AMS ACOUSTICS
Rayleigh House, 21 Queen Anne's Place, Bush Hill Park, London EN1 2QB
t +44 (0)20 8360 5988 f +44 (0)20 8360 2640 e info@amsacoustics.co.uk W www.amsacoustics.co.uk

Loudspeaker Test

Report

Manufacturer: Next Two

Type: Ceiling

Model: MC6FTNew

For: MEDC Ltd

Report No.: 1326/LS/MC6FTnew

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

October 2002

1.00 Object

1.01 The object of this Report is to present measurements of the acoustic performance of the MC6FTNew 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 A.

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 concentric to driver and at grille.

Reference axis located normal to grille and includes reference point.

AMS ACOUSTICS

Loudspeaker Information

Manufacturer :	Next Two
Model Code :	MC6FTNew
Type :	Ceiling
Colour :	White
Serial No. :	NAA067
Batch No. :	None
Other Markings :	NM
Backbox :	Firedome NBR251
Grille :	As Supplied
Weight (grammes) :	1950
Depth (mm) :	96 mm
Width (mm) :	232 mm
Height (mm) :	232 mm
Special Features :	NM

Internal Details

Driver Types/Sizes :	1 x cone driver
Driver Serial No.(s) :	NM
Driver Markings :	Next Two label
Damping Material :	None
Available Tappings :	10W, 6W, 3W, 1.5W, 0.75W (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

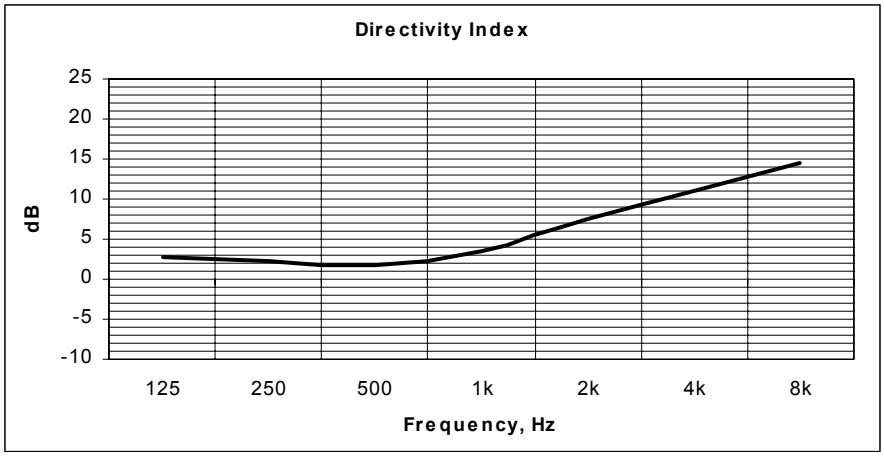
AMS ACOUSTICS

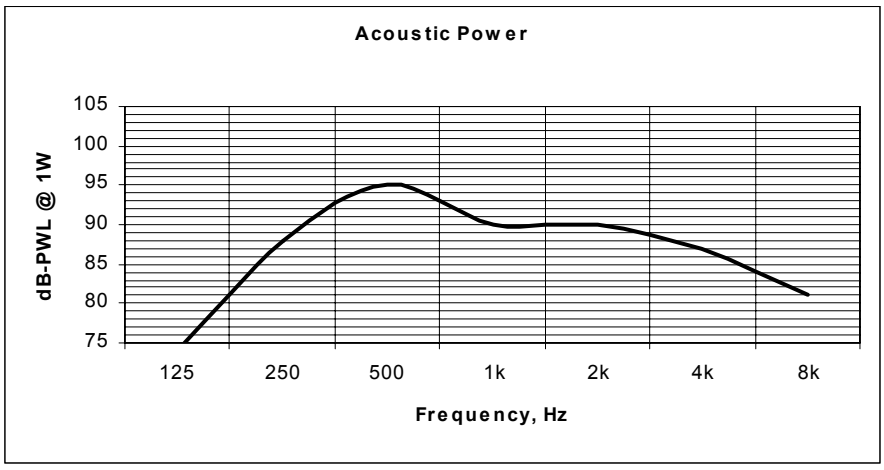
Manufacturer : Next Two
Model Code : MC6FTNew
Mounting : Half-Space, Free Field
Transformer Tapping : 10W

