

3M Occupational Health & Environmental Safety Division

3M™ SoundPro SE/DL Series Sound Level Meters



SoundPro Data Addendum Manual

- Version A: QE7052 and BK4936 microphones

3M

Table of Contents

<i>About this manual</i>	1
<i>Introduction of Specifications</i>	1
Filter Information	1
Magnetic fields	1
Midband frequency	2
Table A.1- Octave-band filters	2
Table A.2- Midband frequencies for the 1/3 octave-band filters	2
<i>Microphone Classes defined</i>	3
Table A.3- Tolerance class for Microphone accessory combination	3
<i>Self Generated Noise</i>	4
Broadband	4
Table A.4 - Fast Response	4
Table A.5- Slow Response	4
Octave Band	5
A-Weighting	5
Table A.6- Fast Response, and SPL	5
Table A.7- Fast Response, and LEQ	5
Table A.8 - Slow Response, and SPL	5
Table A.9- Slow Response and LEQ	6
C-Weighting	6
Table A.10 - Fast Response and SPL	6
Table A.11- Fast Response and LEQ	6
Table A.12- Slow Response and SPL	7
Table A.13- Slow Response and LEQ	7
Z-Weighting	8
Table A.18- Fast Response and SPL	8
Table A.19- Fast Response and LEQ	8
Table A.20- Slow Response and SPL	9
Table A.21- Slow Response and LEQ	9
1/3 Octave Band	10
A-Weighting	10
Table A.22- Fast Response and SPL	10
Table A.23- Fast Response and LEQ	11
Table A.24- Slow Response and SPL	12
Table A.24- Slow Response and SPL	12
Table A.25- Fast Response and LEQ	13
Table A.26- Slow Response and SPL	14
Table A.27 - Slow Response and LEQ	15
C-Weighting	16
Table A.28- Fast Response and SPL	16
Table A.29- Fast Response and LEQ	17
Table A.30- Slow Response and SPL	18
Table A.31- Slow Response and LEQ	19
Z-Weighting	20
Table A.32- Z Weighting, Fast Response, SPL	20

Table A.33- Z Weighting, Fast Response and LEQ	21
Table A.34- Z Weighting, Slow Response and SPL	22
Table A.35- Z Weighting, Slow Response and LEQ	23
Linear Operating Range	25
Table A.40- Broad Band with A-Weighting	25
Table A.41- Broad Band C Weighting	30
Table A.42- Broad Band with Z-Weighting	36
Table A.44- Octave Band	41
Table A.45- One-Third Octave Band	44
Peak C	50
Table A.46- Peak C Level Range	50
Microphones	50
QE7052 microphone (Figures/Tables “B”)	51
Directional frequency response using side toward speaker	51
Figure B.1 - 0-30 degree incidence angles	51
Figure B.2 - 0-90 degree incidence angles	52
Figure B.3 - 0-150 degree incidence angles	53
Figure B.4 - 0-180 degree incidence angles	54
Directional frequency response with mounted face toward speaker	55
Figure B.5 - 0-30-degree incidence angles	55
Figure B.6 - 0-90-degree incidence angles	56
Figure B.7 - 0-150-degree incidence angles	57
Figure B.8 - 0-180-degree incidence angles	58
Random Incidence	59
Figure B.9 - Frequency Response	59
Corrections	60
Table B.10 Reflection, Diffraction, and Microphone Frequency Response	60
Table B.11 - Pressure Field to Free Field Corrections	61
Table B.12 - Pressure Field to Random Incidence Corrections	61
Self Generated Noise	61
Table B.13- Broadband	61
Table B.14 - Octave Band	62
Table B.15- 1/3 Octave Band	65
QE7052 microphone with windscreen (Figures/Tables “C”)	71
Directional frequency response using side toward speaker	71
Figure C.1- 0-30 degree incidence angles	71
Figure C.2 - 0-90 degree incidence angles	72
Figure C.3- 0-150 degree incidence angles	73
Figure C.4 - 0-180 degree incidence angles	74
Directional frequency response using windscreen & face toward speaker	75
Figure C.5 - 0-30 degree incidence angles	75
Figure C.6- 0-90 degree incidence angles	76
Figure C.7 - 0-150 degree incidence angles	77
Figure C.8- 0-180 degree	78
Random Incidence	79
Figure C.9 - Frequency Response	79
Corrections	80
Table C.10- Reflection, Diffraction, and Local Microphone Frequency Response	80
Table C.11- Reflection, Diffraction, Microphone Frequency Response, and Windscreen Corrections	81

Self Generated Noise	82
<i>Table C.12- Broadband</i>	82
<i>Table C.13 - Octave Band</i>	82
<i>Table C.14- 1/3 Octave Band</i>	86
QE7052 microphone using remote preamp (Figures/Tables “D”)	92
Directional frequency response using remote preamp with Z weighting	92
Figure D.1 - 0-30 degree incidence angles	92
Figure D.2 - 0-90 degree incidence angles	93
Figure D.3 - 0-150 degree incidence angles	94
Figure D.4 - 0-180 degree incidence angles	95
Random Incidence	96
Figure D.5 - Frequency Response	96
Corrections	97
Table D.6 - Reflection, Diffraction, Microphone Frequency Response, and Windscreen Corrections	97
Table D.7- Pressure to Free Field Corrections	98
Table D.8 - Pressure Field to Random Incidence Corrections	98
Self Generated Noise	99
Table D.9- Broadband	99
Table D.10 - Octave Band	99
Table D.11- 1/3 Octave Band	103
QE7052 microphone using windscreen & remote preamp (Figures/Tables “E”)	110
Tolerance: IEC 61672 class 2	110
Directional Frequency Response with Z weighting	110
Figure E.1 - 0-30 degree incidence angles	110
Figure E.2 - 0-90 degree incidence angles	111
Figure E.3 - 0-150 degree incidence angles	112
Figure E.4 - 0-180 degree incidence angles	113
Random Incidence	114
Figure E.5- Frequency Response	114
Corrections	115
Table E.6- Reflection, Diffraction, Microphone Frequency Response, and Windscreen	115
Table E.7- Reflection, Diffraction, Microphone Frequency Response, and Windscreen	116
Table E.8 - Pressure Field to Free Field Corrections	117
Table E.9-Pressure Field to Random Incidence Corrections	117
Self Generated Noise	118
Table E.10- Broadband	118
Table E.11 - Octave Band	118
Table E.12- 1/3 Octave Band	122
Table E.12- (Continued)	128
BK4936 microphone (Figures/Tables “F”)	129
Directional frequency response using side toward speaker	129
Figure F. 1- 0-30 degree incidence angles	129
Figure F. 2- 0-90 degree incidence angles	130
Figure F. 3 - 0-150 degree incidence angles	131
Figure F. 4 - 0-180 degree incidence angles (IEC 61672 class 1)	132
Directional frequency response using face toward speaker	133
Figure F.5 - 0-30 degree incidence angles	133
Figure F. 6 - 0-90 degree incidence angles	134
Figure F.7 - 0-150 degree incidence angles	135
Figure F.8 - 0-180 degree incidence angles	136
Random Incidence	137

