



ACOUSTIC & ELECTRO-ACOUSTIC CONSULTANTS

Rayleigh House
21 Queen Anne's Place, Bush Hill Park
North London EN1 2QB
Tel: 020 8360 5988 Fax: 020 8360 2640
E-mail: amsac@btinternet.com
Web-site: www.amsacoustics.co.uk

Partners:
P. W. Barnett MIOA, MASA, F.Inst. SCE, MAES
J. L. Goddard (administration)
Associates:
H.M. Goddard AMIOA, M.Inst. SCE, MAES
P.N. Huffer B.Sc. AMIOA

Loudspeaker Test Report

Make: Next Two Ltd.
Type: Horn Loudspeaker
Model: MR15T

For: Next Two Ltd

Report No. 1077/LS/MR15T/rev.1

Prepared By: A. N. Stacey B.S.c

April 2000

©AMS Acoustics, London, April, 2000.

Electro-Acoustics:
Sound System Design
Conference Systems
Reverberation Enhancement
Emergency Evacuation System Design

Environmental Acoustics:
Noise Nuisance
Traffic Survey
HSE - Hearing Risk
Expert Witness

Speech Intelligibility:
Prediction Models
RASTI Measurements
Word Score Measurements

Architectural & Building Services:
Acoustics:
Building Services Noise
Room Acoustics
Reverberation Control
Noise Control

1.00 Object

1.01 The object of this Report is to present measurements of the acoustic performance of the MR15T loudspeaker.

2.00 Scope

2.01 The following characteristics were measured

- (i) ON-axis frequency response
- (ii) Polar response
- (iii) Impedance
- (iv) Applied voltage
- (v) ON-axis octave band sound pressure level.

from which the following are calculated

- (a) Directivity Q
- (b) Directivity Index (DI)
- (c) -6dB Dispersion angle
- (d) Octave band sensitivity dB @ 1W @ 1m
- (e) Overall sensitivity:
 - dBA @ 1W @ 1m
 - dBLin @ 1W @ 1m
- (f) Octave band power apportionment
- (g) Polar response charts.

3.00 Loudspeaker Information

3.01 The loudspeaker manufacturer is Next Two Ltd.

3.02 The following loudspeaker and transformer combination was measured:

- (i) MR15T.
- (ii) Transformer Power Tapping of 15W.



- 3.03 The loudspeaker under test is a Horn type with one drive unit.

4.00 Method

- 4.01 The devices were mounted in free space as shown in fig. 1-Mounting Method E.
- 4.02 The measurements were made in an anechoic chamber.
- 4.03 Measurements were made as detailed in AMS Test Method document No. TP/1/97.
- 4.04 All measurements were in general accordance with BS 6840: Part 5: 1995.

5.00 Results

- 5.01 The ON-axis frequency response of the loudspeaker is shown graphically in Appendix A.
- 5.02 The Impedance of the loudspeaker is shown graphically in Appendix B.
- 5.03 Polar plots of the loudspeaker are shown in Appendix C.
- 5.04 The Q values have been calculated using subtended area weighting method.
- 5.05 Tabulated values of Sensitivity, Directivity Q, Directivity Index DI, Impedance, Angular Dispersion and Apportionment of Power are shown in the Summary Data Sheet.

6.00 NotesAngular Dispersion

- 6.01 The angular dispersion is calculated from the directivity data as the -6dB points. It should be understood that BS 6840: Part 5: 1995 requires -10dB points. The -10dB points may be deduced by inspection from the polar plots.

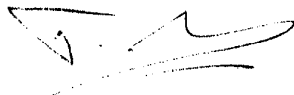
Sensitivity

- 6.02 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 @ 1W @ 1m. To determine the output when only the overall power is known then only the overall Lin value should be used.
- 6.03 For more detailed information refer to AMS Acoustics Data Sheet 'Loudspeaker Sensitivity - Interpretation of Results'.

Polar Plots

- 6.04 For convenience each polar plot has been normalised to 100dB (generally ON-axis). For this reason caution is advised when comparison of levels between octave bands is made. The ON-axis frequency response should be used for comparison purposes.

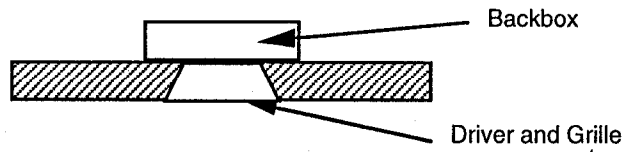
Originator:



Countersigned:

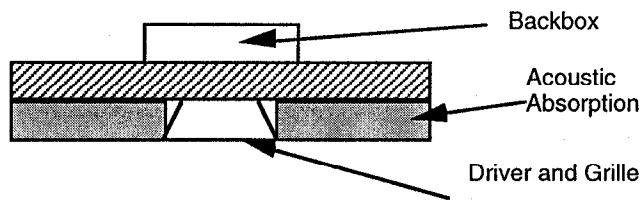


Loudspeaker Mountings



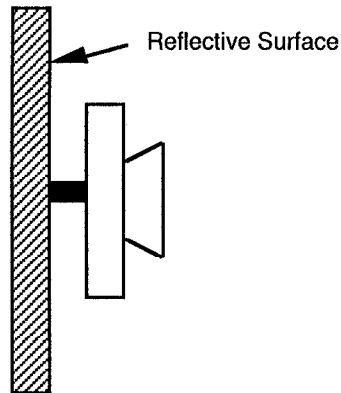
Mounting Method A

Loudspeaker mounted in a reflective baffle.