Reference Axis Located at : 0 degrees

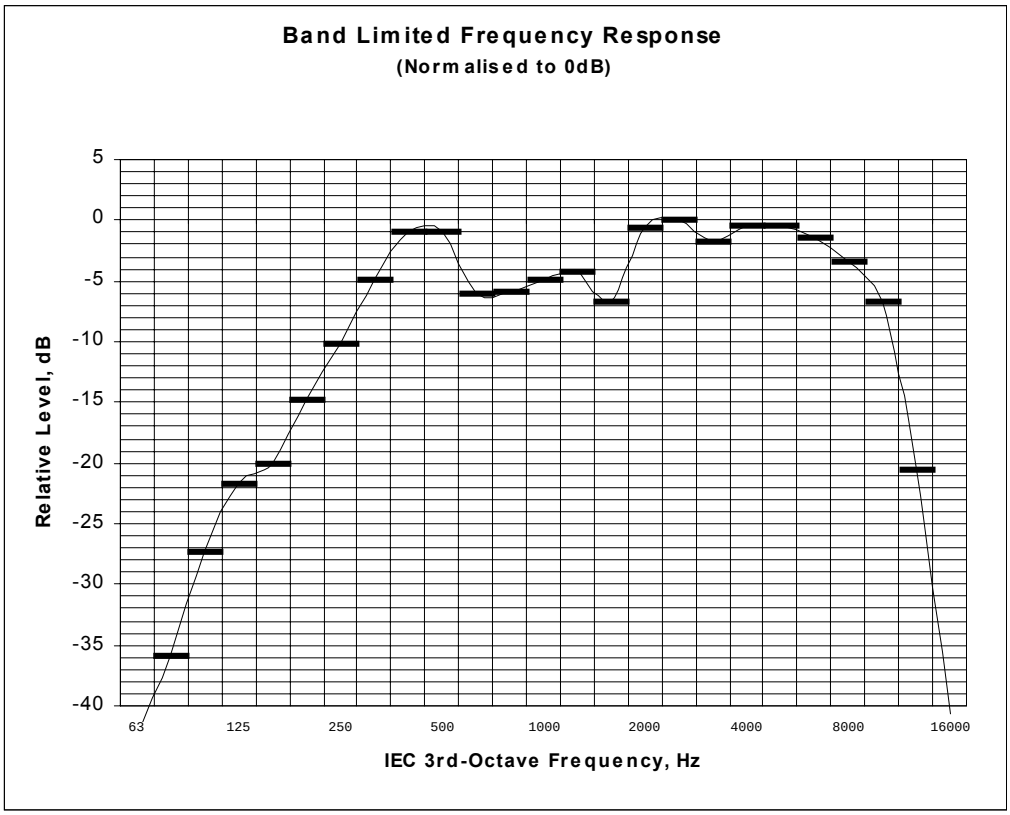
	Frequency (Hz)								
Parameter	**125**	**250**	**500**	**1k**	**2k**	**4k**	**8k**	**dB**	**dBA**
Axial Q	1.9	1.7	1.5	2.3	5.6	12.4	28.8		
Directivity Index (dB on Axis)	2.8	2.3	1.8	3.6	7.5	10.9	14.6		
Sensitivity (dB @ 1m, 1W/Oct)	75	88	94	91	94	96	95	93	93
Sensitivity(dB @ 1m, 1Wt)250Hz-4kHz								93	93
Sensitivity(dB @ 1m, 1W)Speech Shape								90	88
Acoustic Power (dB-PWL @ 1W)	74	88	95	90	90	87	81		
Apportioned Power (%)	13	15	15	16	16	14	9		
Effective Impedance (Ohms)	1015	858	872	830	882	992	1279		
Expected maximum SPL (dB @ 1m)	76	90	96	93	96	97	95	103	103