Figure F.9 - Frequency Response _____	137
Corrections _____	138
Table F.10 - Reflection, Diffraction, Microphone Frequency Response, and Windscreen _____	138
Figure F.11 - Pressure Field to Free Field _____	139
Figure F.12 - Pressure Field to Random Incidence _____	139
Self Generated Noise _____	139
Table F.13 - Broadband _____	139
Table F.14 – Octave Band _____	140
Table F.15- 1/3 Octave Band _____	143
BK4936 microphone with windscreen (Figures/Tables “G”) _____	150
Directional frequency response with mounted side toward speaker _____	150
Figure G.1 - 0-30 degree incidence angles _____	150
Figure G.2 - 0-90 degree incidence angles _____	151
Figure G.3 - 0-150 degree incidence angles _____	152
Figure G.4- 0-180 degree incidence angles _____	153
Directional frequency response using face toward speaker _____	154
Figure G.5- 0-30 degree incidence angles _____	154
Figure G.6- 0-90 degree incidence angles _____	155
Figure G.7 - 0-150 degree incidence angles _____	156
Figure G.8 - 0-180 degree incidence angles _____	157
Random Incidence _____	158
Figure G.9- Frequency response _____	158
Corrections _____	159
Table G.10 - Reflection, Diffraction, and Microphone Frequency Response _____	159
Table G.11- Reflection, Diffraction, and Microphone Frequency Response _____	160
Figure G.12 - Pressure Field to Free Field _____	161
Figure G.13 - Pressure Field to Random Incidence _____	161
Self Generated Noise _____	162
Table G.14- Broadband _____	162
Table G.15 – Octave Band _____	162
Table G.16 – 1/3 Octave Band _____	165
Table G.16 – 1/3 Octave Band _____	166
BK4936 microphone using remote preamp (Figures/Tables “H”) _____	172
Directional frequency response _____	172
Figure H.1- 0-30 degree incidence angels _____	172
Figure H.2 - 0-90 degree incidence angels _____	173
Figure H.3 - 0-150 degree incidence angels _____	174
Figure H.4 - 0-180 degree incidence angels (IEC 61672 class 1) _____	175
Random Incidence _____	176
Figure H.5 - Frequency Response _____	176
Corrections _____	177
Table H.6 - Reflection, Diffraction, and Microphone Frequency Response _____	177
Table H.7 -Pressure Field to Free Field _____	178
Table H.8 - Pressure Field to Random Incidence _____	178
Self Generated Noise _____	179
Table H.9-Broadband _____	179
Table H.10 – Octave Band _____	180
Table H.11- 1/3 Octave Band _____	183
BK4936 microphone using windscreen and remote preamp (Figures/Tables “I”) _____	190
Directional frequency response _____	190
Figure I.1 - 0-30 degree incidence angles _____	190

Figure I.2 -0-90 degree incidence angles	191
Figure I.3 - 0-150 degree incidence angles	192
Figure I.4 - 0-180 degree incidence angles	193
Random Incidence	194
Figure I.5- Frequency Response	194
Corrections	195
Figure I.6 -Reflection, Diffraction, and Microphone Frequency Response	195
Figure I.7 - Reflection, Diffraction, and Microphone Frequency Response	196
Table I.8- Pressure field to free field	197
Table I.9- Pressure field to random incidence	197
Self Generated Noise	197
Table I.10-Broadband	197
Table I.11 – Octave Band	198
Table I.12- 1/3 Octave Band	201
BK4936 microphone using random incidence corrector (Figures/Tables “J”)	208
Directional frequency response with mounted side toward speaker	208
Figure J.1- 0-30 degree incidence angles	208
Figure J.2 - 0-90 degree incidence angles	209
Figure J.3- 0-150 degree incidence angles	210
Figure J.4- 0-180 degree incidence angles	211
Directional frequency response using random incidence corrector and face toward speaker	212
Figure J.5 - 0-30 degree incidence angles	212
Figure J.6 - 0-90 degree incidence angles	213
Figure J.7 - 0-150 degree incidence angles	214
Figure J.8- 0-180 degree incidence angles	215
Random Incidence	216
Figure J.9 - Frequency Response	216
Table J.10 - Reflection, Diffraction, Microphone Frequency Response, and Windscreen	217
Table J.11 -Pressure Field to Free Field Corrections	218
Table J.12 - Pressure Field to Random Incidence Corrections	218
Self Generated Noise	218
Table J.13-Broadband	218
Table J.14 – Octave Band	219
Table J.15- 1/3 Octave Band	222
BK4936 microphone using random incidence corrector and windscreen (Figures/Tables “K”)	229
Directional frequency response using side toward speaker	229
Figure K.1- 0-30degree incidence angles	229
Figure K.2- 0-90 degree incidence angles	230
Figure K.3 - 0-150 degree incidence angles	231
Figure K.4 - 0-180 degree incidence angles	232
Directional frequency response using face toward speaker	233
Figure K.5 - 0-30 degree incidence angles	233
Figure K.6 - 0-90 degree incidence angles	234
Figure K.7 - 0-150 degree incidence angles	235
Figure K.8 -0-180 degree incidence angles	236
Random Incidence	237
Figure K.9 - Frequency Response	237
Corrections	238
Figure K.10 - Reflection, Diffraction, and Microphone Frequency Response	238
Figure K.11 -Reflection, Diffraction, and Microphone Frequency Response	239
Self Generated Noise	240

Table K.12-Broadband _____	240
Table K.13 – Octave Band _____	241
Table K.14- 1/3 Octave Band _____	244
BK4936 microphone with random incidence corrector using a remote preamp (Figures/Tables “L”) _____	251
Directional Frequency response _____	251
Figure L.1- 0-30 degree incidence angles _____	251
Figure L.2 - 0-90 degree incidence angles _____	252
Figure L.3 - 0-150 degree incidence angles _____	253
Figure L.4 - 0-180 degree incidence angles _____	254
Random Incidence _____	255
Figure L.5 - Frequency Response _____	255
Corrections _____	256
Figure L.6 - Reflection, Diffraction, and Microphone Frequency Response _____	256
Figure L.7- Pressure Field to Free Field Corrections _____	257
Figure L.8 -Pressure Field to Random Incidence Corrections _____	257
Self Generated Noise _____	257
Table L.9 -Broadband _____	257
Table L.10 – Octave Band _____	258
Table L.11- 1/3 Octave Band _____	261
BK4936 microphone using random incidence corrector, windscreen & remote preamp (Figures/Tables “M”) _____	268
Directional Frequency Response _____	268
Figure M.1 - 0-30 degree incidence angles _____	268
Figure M.2 -0-90 degree incidence angles _____	269
Figure M.3 - 0-150 degree incidence angles _____	270
Figure M.4 - 0-180 degree incidence angles _____	271
Random Incidence _____	272
Figure M.5 - Frequency Response _____	272
Corrections _____	273
Figure M.6 - Reflection, Diffraction, and Microphone Frequency Response _____	273
Figure M.7 -Reflection, Diffraction, and Microphone Frequency Response _____	274
Self Generated Noise _____	275
Table M.8 - Broadband _____	275
Table M.9 – Octave Band _____	276
Table M.10 - 1/3 Octave Band _____	279

About this manual

The SoundPro manual addendum contains a vast amount of information of which only a small amount is relevant to the specific way you have your SoundPro SE/DL configured and any accessories you may be using.

This manual has been organized to make the information that pertains to your instrument easy to find by using the table of contents as a quick look-up to match your meter, microphone, and appropriate accessories. How is the manual organized? The first sections contain information that is relative to all SoundPro SE/DL instruments. The following sections listed under *Microphones* each contain all the specific information that pertains to that microphone and instrument configuration. Different configurations include use of a remote microphone preamp or using the preamp mounted locally, use of a windscreen, and/or random incidence corrector ring.

Introduction of Specifications

Filter Information

All filters of all nominal filter bandwidths implemented comply with all performance requirements of the IEC 61260:2001 standard within the tolerances for the accuracy class 1.