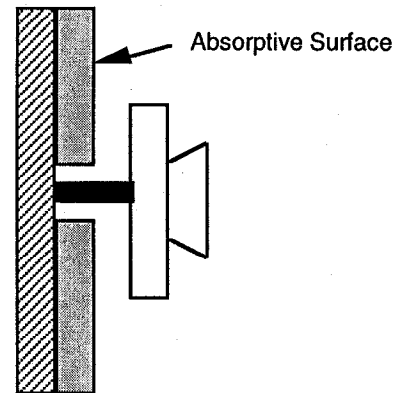
Mounting Method B

Loudspeaker mounted in an absorbent baffle.



Mounting Method C

Loudspeaker mounted on a reflective surface.



Mounting Method D

Loudspeaker mounted on an absorptive surface.



Mounting Method E

Loudspeaker not attached to any surface and radiation unaffected by nearby reflecting surfaces.

Fig.1

Loudspeaker Information

Name: Next Two Ltd.

Code: MR15T

Colour: Cream

External Detail

Case: Plastic

Mounting: Surface

Grille: None

Length: 22.5cm

Width: 16cm

Depth: 24cm

Weight: 1.3kg

Labels: Next Two Ltd. Badge

Power Tappings: 15W, 10W, 5W, 3W & 1W

Special Features: Rotary Tap Selector

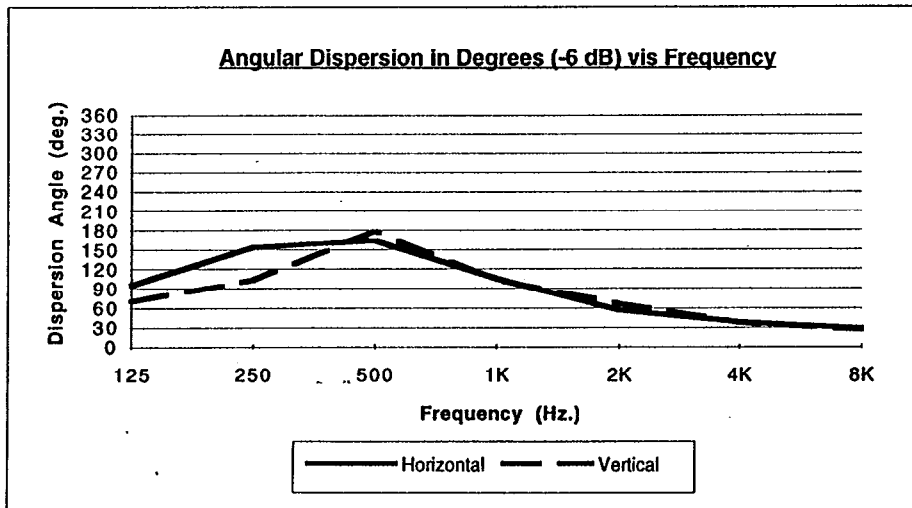
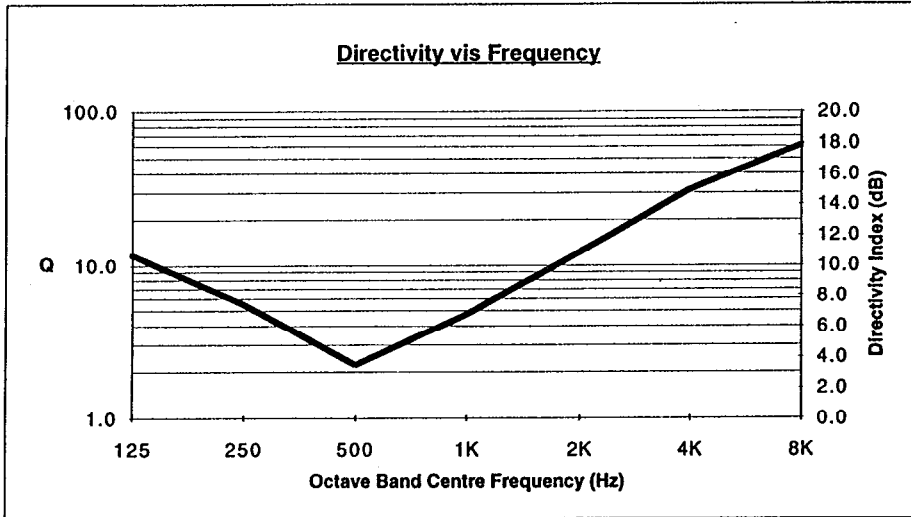
AMS