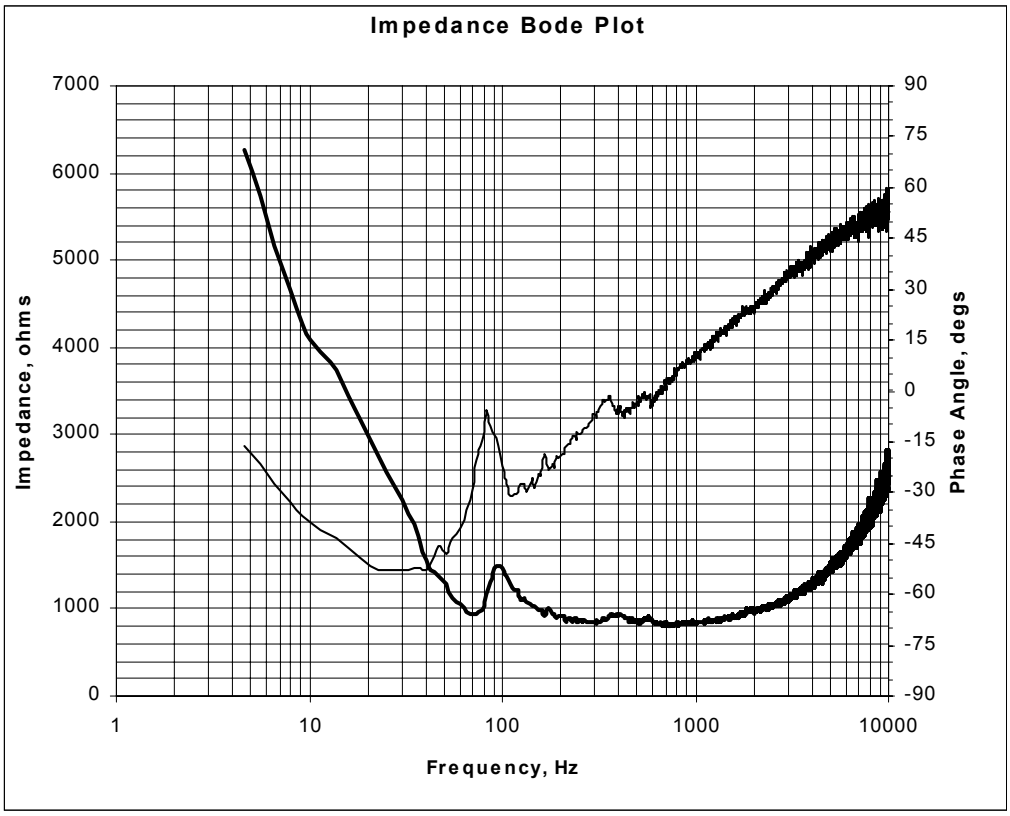
Test Signal: Pink Noise(100Hz-10kHz)





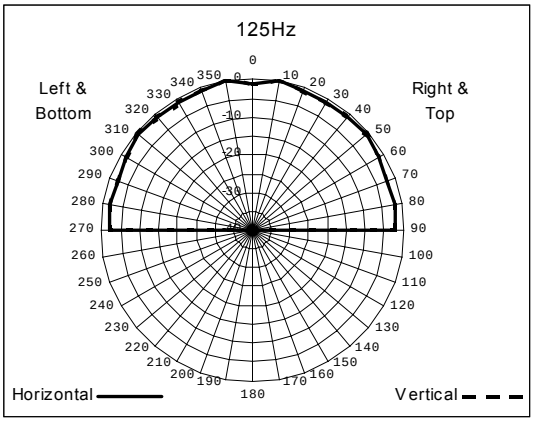
MC6FTNew

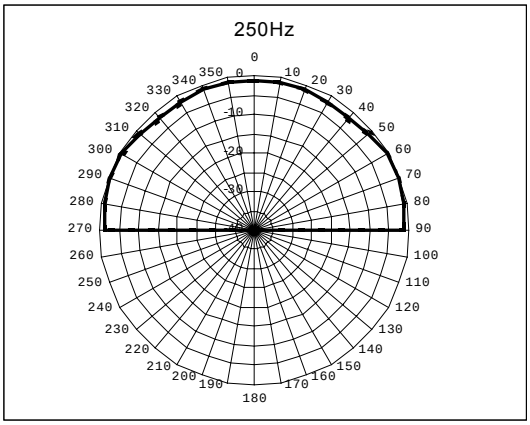

Band Limited Frequency Response
(Normalised to 0dB)
Relative Level, dB
5
0
-5
-10
-15
-20
-25
-30
-35
-40
63
125
250
500
1000
2000
4000
8000
16000
IEC 3rd-Octave Frequency, Hz

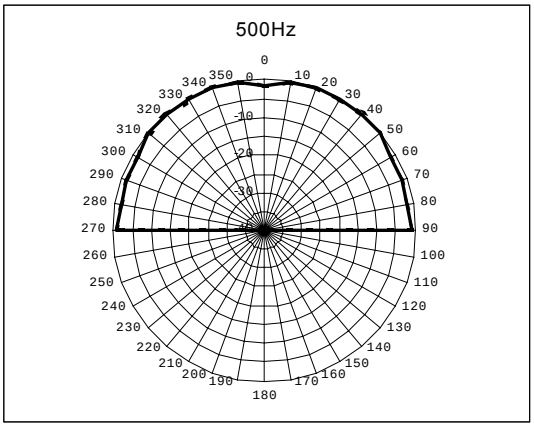

Impedance Bode Plot
Impedance, ohms
7000
6000
5000
4000
3000
2000
1000
0
Phase Angle, degs
90
75
60
45
30
15
0
-15
-30
-45
-60
-75
-90
1
10
100
1000
10000
Frequency, Hz