An optimized Parks-McClellan analytical method was used to implement the filter design.

The sampling frequency for the system is 52734.375 Hz. Individual filter rates are determined by octave-based decimation by 2.

The base-ten system was used to determine the octave frequency ratio.

The reference attenuation is 0 dB for all filter bands.

The level of the instrument's self-generated noise determines the maximum level linearity error of the displayed signal level below the linear operating range. Therefore the maximum level linearity error of the displayed signal level below the linear operating range may be equal to the self-generated noise level when no input signal is present.

The overload status indicator 'OL' will appear at the top center of the display when the top of the linear operating range has been reached. This will occur before the displayed signal level linearity errors exceed the class 1 tolerance for level linearity error.

For each nominal filter bandwidth the frequency range for real-time operation and real-time spectral analyses of transient and time-varying signals is 12.5 Hz to 20 kHz, center frequencies.

Magnetic fields

There are no measurable effects of magnetic fields up to 80 Ampere turns per meter at 60 Hz. The meter is most susceptible to magnetic fields when the field lines are perpendicular to the meter face. This sound level meter conforms to the basic specification of the IEC standard 61672-1 for the required immunity to AC power frequency fields.

Midband frequency

Table A.1- Octave-band filters

Exact Frequency in Hz	Nominal Frequency in Hz
15.849	16
31.623	31.5
63.096	63
125.89	125
251.19	250
501.19	500
1000.0	1000
1995.3	2000
3981.1	4000
7943.3	8000
15849	16000

Table A.2- Midband frequencies for the 1/3 octave-band filters

Exact Frequency in Hz	Nominal Frequency in Hz
12.589	12.5
15.849	16
19.953	20
25.119	25
31.623	31.5
39.811	40
50.119	50
63.096	63
79.433	80
100.00	100
125.89	125
158.49	160
199.53	200
251.19	250
316.23	315
398.11	400
501.19	500
630.96	630
794.33	800
1000.0	1000
1258.9	1250
1584.9	1600
1995.3	2000
2511.9	2500
3162.3	3150
3981.1	4000

Microphone Classes defined

Table A.3- Tolerance class for Microphone accessory combination

Microphone Model	Accessories Compliment			Microphone use				
	Windscreen	Remote Cable	RIC	Directional Remote Microphone	Directional Face to Sound Source	Directional Side to Sound Source	Random Incidence	Relative Free Field
QE4110					1	1	1	1
	X				1	1	1	1
		X		1			1	1
	X	X		1			1	1
QE4130					1	1	2	1
	X				1	1	2	1
		X		1			2	1
	X	X		1			2	1
QE4150					1	1	2	1
	X				1	1	2	1
		X		1			2	1
	X	X		1			2	1
QE4170					2	2	2	2
	X				2	2	2	2
		X		2			2	2
	X	X		2			2	2
BK4936					1	1	2	1
	X				1	1	2	1
		X		1			2	1
	X	X		1			2	1
BK4936 with RIC			X		1	1	1	1
	X		X		1	1	1	1
		X	X	1			1	1
	X	X	X	1			1	1
QE7052					2	2	2	1
	X				2	2	2	1
		X		2			2	1
	X	X		2			2	1

Self Generated Noise

Broadband

Table A.4 - Fast Response
When using 18 pF, 50 Ohm Termination

SPL					LEQ			
Range (dB)	A Weighting (dB)	C Weighting (dB)	Z Weighting (dB)	F Weighting (dB)	A Weighting (dB)	C Weighting (dB)	Z Weighting (dB)	F Weighting (dB)
-20 to 70	19.9	27.2	31.4	35.9	19.9	27.5	31.8	36.0
-10 to 80	19.9	27.0	31.4	36.3	19.9	27.2	31.6	36.3
0 to 90	19.9	27.2	31.5	34.9	19.9	27.2	31.2	35.9
10 to 100	20.0	27.3	31.0	35.9	20.0	27.3	32.0	36.0
20 to 110	20.9	27.2	31.7	34.0	20.9	27.4	31.2	36.2
30 to 120	25.3	28.8	31.7	36.5	25.2	28.8	32.1	36.2
40 to 130	33.1	33.7	34.6	37.1	33.1	33.8	34.9	37.4
50 to 140	41.9	41.9	41.9	42.4	42.0	42.0	42.0	42.4

Table A.5- Slow Response
When using 18 pF, 50 Ohm Termination

SPL					LEQ			
Range (dB)	A Weighting (dB)	C Weighting (dB)	Z Weighting (dB)	F Weighting (dB)	A Weighting (dB)	C Weighting (dB)	Z Weighting (dB)	F Weighting (dB)
-20 to 70	19.9	27.3	31.4	36.0	19.9	27.3	31.5	35.7
-10 to 80	19.9	27.3	31.3	36.0	19.9	27.4	31.4	36.0
0 to 90	19.9	27.3	31.6	36.0	19.9	27.3	31.5	35.9
10 to 100	20.0	27.2	31.5	35.7	20.0	27.2	31.5	35.7
20 to 110	20.9	27.6	31.3	35.8	20.9	27.5	31.5	36.0
30 to 120	25.3	28.8	32.3	35.7	25.3	28.8	32.1	35.7
40 to 130	33.3	33.6	35.0	37.2	33.2	33.6	34.9	37.0
50 to 140	42.2	41.7	42.0	42.2	42.2	41.7	41.9	42.2
80 to 170	77.9	77.6	77.6	77.7	78.5	77.8	77.9	78.4

Octave Band

A-Weighting

Table A.6- Fast Response, and SPL

When using 18 pF, 50 Ohm Termination

A Weighting, Fast Response, SPL											
Range (dB)	16 Hz (dB)	31.5 Hz (dB)	63 Hz (dB)	125 Hz (dB)	250 Hz (dB)	500 Hz (dB)	1000 Hz (dB)	2000 Hz (dB)	4000 Hz (dB)	8000 Hz (dB)	16 kHz (dB)
-10 to 70	-16.9	-11.1	-0.6	6.8	11.0	14.0	15.4	15.6	15.9	15.3	12.4
0 to 80	-16.9	-10.2	0.0	6.6	11.2	14.1	15.3	15.6	15.7	15.2	12.4
10 to 90	-15.3	-10.1	-0.4	6.4	10.7	13.9	15.1	15.6	15.7	15.1	12.2
20 to 100	-7.4	-7.6	-1.0	6.3	11.3	14.1	15.3	15.6	15.6	15.3	12.3
30 to 110	3.6	-0.5	1.3	7.1	10.9	13.6	15.2	15.3	15.3	18.3	18.3
40 to 120	14.0	8.5	7.3	10.2	13.2	16.2	19.2	22.3	25.3	28.3	28.3
50 to 130	24.2	20.1	17.5	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	34.1	29.1	27.3	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
90 to 170	68.1	64.7	66.8	60.7	59.8	62.2	65.2	67.0	68.8	70.0	75.5