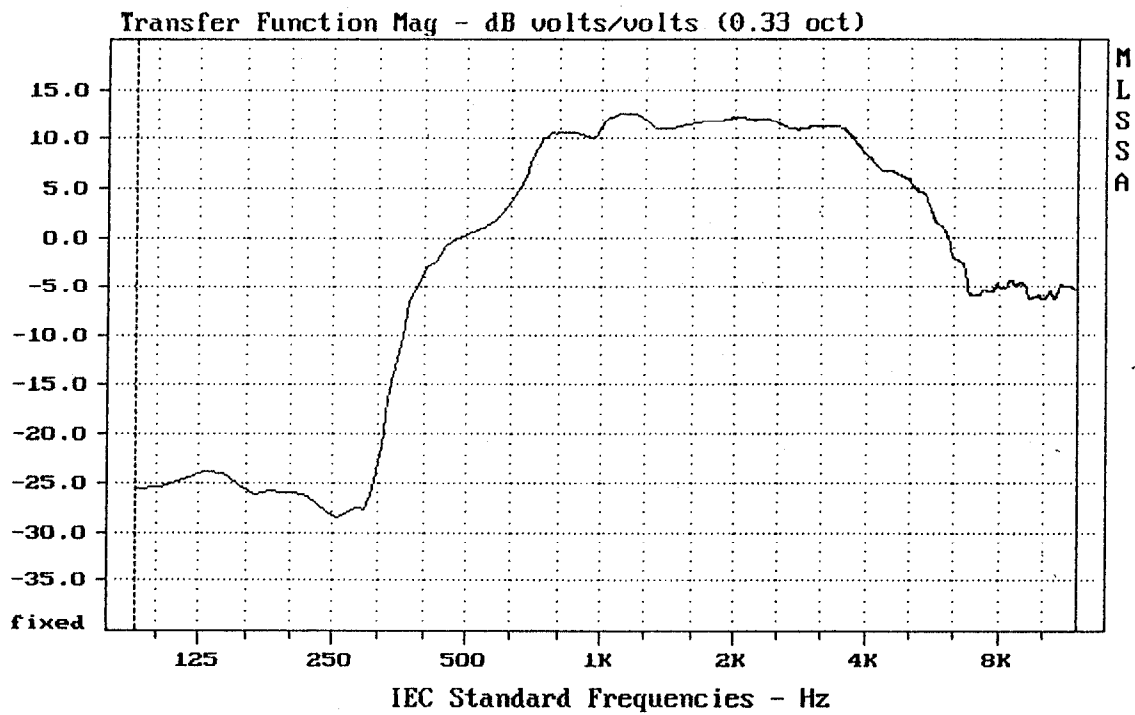
Acoustics

Loudspeaker Name: MR15T
 Transformer Tapping: 15W
 Mounting: Free Space
 Backbox & Grille: None

Principal Axis Located at: 0 degrees

Parameter	Frequency (Hz)							dB	dBA
	125	250	500	1K	2K	4K	8K		
Q	11.6	5.5	2.2	4.7	12.1	31.1	60.2		
Di (dB)	10.6	7.4	3.5	6.7	10.8	14.9	17.8		
Angle of direction of maximum SPL	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx		
Horizontal Angular Dispersion (deg.)	94	154	164	105	56	37	27		
Vertical Angular Dispersion (deg.)	69	103	177	103	66	37	25		
Impedance (Ohms)	394	469	621	688	611	645	810		
Sensitivity (dB@1W,1m) 125Hz - 8kHz Apportioned Power	49	73	93	103	103	101	90	99	99
Sensitivity (dB@1W,1m) 250Hz - 4kHz								100	101
Sensitivity (dB@1W,1m) Speech Shaped								95	95





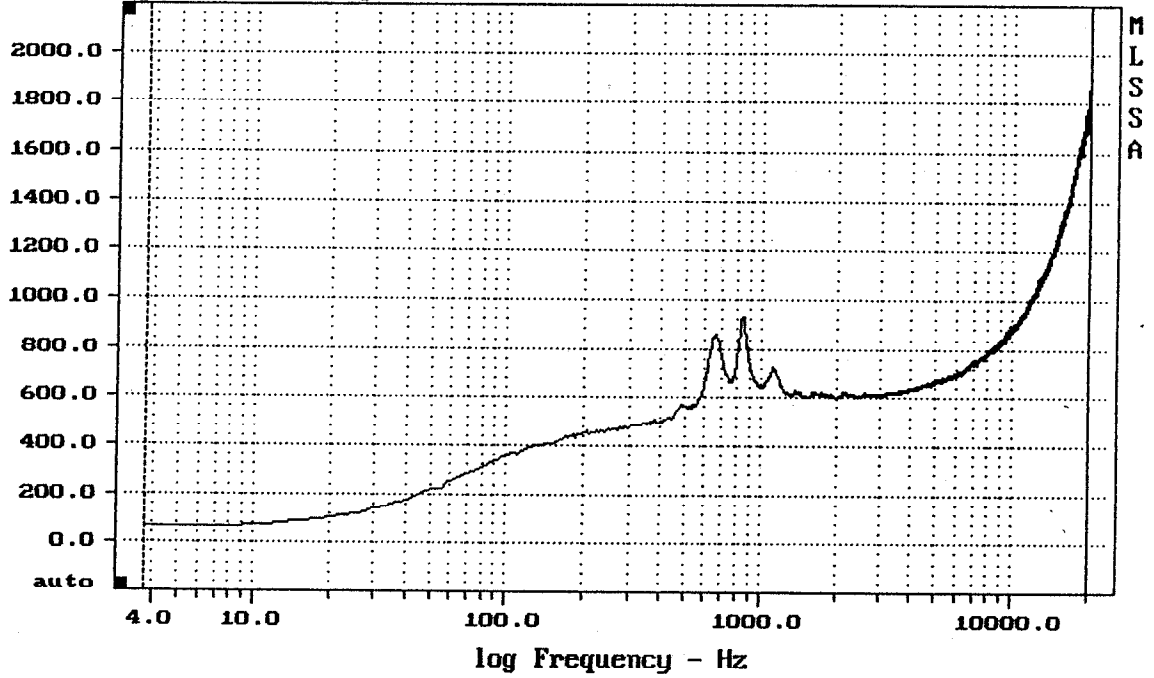
mean: 4.30, rms: 6.56, std: 5.23, max: 12.67, min: -28.58

