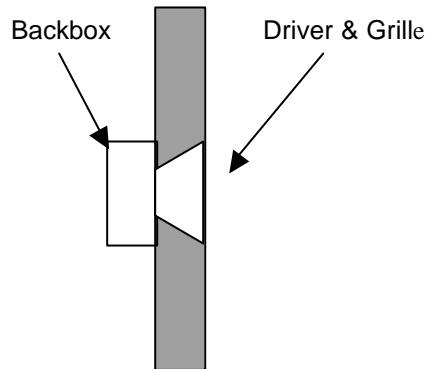
MUS40T

Wide Band Frequency Response
(Valid from 63Hz to 20kHz)



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

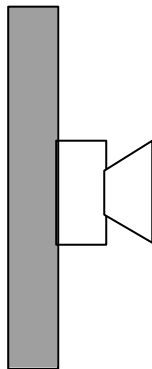
Loudspeaker Mounting Methods



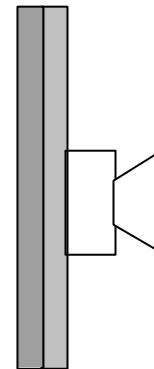
Mounting Method A
Loudspeaker Mounted
in a Reflective Baffle



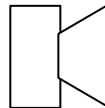
Mounting Method B
Loudspeaker Mounted
in an Absorbent Baffle



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