Table A.7- Fast Response, and LEQ

When using 18 pF, 50 Ohm Termination

A Weighting, Fast Response, LEQ											
Range (dB)	16 Hz (dB)	31.5 Hz (dB)	63 Hz (dB)	125 Hz (dB)	250 Hz (dB)	500 Hz (dB)	1000 Hz (dB)	2000 Hz (dB)	4000 Hz (dB)	8000 Hz (dB)	16 kHz (dB)
-10 to 70	-16.9	-10.0	0.2	6.7	11.3	14.0	15.4	15.7	15.8	15.3	12.4
0 to 80	-16.9	-10.2	-0.1	6.4	11.2	14.0	15.4	15.6	15.7	15.2	12.3
10 to 90	-15.7	-9.4	-0.5	6.5	11.1	14.0	15.3	15.6	15.7	15.1	12.2
20 to 100	-6.8	-7.0	-0.1	6.4	11.2	13.9	15.3	15.5	15.6	15.2	12.4
30 to 110	3.5	-0.3	1.2	7.0	11.0	13.9	15.2	15.3	15.3	18.3	18.3
40 to 120	13.3	9.1	7.5	10.3	13.2	16.2	19.2	22.3	25.3	28.3	28.3
50 to 130	22.9	18.4	17.3	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.5	29.2	27.3	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
90 to 170	67.6	62.6	59.2	61.7	64.4	62.3	65.2	67.4	69.0	71.5	79.8

Table A.8 - Slow Response, and SPL

When using 18 pF, 50 Ohm Termination

A Weighting, Slow Response, SPL											
Range (dB)	16 Hz (dB)	31.5 Hz (dB)	63 Hz (dB)	125 Hz (dB)	250 Hz (dB)	500 Hz (dB)	1000 Hz (dB)	2000 Hz (dB)	4000 Hz (dB)	8000 Hz (dB)	16 kHz (dB)
-10 to 70	-16.9	-10.0	-0.2	6.4	11.2	14.0	15.3	15.6	15.8	15.2	12.4
0 to 80	-16.9	-10.1	-0.3	6.4	11.1	13.9	15.3	15.6	15.7	15.1	12.2
10 to 90	-16.5	-9.9	-0.4	6.5	11.1	13.8	15.2	15.5	15.6	15.1	12.1
20 to 100	-7.1	-6.7	-0.6	6.4	10.8	13.7	15.2	14.5	14.3	17.3	17.3
30 to 110	3.3	3.2	6.2	9.2	12.3	15.3	18.3	21.3	24.3	27.3	27.3
40 to 120	12.9	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	23.1	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	32.7	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table A.9- Slow Response and LEQ
 When using 18 pF, 50 Ohm Termination

A Weighting, Slow Response, LEQ											
Range (dB)	16 Hz (dB)	31.5 Hz (dB)	63 Hz (dB)	125 Hz (dB)	250 Hz (dB)	500 Hz (dB)	1000 Hz (dB)	2000 Hz (dB)	4000 Hz (dB)	8000 Hz (dB)	16 kHz (dB)
in dB	in dB	in dB	in dB	in dB	in dB	in dB	in dB	in dB	in dB	in dB	in dB
-10 to 70	-16.9	-10.0	-0.3	6.5	11.2	14.0	15.3	15.7	15.8	15.2	12.4
0 to 80	-16.9	-10.0	-0.2	6.5	11.1	13.9	15.2	15.5	15.7	15.1	12.2
10 to 90	-15.9	-9.8	-0.4	6.6	11.1	13.8	15.2	15.5	15.5	15.1	12.1
20 to 100	-6.8	-6.6	-0.6	6.3	10.9	13.7	15.3	14.5	14.3	17.3	17.3
30 to 110	3.0	3.2	6.2	9.2	12.3	15.3	18.3	21.3	24.3	27.3	27.3
40 to 120	12.9	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	23.2	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.2	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

C-Weighting

Table A.10 - Fast Response and SPL
 When using 18 pF, 50 Ohm Termination

C Weighting, Fast Response, SPL											
Range (dB)	16 Hz (dB)	31.5 Hz (dB)	63 Hz (dB)	125 Hz (dB)	250 Hz (dB)	500 Hz (dB)	1000 Hz (dB)	2000 Hz (dB)	4000 Hz (dB)	8000 Hz (dB)	16 kHz (dB)
-10 to 70	21.8	24.2	23.8	22.2	19.4	17.2	15.2	14.2	13.8	13.2	10.3
0 to 80	22.3	24.9	24.6	22.4	19.4	16.9	15.3	14.1	13.7	13.0	10.1
10 to 90	21.1	24.6	24.8	22.1	19.8	17.0	15.1	13.9	13.7	13.0	10.1
20 to 100	22.4	24.1	24.8	22.2	19.6	17.3	15.0	13.9	13.7	13.0	11.3
30 to 110	22.7	24.6	24.4	22.3	19.5	17.0	15.1	12.7	15.3	18.3	18.3
40 to 120	22.3	24.6	23.8	22.8	19.7	16.3	19.2	22.3	25.3	28.3	28.3
50 to 130	25.6	26.2	24.9	23.0	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	34.4	30.0	28.1	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
70 to 150											
80 to 160											
90 to 170	67.6	64.7	70.7	73.8	76.8	79.8	82.8	82.8	85.8	88.8	88.8

Table A.11- Fast Response and LEQ
 When using 18 pF, 50 Ohm Termination

C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz (dB)	31.5 Hz (dB)	63 Hz (dB)	125 Hz (dB)	250 Hz (dB)	500 Hz (dB)	1000 Hz (dB)	2000 Hz (dB)	4000 Hz (dB)	8000 Hz (dB)	16 kHz (dB)
-10 to 70	22.9	25.2	24.3	22.2	19.6	17.3	15.4	14.2	13.9	13.2	10.2
0 to 80	22.2	25.0	24.3	22.2	19.3	17.1	15.2	14.0	13.8	13.1	10.1
10 to 90	21.7	24.3	24.2	22.0	19.5	17.2	15.2	14.0	13.7	13.0	10.1
20 to 100	21.6	24.2	24.4	22.1	19.7	17.1	15.1	14.0	13.6	13.0	11.3
30 to 110	22.0	24.7	24.1	22.4	19.7	17.0	15.1	12.7	15.3	18.3	18.3
40 to 120	22.7	25.3	24.7	22.6	19.6	16.3	19.2	22.3	25.3	28.3	28.3
50 to 130	25.7	26.2	24.9	23.1	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.7	30.8	28.6	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
90 to 170	67.7	64.7	67.7	70.7	73.8	76.8	79.8	82.8	85.8	88.8	85.0

Table A.12- Slow Response and SPL
When using 18 pF, 50 Ohm Termination

C Weighting, Slow Response, SPL											
Range (dB)	16 Hz (dB)	31.5 Hz (dB)	63 Hz (dB)	125 Hz (dB)	250 Hz (dB)	500 Hz (dB)	1000 Hz (dB)	2000 Hz (dB)	4000 Hz (dB)	8000 Hz (dB)	16 kHz (dB)
-10 to 70	22.6	25.1	24.2	22.2	19.9	17.3	15.4	14.2	13.9	13.2	10.2
0 to 80	21.9	25.0	24.3	22.3	19.7	17.3	15.2	14.1	13.7	13.0	10.1
10 to 90	22.2	24.9	24.2	22.3	19.5	17.2	15.2	13.9	13.6	12.9	10.3
20 to 100	22.4	25.2	24.5	22.3	19.6	17.1	15.2	14.3	14.3	17.3	17.3
30 to 110	22.4	24.9	24.3	22.2	19.4	15.4	18.3	15.9	7.3	4.7	3.1
40 to 120	23.0	25.3	24.5	22.3	22.3	25.3	28.3	27.4	20.5	19.9	17.9
50 to 130	26.1	26.5	26.9	29.2	32.3	35.3	38.3	37.4	30.5	29.9	28.0
60 to 140	33.4	33.2	36.2	39.2	42.3	45.3	48.3	48.8	43.0	41.0	38.3