MR15T Horn @ 15W Tapping.

4-5-100 10:43 AM

MLSSA: Frequency Domain

File: A:\IMP15W.FRQ 4-4-100 5:12 PM (equalized)
Impedance Real part - ohms



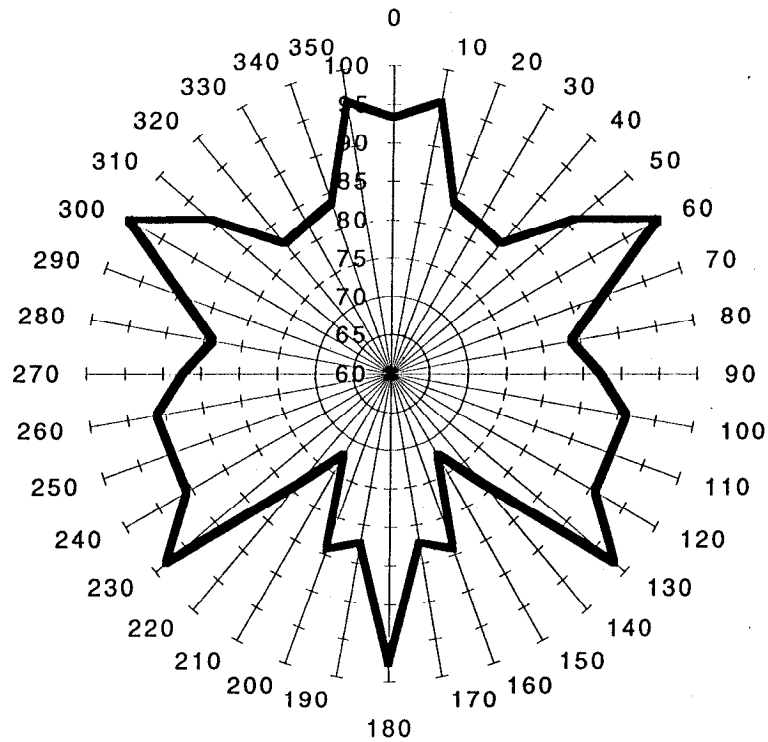
mean: 989.4, rms: 1054, std: 364.4, max: 2005, min: 61.9

MR15T Horn @ 15W Tapping.

Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**

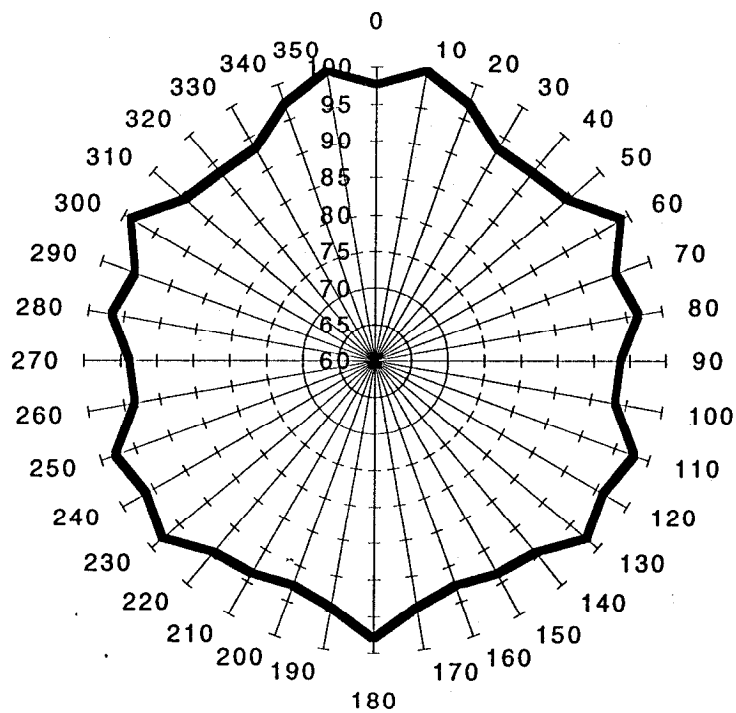
Horizontal ; 125 Hz.



Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**

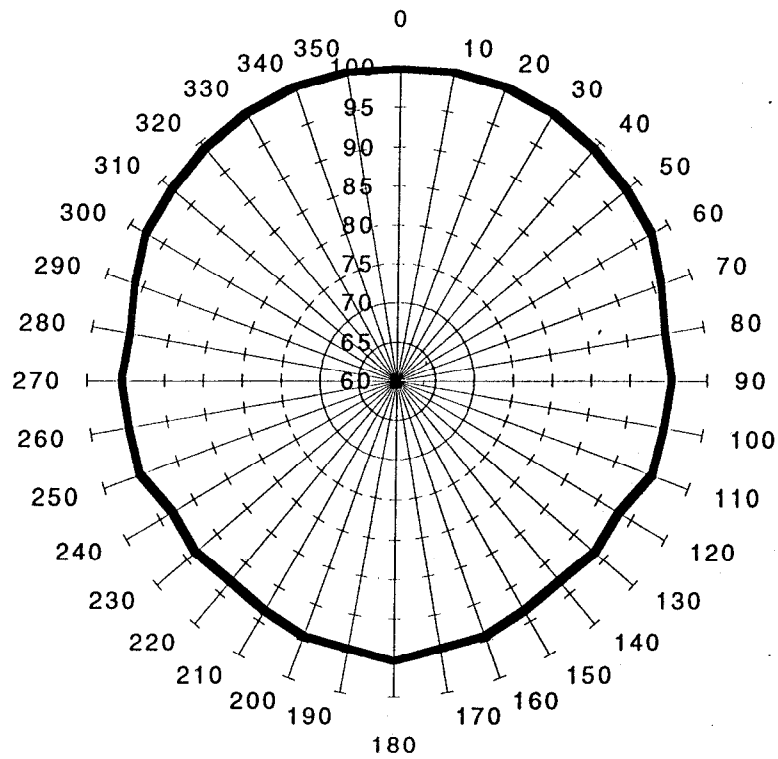
Horizontal ; 250 Hz.



Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**

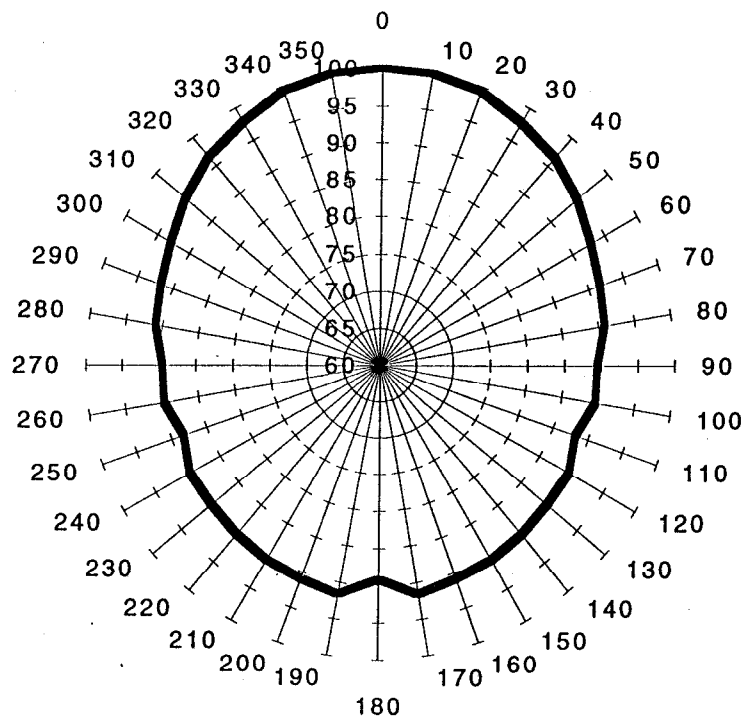
Horizontal ; 500 Hz.



Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**

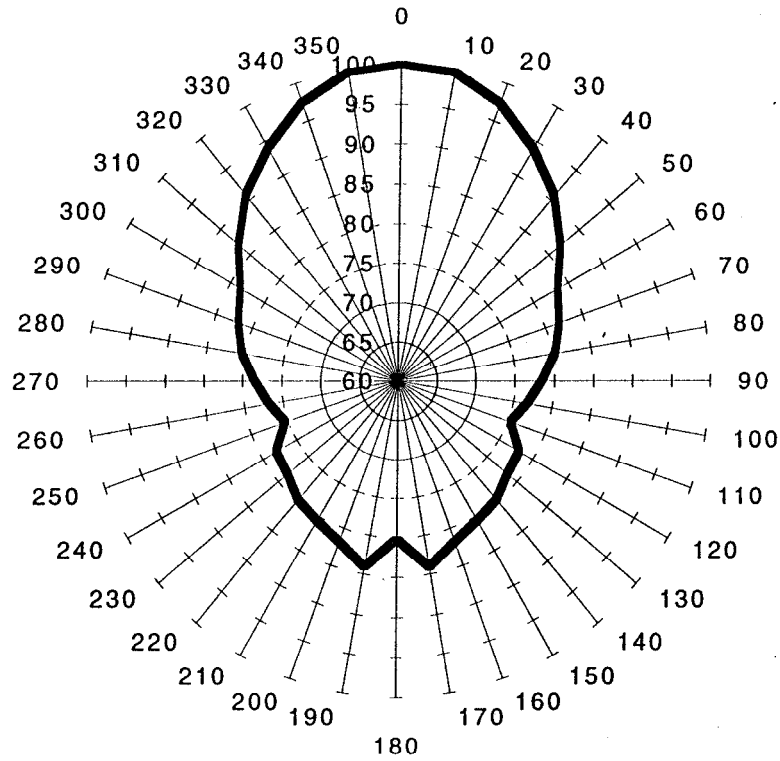
Horizontal ; 1KHz.



Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**

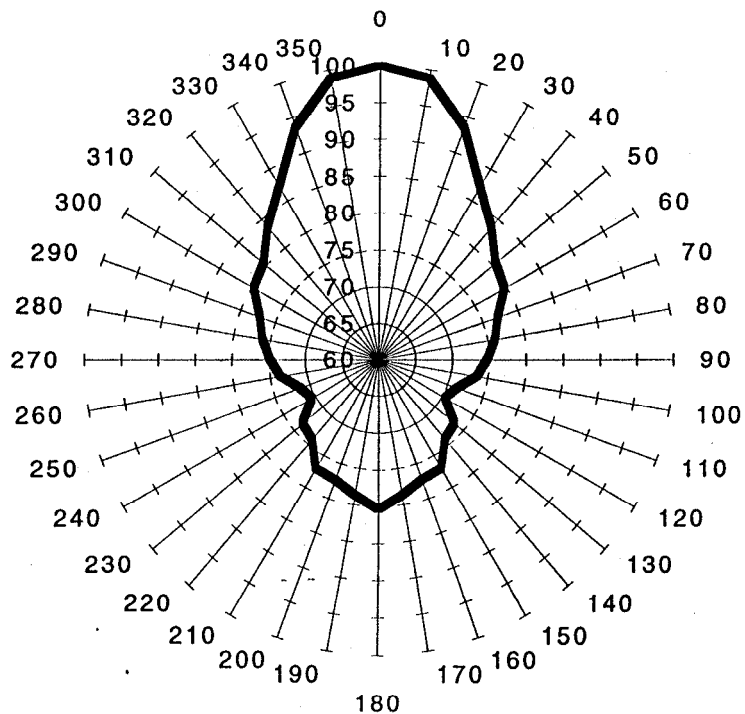
Horizontal ; 2KHz.



Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**

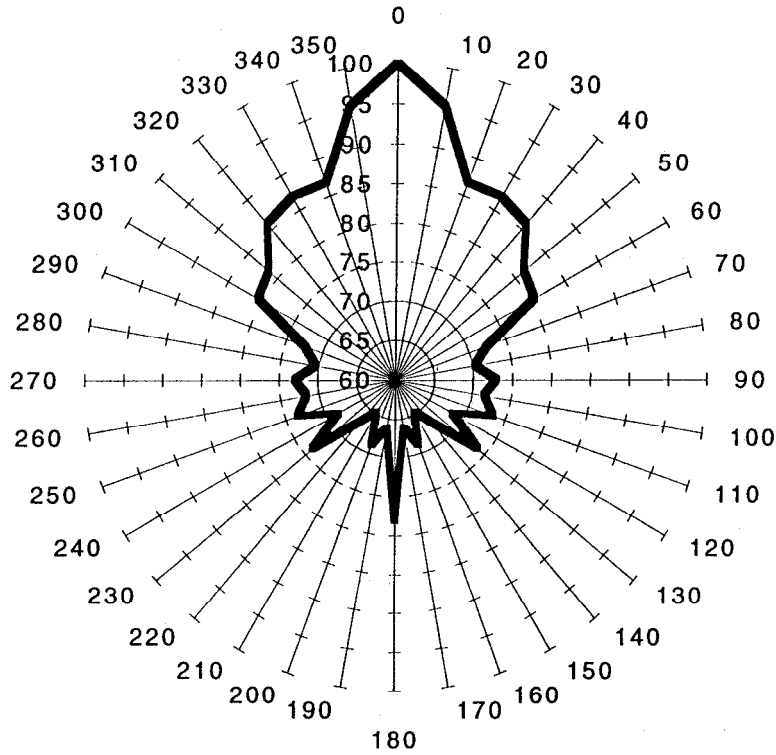
Horizontal ; 4KHz.



Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**
Horizontal ; 8KHz.

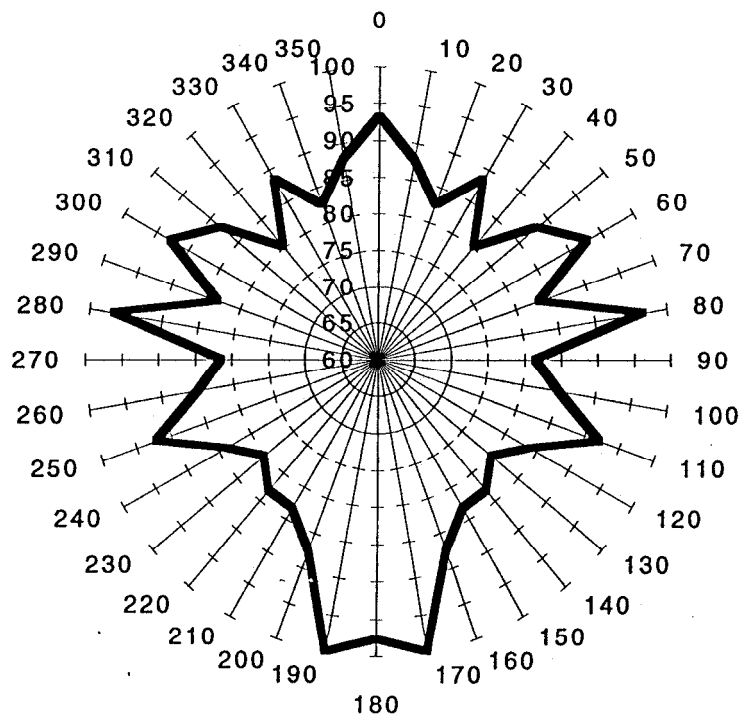
Tapping:
Backbox/Grille:



Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**
Vertical ; 125 Hz.