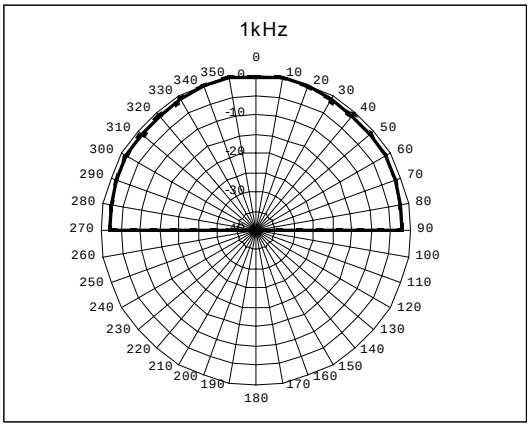
AMS ACOUSTICS

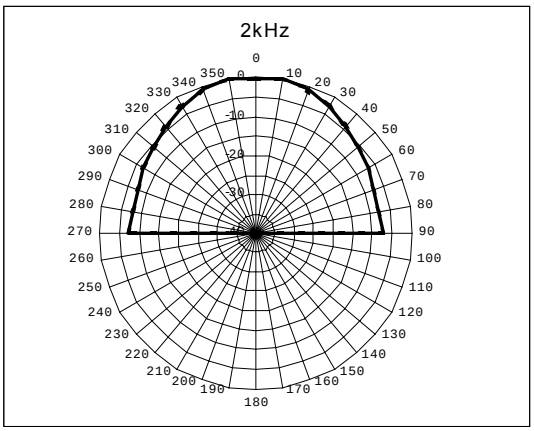
MC6FTNew

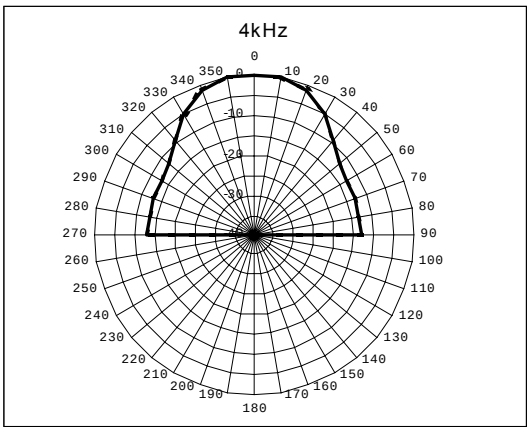


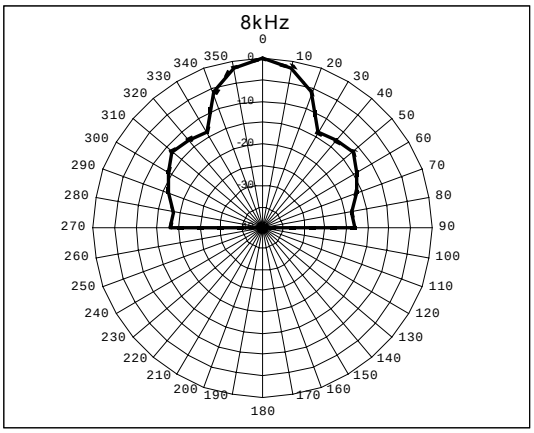


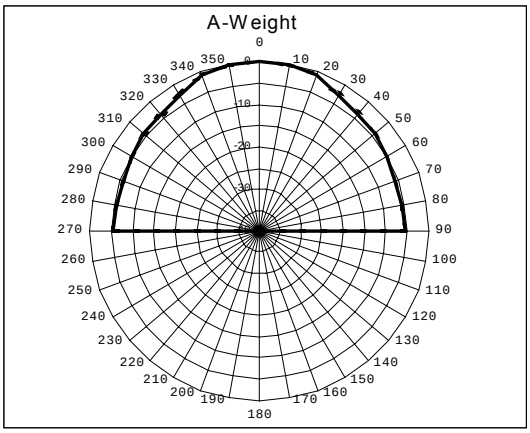






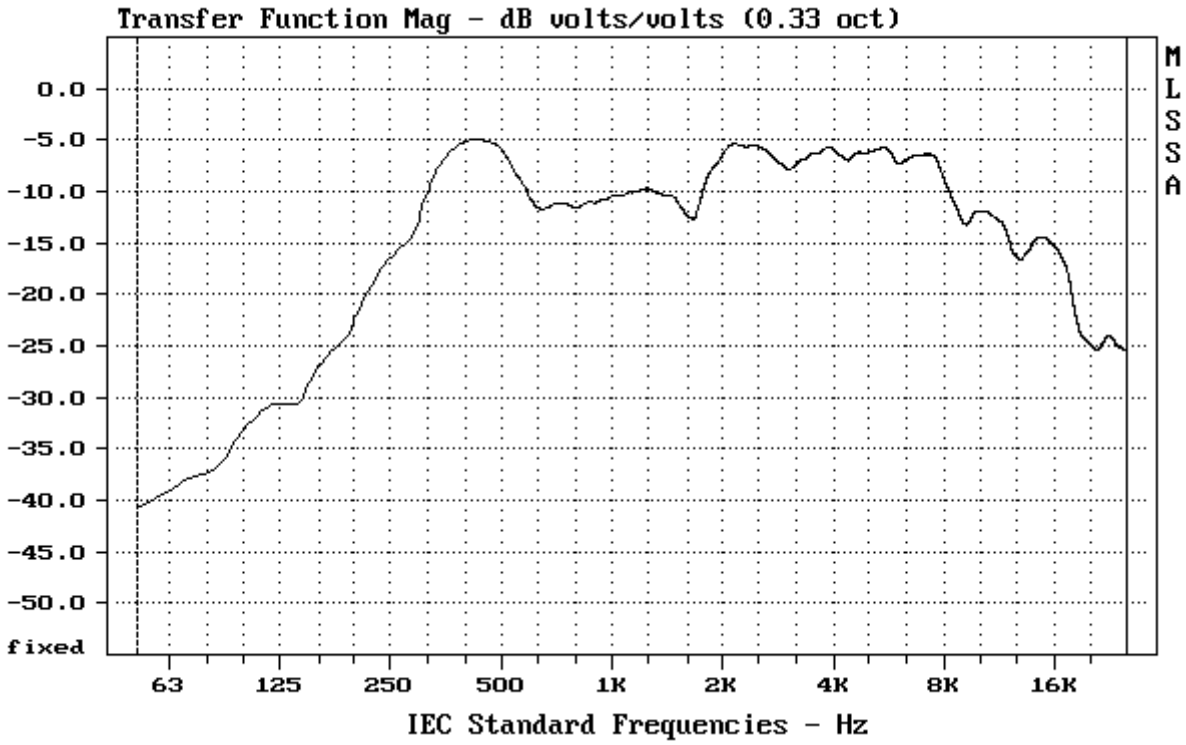






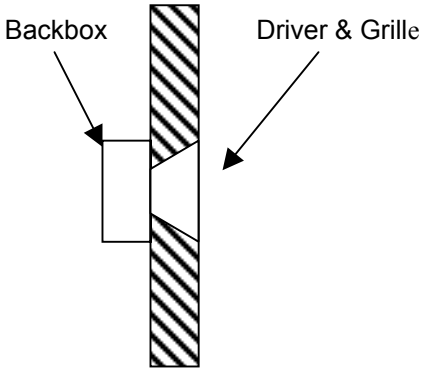
MC6FTNew

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

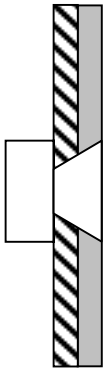


Note: The wide band frequency response is derived using MLS methods and does not necessarily relate to the sensitivity values given in the summary table.

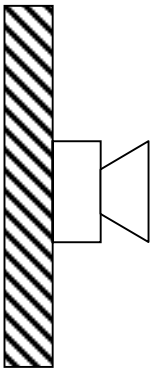
Loudspeaker Mounting Methods



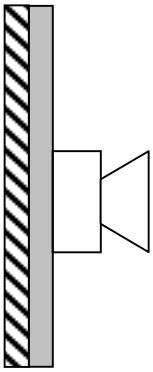
Mounting Method A
Loudspeaker Mounted
in a Reflective Baffle



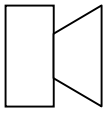
Mounting Method B
Loudspeaker Mounted
in an Absorbent Baffle



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