Table A.13- Slow Response and LEQ
When using 18 pF, 50 Ohm Termination

C Weighting, Slow Response, LEQ											
Range (dB)	16 Hz (dB)	31.5 Hz (dB)	63 Hz (dB)	125 Hz (dB)	250 Hz (dB)	500 Hz (dB)	1000 Hz (dB)	2000 Hz (dB)	4000 Hz (dB)	8000 Hz (dB)	16 kHz (dB)
-10 to 70	22.7	25.1	24.4	22.4	19.7	17.3	15.3	14.2	13.9	13.2	10.2
0 to 80	21.9	24.9	24.2	22.3	19.6	17.3	15.2	14.0	13.7	13.0	10.1
10 to 90	22.1	24.8	24.3	22.3	19.6	17.1	15.1	13.9	13.6	12.9	10.3
20 to 100	22.2	24.8	24.3	22.2	19.6	17.0	15.2	14.3	14.3	17.3	17.3
30 to 110	22.6	25.0	24.5	22.2	19.4	15.4	18.3	15.7	7.3	4.7	3.1
40 to 120	22.8	25.4	24.7	22.3	22.3	25.3	28.3	27.4	20.5	19.9	17.9
50 to 130	25.8	26.4	27.0	29.2	32.3	35.3	38.3	37.4	30.5	29.9	28.0
60 to 140	33.8	33.2	36.2	39.2	42.3	45.3	48.3	48.8	43.0	41.0	38.3

Z-Weighting

Table A.18- Fast Response and SPL

When using 18 pF, 50 Ohm Termination

Z Weighting, Fast Response, SPL											
Range (dB)	16 Hz (dB)	31.5 Hz (dB)	63 Hz (dB)	125 Hz (dB)	250 Hz (dB)	500 Hz (dB)	1000 Hz (dB)	2000 Hz (dB)	4000 Hz (dB)	8000 Hz (dB)	16 kHz (dB)
-10 to 70	30.3	27.6	25.1	22.1	20.0	17.6	15.5	14.4	14.8	16.3	18.4
0 to 80	30.7	28.5	27.8	24.5	22.2	18.7	15.8	14.3	14.7	16.1	18.3
10 to 90	30.3	27.3	25.5	22.6	20.3	17.2	15.4	14.2	14.6	16.2	18.3
20 to 100	31.1	29.0	29.4	25.8	23.5	20.0	16.5	14.4	14.6	16.0	18.3
30 to 110	29.7	27.5	27.7	24.4	20.7	17.8	15.5	14.5	15.3	18.3	18.3
40 to 120	31.5	29.6	30.4	25.8	23.0	19.6	19.2	22.3	25.3	28.3	28.3
50 to 130	31.0	28.2	25.8	23.0	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.0	31.6	31.6	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
90 to 170	67.2	64.7	67.7	70.7	73.8	76.8	79.8	82.8	85.8	88.8	88.8

Table A.19- Fast Response and LEQ

When using 18 pF, 50 Ohm Termination

Z Weighting, Fast Response, and LEQ											
Range (dB)	16 Hz (dB)	31.5 Hz (dB)	63 Hz (dB)	125 Hz (dB)	250 Hz (dB)	500 Hz (dB)	1000 Hz (dB)	2000 Hz (dB)	4000 Hz (dB)	8000 Hz (dB)	16 kHz (dB)
-10 to 70	30.7	28.4	25.4	22.6	19.8	17.4	15.4	14.4	14.8	16.2	18.4
0 to 80	32.1	29.9	27.8	24.7	21.6	18.6	16.1	14.5	14.7	16.1	18.3
10 to 90	31.1	28.0	25.7	23.2	20.4	17.5	15.4	14.3	14.6	16.1	18.3
20 to 100	32.0	30.0	30.8	26.1	23.4	19.6	16.2	14.4	14.5	16.0	18.3
30 to 110	30.6	28.2	27.4	23.4	20.3	17.7	15.3	14.9	15.3	18.3	18.3
40 to 120	32.6	30.2	31.4	26.2	23.6	19.7	19.2	22.3	25.3	28.3	28.3
50 to 130	31.1	28.0	25.5	22.3	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.1	31.7	31.3	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
90 to 170	68.1	63.2	59.8	61.7	64.7	67.7	70.7	73.8	76.8	79.8	79.8

Table A.20- Slow Response and SPL

When using 18 pF, 50 Ohm Termination

Z Weighting, Slow Response, and SPL											
Range (dB)	16 Hz (dB)	31.5 Hz (dB)	63 Hz (dB)	125 Hz (dB)	250 Hz (dB)	500 Hz (dB)	1000 Hz (dB)	2000 Hz (dB)	4000 Hz (dB)	8000 Hz (dB)	16 kHz (dB)
-10 to 70	30.4	28.1	25.8	22.8	20.0	17.4	15.4	14.4	14.8	16.2	18.4
0 to 80	30.6	27.6	25.3	22.5	19.6	17.4	15.3	14.3	14.6	16.1	18.3
10 to 90	31.2	27.6	25.3	22.4	19.6	17.2	15.2	14.2	14.6	15.8	18.1
20 to 100	30.3	27.8	25.0	22.3	19.8	17.0	15.2	14.3	14.3	17.3	17.3
30 to 110	30.3	28.0	24.7	22.3	19.4	16.1	18.3	21.3	24.3	27.3	27.3
40 to 120	30.3	28.0	25.0	22.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	30.9	28.3	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	34.8	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table A.21- Slow Response and LEQ

When using 18 pF, 50 Ohm Termination

Z Weighting, Slow Response, LEQ											
Range (dB)	16 Hz (dB)	31.5 Hz (dB)	63 Hz (dB)	125 Hz (dB)	250 Hz (dB)	500 Hz (dB)	1000 Hz (dB)	2000 Hz (dB)	4000 Hz (dB)	8000 Hz (dB)	16 kHz (dB)
-10 to 70	30.7	28.2	25.7	22.9	19.9	17.4	15.4	14.4	14.8	16.2	18.3
0 to 80	30.4	27.8	25.2	22.4	19.7	17.3	15.4	14.3	14.6	16.1	18.3
10 to 90	30.5	27.8	25.1	22.4	19.6	17.2	15.3	14.2	14.6	15.8	18.1
20 to 100	30.5	27.8	25.0	22.3	19.7	17.2	15.2	14.3	14.3	17.3	17.3
30 to 110	30.4	27.7	25.0	22.3	19.5	16.2	18.3	21.3	24.3	27.3	27.3
40 to 120	30.6	27.8	24.9	22.3	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	30.8	28.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	34.8	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

1/3 Octave Band

A-Weighting

Table A.22- Fast Response and SPL
When using 18 pF, 50 Ohm Termination

A Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-16.5	-13.6	-11.0	-7.2	-3.9	-1.7	-0.1	3.5	3.3	5.1	6.7	6.7	7.7
0 to 80	-16.9	-16.9	-16.9	-16.9	-15.9	-13.5	-9.3	-6.3	-3.8	-1.7	0.5	3.6	4.1	5.2	6.7	7.0	7.6
10 to 90	-16.9	-15.8	-16.9	-16.7	-15.1	-13.4	-9.8	-7.0	-4.5	-1.4	1.2	3.0	3.7	4.7	5.9	7.4	7.7
20 to 100	-15.0	-7.0	-12.2	-9.2	-12.6	-10.2	-9.7	-6.6	-4.4	-2.2	1.1	3.3	3.7	5.5	5.8	7.0	8.0
30 to 110	-8.0	3.2	-5.4	-0.4	-4.1	-5.8	-4.9	-4.4	-2.2	-0.6	1.3	3.5	4.1	4.7	5.9	7.0	7.4
40 to 120	3.2	13.5	7.7	10.4	4.8	4.5	4.3	4.2	4.4	7.2	7.2	7.2	10.2	10.2	10.2	13.2	13.2
50 to 130	12.6	23.8	15.3	19.9	15.6	14.5	14.2	14.3	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	23.0	34.0	25.2	30.1	25.3	23.9	24.4	24.3	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2
90 to 170	61.0	59.5	59.1	61.7	61.7	61.7	55.7	55.7	55.7	58.7	58.7	58.7	61.7	61.7	61.7	64.7	64.7