Tapping:
Backbox/Grille:

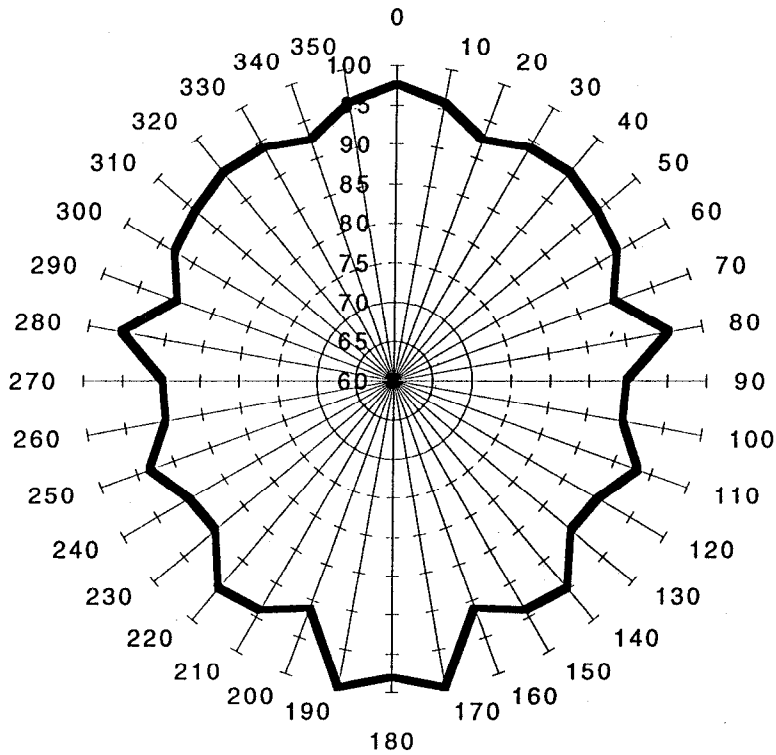


Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**

Tapping:
Backbox/Grille:

Vertical ; 250 Hz.

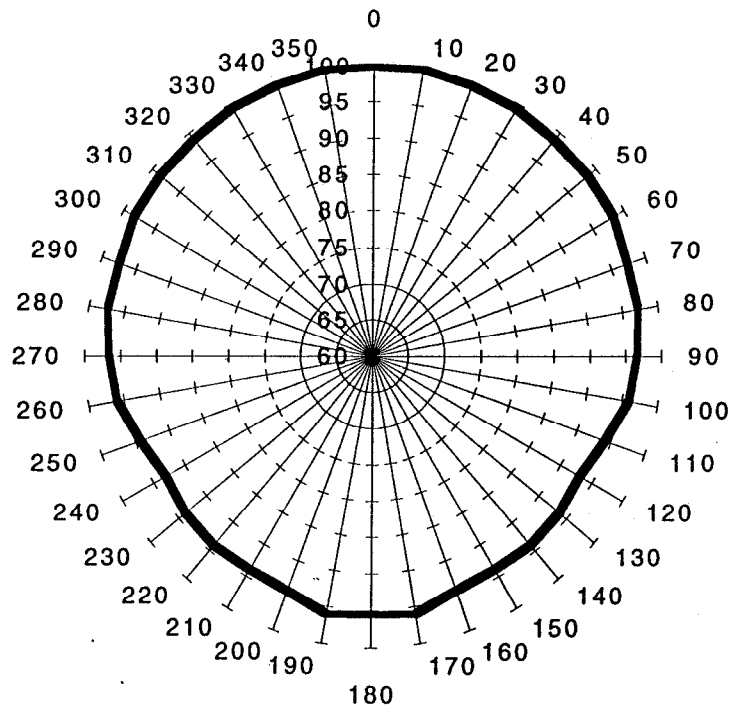


Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**

Tapping:
Backbox/Grille:

Vertical ; 500 Hz.