Range (dB)	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
-10 to 70	8.5	8.5	8.6	9.1	9.1	8.9	9.3	9.6	9.6	9.7	9.7	9.8	9.1	8.3	6.9	5.2
0 to 80	7.9	8.2	8.6	9.0	9.1	9.0	9.3	9.5	9.5	9.8	9.7	9.7	9.2	8.1	6.8	5.1
10 to 90	8.2	8.7	8.7	9.1	9.0	9.2	9.4	9.4	9.5	9.8	9.7	9.6	9.0	8.0	6.7	5.2
20 to 100	8.6	8.4	8.5	8.9	8.9	8.9	9.1	9.2	9.2	9.6	10.0	9.8	8.4	8.3	8.3	8.3
30 to 110	8.0	7.8	9.1	9.3	9.3	9.3	9.2	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
40 to 120	13.2	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
50 to 130	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
60 to 140	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
90 to 170	64.7	67.7	67.7	67.7	67.3	66.6	67.0	66.0	65.8	66.3	66.8	67.5	68.5	69.1	70.6	70.8

Table A.23- Fast Response and LEQ
When using 18 pF, 50 Ohm Termination

A Weighting, Fast Response, LEQ																	
Range	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500
dB	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz
	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
-10 to 70	-16.9	-16.9	-16.9	-16.9	-15.8	-12.1	-10.0	-6.2	-3.3	-1.1	0.6	3.1	4.1	5.4	6.0	7.0	7.9
0 to 80	-16.9	-16.9	-16.9	-16.9	-16.0	-12.8	-9.5	-6.6	-3.9	-1.5	0.7	3.3	3.8	5.4	6.3	7.4	7.8
10 to 90	-16.9	-16.5	-16.9	-16.1	-16.2	-12.5	-9.4	-6.7	-3.7	-1.3	0.6	3.3	4.0	5.4	6.3	6.9	7.9
20 to 100	-15.1	-6.6	-14.6	-9.5	-12.4	-10.7	-8.3	-6.5	-3.4	-0.8	1.3	3.0	4.0	5.3	6.5	7.2	7.7
30 to 110	-5.9	3.4	-4.1	-0.8	-3.6	-5.7	-5.0	-3.7	-2.4	-0.8	0.7	3.1	4.0	5.2	5.9	6.9	7.6
40 to 120	3.7	13.4	5.5	10.2	6.4	3.5	4.3	4.7	4.4	7.2	7.2	7.2	10.2	10.2	10.2	13.2	13.2
50 to 130	14.2	23.1	14.5	20.0	17.2	14.5	14.3	14.6	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	24.0	33.7	24.8	29.9	27.2	24.0	24.3	24.4	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2
90 to 170	61.9	59.8	57.4	58.3	56.9	54.6	55.8	56.6	55.7	58.7	58.7	58.7	61.7	61.7	61.7	64.7	64.7

Range	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
dB	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
-10 to 70	8.4	8.5	8.9	9.0	9.0	9.1	9.4	9.5	9.6	9.9	9.8	9.7	9.2	8.2	6.9	5.2
0 to 80	8.2	8.6	8.9	9.1	9.1	9.1	9.3	9.5	9.7	9.8	9.6	9.7	9.1	8.1	6.8	5.1
10 to 90	8.3	8.4	8.9	9.0	9.0	9.1	9.2	9.5	9.6	9.7	9.6	9.6	9.1	8.0	6.7	5.2
20 to 100	8.2	8.3	8.7	9.1	9.0	9.0	9.2	9.2	9.3	9.6	9.8	9.9	8.4	8.3	8.3	8.3
30 to 110	8.1	8.0	9.0	9.1	9.2	9.2	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
40 to 120	13.2	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
50 to 130	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
60 to 140	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
90 to 170	64.7	67.7	67.7	67.7	70.7	70.7	70.7	73.8	73.8	73.8	76.8	76.8	76.8	79.8	79.8	79.8

1/3 Octave Band

Table A.24- Slow Response and SPL

When using 18 pF, 50 Ohm Termination

A Weighting, Slow Response, and SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-16.8	-13.4	-9.3	-6.5	-4.0	-1.4	0.8	3.4	3.8	5.5	6.3	7.0	7.9
0 to 80	-16.9	-16.9	-16.9	-16.9	-16.4	-13.0	-9.9	-6.3	-4.0	-1.7	0.7	3.5	3.9	5.2	6.2	6.8	7.7
10 to 90	-16.9	-16.7	-16.9	-16.8	-15.8	-12.3	-10.4	-6.7	-4.1	-1.6	0.6	3.2	3.8	5.1	6.1	7.0	7.8
20 to 100	-12.7	-7.0	-12.5	-9.6	-9.7	-9.5	-6.7	-6.4	-3.8	-1.2	0.3	3.0	3.9	5.2	6.1	7.0	7.2
30 to 110	-2.7	3.4	-2.6	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.2	9.2	9.2	9.2	12.3	12.3
40 to 120	7.2	13.5	7.2	10.3	10.2	10.2	13.2	13.2	13.2	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.3	23.0	17.5	20.2	20.2	20.2	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	33.3	27.4	30.3	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

Range (dB)	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
-10 to 70	8.6	8.6	8.9	9.0	9.1	9.0	9.4	9.6	9.7	9.9	9.8	9.7	9.2	8.2	6.8	5.1
0 to 80	8.4	8.5	8.8	9.0	9.0	9.0	9.3	9.5	9.6	9.8	9.7	9.6	9.1	8.1	6.8	5.1
10 to 90	8.4	8.5	8.7	8.9	9.0	9.0	9.1	9.1	9.5	9.7	9.1	9.1	9.0	7.3	7.3	7.3
20 to 100	8.2	8.3	8.3	8.3	8.3	8.3	8.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
30 to 110	12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
40 to 120	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
50 to 130	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
60 to 140	42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Self Generated Noise

1/3 Octave Band

Table A.25- Fast Response and LEQ

When using 18 pF, 50 Ohm Termination

A Weighting, Fast Response, LEQ																			
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	
-10 to 70	-	-16.9	-16.9	-16.9	-15.8	-12.1	-10.0	-6.2	-3.3	-1.1	0.6	3.1	4.1	5.4	6.0	7.0	7.9	8.4	
0 to 80	-	-16.9	-16.9	-16.9	-16.0	-12.8	-9.5	-6.6	-3.9	-1.5	0.7	3.3	3.8	5.4	6.3	7.4	7.8	8.2	
10 to 90	-	-16.9	-16.5	-16.9	-16.1	-16.2	-12.5	-9.4	-6.7	-3.7	-1.3	0.6	3.3	4.0	5.4	6.3	6.9	7.9	8.3
20 to 100	-	15.1	-6.6	-14.6	-9.5	-12.4	-10.7	-8.3	-6.5	-3.4	-0.8	1.3	3.0	4.0	5.3	6.5	7.2	7.7	8.2
30 to 110	-	-5.9	3.4	-4.1	-0.8	-3.6	-5.7	-5.0	-3.7	-2.4	-0.8	0.7	3.1	4.0	5.2	5.9	6.9	7.6	8.1
40 to 120	-	3.7	13.4	5.5	10.2	6.4	3.5	4.3	4.7	4.4	7.2	7.2	7.2	10.2	10.2	10.2	13.2	13.2	13.2
50 to 130	-	14.2	23.1	14.5	20.0	17.2	14.5	14.3	14.6	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2	23.2
60 to 140	-	24.0	33.7	24.8	29.9	27.2	24.0	24.3	24.4	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	33.2
90 to 170	-	61.9	59.8	57.4	58.3	56.9	54.6	55.8	56.6	55.7	58.7	58.7	58.7	61.7	61.7	61.7	64.7	64.7	64.7

Range (dB)	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
-10 to 70	8.5	8.9	9.0	9.0	9.1	9.4	9.5	9.6	9.9	9.8	9.7	9.2	8.2	6.9	5.2
0 to 80	8.6	8.9	9.1	9.1	9.1	9.3	9.5	9.7	9.8	9.6	9.7	9.1	8.1	6.8	5.1
10 to 90	8.4	8.9	9.0	9.0	9.1	9.2	9.5	9.6	9.7	9.6	9.6	9.1	8.0	6.7	5.2
20 to 100	8.3	8.7	9.1	9.0	9.0	9.2	9.2	9.3	9.6	9.8	9.9	8.4	8.3	8.3	8.3
30 to 110	8.0	9.0	9.1	9.2	9.2	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
40 to 120	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
50 to 130	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
60 to 140	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
90 to 170	67.7	67.7	67.7	70.7	70.7	70.7	73.8	73.8	73.8	76.8	76.8	76.8	79.8	79.8	79.8

Table A.26- Slow Response and SPL

When using 18 pF, 50 Ohm Termination

A Weighting, Slow Response, SPL																		
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-16.8	-13.4	-9.3	-6.5	-4.0	-1.4	0.8	3.4	3.8	5.5	6.3	7.0	7.9	8.6
0 to 80	-16.9	-16.9	-16.9	-16.9	-16.4	-13.0	-9.9	-6.3	-4.0	-1.7	0.7	3.5	3.9	5.2	6.2	6.8	7.7	8.4
10 to 90	-16.9	-16.7	-16.9	-16.8	-15.8	-12.3	-10.4	-6.7	-4.1	-1.6	0.6	3.2	3.8	5.1	6.1	7.0	7.8	8.4
20 to 100	-12.7	-7.0	-12.5	-9.6	-9.7	-9.5	-6.7	-6.4	-3.8	-1.2	0.3	3.0	3.9	5.2	6.1	7.0	7.2	8.2
30 to 110	-2.7	3.4	-2.6	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.2	9.2	9.2	9.2	12.3	12.3	12.3
40 to 120	7.2	13.5	7.2	10.3	10.2	10.2	13.2	13.2	13.2	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3
50 to 130	17.3	23.0	17.5	20.2	20.2	20.2	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3
60 to 140	27.2	33.3	27.4	30.3	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3

Range (dB)	800 HZ	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
-10 to 70	8.6	8.9	9.0	9.1	9.0	9.4	9.6	9.7	9.9	9.8	9.7	9.2	8.2	6.8	5.1
0 to 80	8.5	8.8	9.0	9.0	9.0	9.3	9.5	9.6	9.8	9.7	9.6	9.1	8.1	6.8	5.1
10 to 90	8.5	8.7	8.9	9.0	9.0	9.1	9.1	9.5	9.7	9.1	9.1	9.0	7.3	7.3	7.3
20 to 100	8.3	8.3	8.3	8.3	8.3	8.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
30 to 110	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
40 to 120	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
50 to 130	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
60 to 140	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Table A.27 - Slow Response and LEQ
When using 18 pF, 50 Ohm Termination

A Weighting, Slow Response, LEQ																		
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-16.7	-13.2	-9.6	-6.4	-3.6	-1.3	0.9	3.4	4.1	5.2	6.4	7.0	7.9	8.4
0 to 80	-16.9	-16.9	-16.9	-16.9	-16.5	-12.7	-9.4	-6.5	-3.7	-1.4	0.7	3.4	4.0	5.3	6.2	7.1	7.8	8.5
10 to 90	-16.9	-16.7	-16.9	-16.8	-15.7	-12.5	-9.8	-6.1	-3.7	-1.7	0.7	3.0	3.9	5.2	6.2	7.0	7.8	8.3
20 to 100	-12.7	-7.0	-12.6	-9.7	-9.7	-9.6	-6.7	-6.3	-3.4	-1.1	0.1	3.0	3.7	5.1	6.2	7.0	7.2	8.2
30 to 110	-2.7	3.2	-2.7	0.4	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.2	9.2	9.2	9.2	12.3	12.3	12.3
40 to 120	7.3	13.1	7.3	10.3	10.2	10.2	13.2	13.2	13.2	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3
50 to 130	17.2	23.4	17.3	20.2	20.2	20.2	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3
60 to 140	27.2	33.3	27.3	30.3	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3

Range (dB)	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
-10 to 70	8.7	8.9	9.1	9.1	9.2	9.3	9.5	9.7	9.9	9.8	9.7	9.2	8.2	6.8	5.1
0 to 80	8.5	8.8	9.1	9.1	9.1	9.3	9.5	9.6	9.8	9.7	9.6	9.2	8.1	6.8	5.1
10 to 90	8.3	8.7	8.9	9.0	8.9	9.2	9.1	9.5	9.7	9.1	9.1	9.0	7.3	7.3	7.3
20 to 100	8.3	8.3	8.3	8.3	8.3	8.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
30 to 110	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
40 to 120	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
50 to 130	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
60 to 140	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

C-Weighting

Table A.28- Fast Response and SPL
When using 18 pF, 50 Ohm Termination

C Weighting, Fast Response, SPL																		
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz
-10 to 70	14.5	14.8	17.1	18.3	17.8	18.4	19.1	17.9	17.7	16.8	16.2	15.9	14.1	13.2	12.7	11.3	10.6	9.6
0 to 80	13.0	16.4	16.3	15.7	18.7	18.8	18.9	19.4	17.4	15.5	16.3	15.4	14.4	13.8	12.5	11.9	11.0	9.8
10 to 90	14.2	15.0	18.0	17.9	19.3	19.0	18.8	17.0	17.4	17.0	15.8	14.9	14.8	13.1	12.6	11.6	10.7	10.3
20 to 100	13.6	16.0	17.9	19.2	19.2	19.4	18.5	19.2	17.8	16.8	16.3	15.3	14.3	14.0	12.5	11.9	10.6	10.5
30 to 110	12.8	17.2	19.5	17.7	18.4	18.7	19.7	18.5	17.2	17.2	16.2	15.3	14.6	13.7	11.8	11.7	10.8	9.7
40 to 120	16.2	16.8	18.5	20.8	20.0	18.5	19.4	18.2	17.1	17.0	16.7	15.0	14.5	13.2	12.9	13.2	13.3	13.2
50 to 130	16.4	24.2	20.6	21.0	21.2	20.0	20.7	20.4	18.5	18.4	17.6	17.3	20.2	20.2	20.2	23.2	23.2	23.2
60 to 140	21.6	34.4	25.4	30.4	25.4	25.2	24.8	25.3	24.3	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	33.2
90 to 170	61.0	59.5	58.7	61.7	61.7	61.7	64.7	64.7	64.7	67.7	67.7	67.7	70.7	70.7	70.7	73.8	73.8	73.8