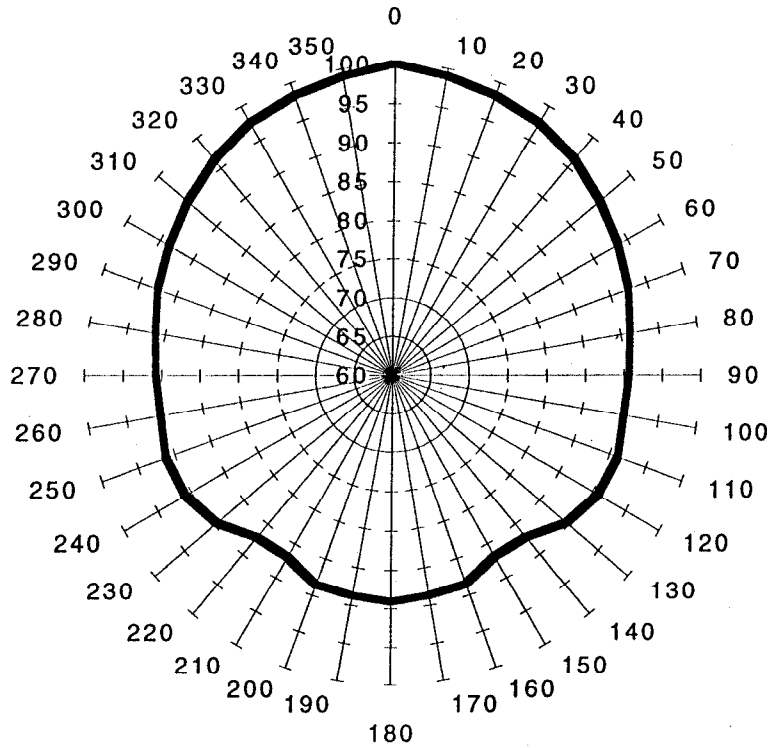


Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**

Tapping:
Backbox/Grille:

Vertical ; 1KHz.

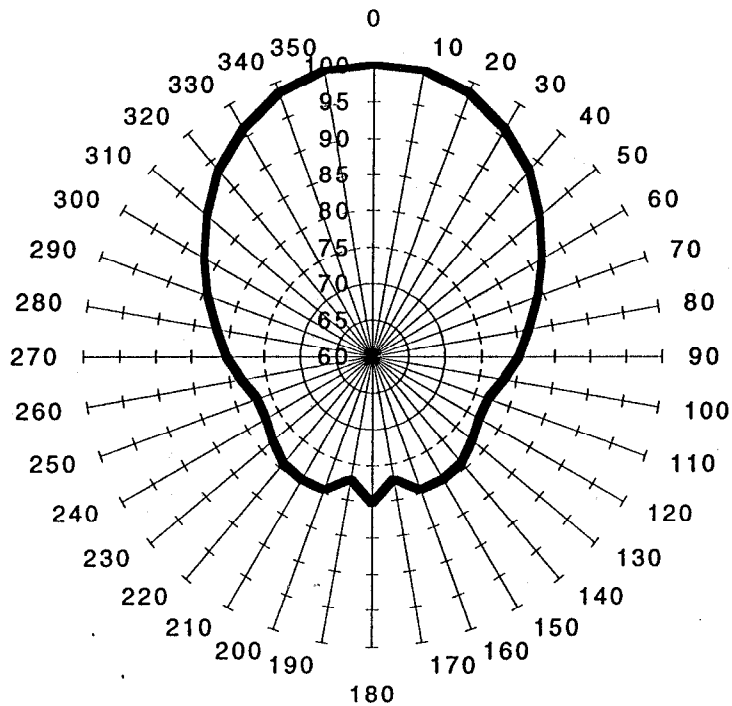


Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**

Tapping:
Backbox/Grille:

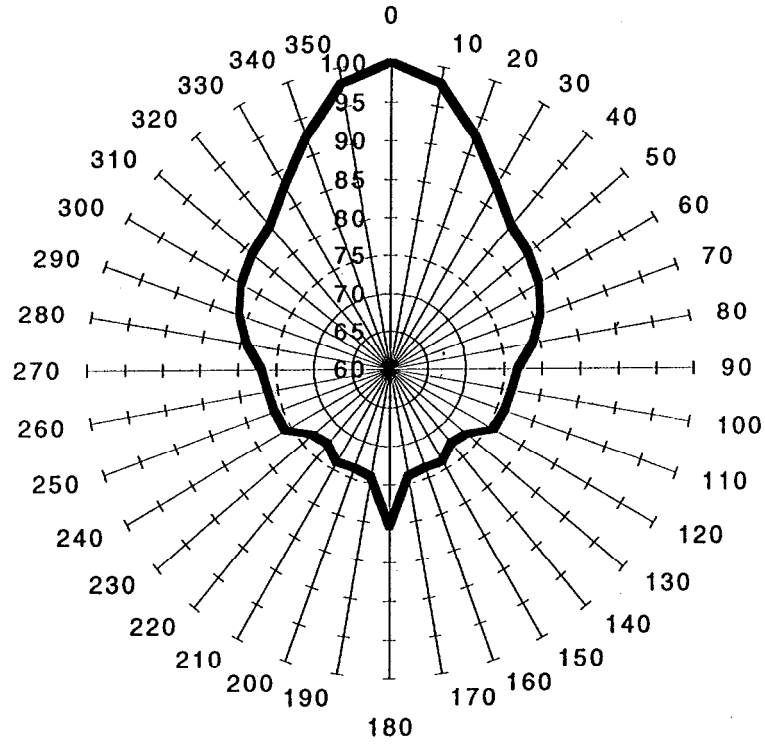
Vertical ; 2KHz.



Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**

Vertical ; 4KHz.



Speaker: **MR15T**
Mounting: **Free Space**

Tapping: **15W**
Backbox/Grille: **None**

Vertical ; 8KHz.