Range (dB)	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
-10 to 70	8.9	8.6	8.5	8.1	7.6	7.7	7.6	7.6	7.9	7.6	7.6	7.2	6.1	4.7	3.1
0 to 80	9.2	8.4	8.2	8.0	7.6	7.5	7.4	7.7	7.8	7.6	7.6	7.1	6.1	4.7	3.1
10 to 90	9.3	8.7	8.1	8.0	7.4	7.5	7.6	7.6	7.7	7.6	7.5	7.1	6.0	4.3	3.0
20 to 100	8.8	8.3	8.0	7.7	7.2	7.3	7.3	7.2	7.3	8.2	8.2	5.5	8.3	8.3	8.3
30 to 110	8.7	8.9	8.7	9.2	9.2	9.2	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
40 to 120	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
50 to 130	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
60 to 140	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
90 to 170	76.8	76.8	76.8	79.8	79.8	79.8	80.6	79.6	78.7	77.6	77.0	76.3	75.5	75.2	74.8

Self Generated Noise

1/3 Octave Band

Table A.29- Fast Response and LEQ

When using 18 pF, 50 Ohm Termination

C Weighting, Fast Response, LEQ																		
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz
-10 to 70	14.2	17.3	18.0	19.9	18.7	19.4	19.6	18.0	17.6	17.1	16.0	15.8	14.5	13.8	12.8	11.9	10.8	10.1
0 to 80	15.3	16.7	17.6	19.3	18.9	19.1	19.0	18.1	18.0	17.2	16.1	15.8	14.6	13.8	12.9	11.8	10.9	10.3
10 to 90	14.4	15.2	17.8	19.0	19.5	19.4	18.8	18.5	17.7	16.7	16.2	15.3	14.6	13.6	12.6	11.6	10.9	10.4
20 to 100	13.4	17.4	18.9	18.4	19.7	19.7	19.2	18.7	17.7	17.4	16.1	15.4	14.4	13.7	12.8	11.4	10.8	10.0
30 to 110	14.7	16.7	17.9	19.6	19.4	19.2	19.2	18.7	18.0	17.7	16.2	15.4	14.7	13.8	12.4	11.6	10.7	9.8
40 to 120	13.4	18.8	18.8	20.0	19.0	19.5	20.0	18.4	18.0	17.5	16.3	15.3	14.5	13.8	12.6	13.2	13.2	13.2
50 to 130	17.3	24.2	21.2	23.4	21.0	21.2	19.9	20.4	18.3	18.1	18.0	17.5	20.2	20.2	20.2	23.2	23.2	23.2
60 to 140	23.9	33.7	26.7	29.6	27.9	25.2	24.7	25.1	24.5	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	33.2
90 to 170	63.1	60.6	58.3	59.4	57.8	55.6	55.9	57.1	55.8	58.7	58.7	58.7	61.7	61.7	61.7	64.7	64.7	64.7

Range (dB)	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
-10 to 70	9.2	8.7	8.3	7.9	7.6	7.6	7.7	7.7	7.9	7.7	7.7	7.1	6.1	4.8	3.1
0 to 80	9.2	8.5	8.2	7.9	7.5	7.6	7.6	7.6	7.7	7.6	7.6	7.0	6.0	4.7	3.1
10 to 90	9.3	8.7	8.2	7.8	7.5	7.5	7.5	7.6	7.8	7.5	7.5	6.9	6.0	4.3	3.0
20 to 100	9.1	8.6	8.2	7.7	7.3	7.3	7.2	7.2	7.3	8.2	8.2	5.5	8.3	8.3	8.3
30 to 110	9.2	9.0	8.5	9.2	9.2	9.2	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
40 to 120	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
50 to 130	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
60 to 140	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
90 to 170	67.7	67.7	67.7	70.7	70.7	70.7	73.8	73.8	73.8	76.8	76.8	76.8	79.8	79.8	79.8

Self Generated Noise

1/3 Octave Band

Table A.30- Slow Response and SPL

When using 18 pF, 50 Ohm Termination

C Weighting, Slow Response, SPL																		
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz
-10 to 70	13.9	17.6	18.6	19.2	18.5	19.0	18.9	18.3	18.0	17.3	16.3	15.5	14.6	13.6	12.7	11.7	11.0	10.1
0 to 80	14.3	17.5	17.7	19.4	19.6	19.6	18.8	18.4	18.0	17.0	16.3	15.6	14.8	13.7	12.7	11.7	10.8	10.1
10 to 90	14.5	16.8	17.8	18.8	19.3	19.5	19.2	18.2	17.9	17.1	16.1	15.3	14.3	13.8	12.7	11.9	10.9	10.1
20 to 100	14.3	17.0	17.5	19.0	19.6	19.4	19.1	18.5	18.1	17.3	16.3	15.4	14.4	13.8	12.8	11.6	10.7	10.0
30 to 110	14.4	17.0	18.3	18.6	19.4	19.8	19.7	19.2	18.0	17.0	16.3	15.0	14.3	13.4	12.3	12.3	12.3	12.3
40 to 120	15.2	18.5	18.6	19.6	19.9	19.8	19.4	19.0	18.4	16.6	16.3	16.2	19.2	19.2	19.2	22.3	22.3	22.3
50 to 130	17.8	23.9	19.9	22.3	21.0	20.9	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3
60 to 140	27.3	33.4	27.4	30.5	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3

Range (dB)	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
-10 to 70	9.2	8.6	8.2	7.9	7.6	7.5	7.6	7.7	7.8	7.7	7.6	7.1	6.1	4.7	3.1
0 to 80	9.3	8.8	8.3	7.8	7.6	7.5	7.5	7.7	7.7	7.5	7.5	7.0	5.8	4.3	3.9
10 to 90	9.1	8.5	8.2	7.8	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
20 to 100	8.3	8.3	8.3	8.3	8.3	8.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
30 to 110	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
40 to 120	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
50 to 130	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
60 to 140	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Table A.31- Slow Response and LEQ
When using 18 pF, 50 Ohm Termination

C Weighting, Slow Response, LEQ																		
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz
-10 to 70	13.4	16.9	18.6	19.0	19.0	19.5	19.3	18.2	18.3	17.1	16.6	15.7	14.6	13.7	12.6	11.9	11.0	10.2
0 to 80	14.4	17.2	17.8	19.4	19.1	19.5	18.9	18.5	17.7	17.1	16.5	15.6	14.8	13.7	12.8	11.6	10.9	10.0
10 to 90	14.6	16.8	17.8	19.2	19.3	19.2	18.9	18.4	17.9	17.2	16.3	15.3	14.3	13.7	12.7	11.9	10.9	10.1
20 to 100	14.6	16.6	18.0	18.6	19.5	19.2	19.2	18.5	17.8	16.9	16.2	15.3	14.5	13.5	12.6	11.5	10.7	9.8
30 to 110	15.3	17.1	18.2	18.9	19.7	19.5	19.0	18.7	17.7	17.0	16.1	15.4	14.2	13.3	12.3	12.3	12.3	12.3
40 to 120	15.6	18.4	18.2	19.7	19.3	19.7	19.0	18.9	18.3	16.5	16.3	16.2	19.2	19.2	19.2	22.3	22.3	22.3
50 to 130	18.0	24.0	20.2	22.3	21.1	20.7	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3
60 to 140	27.2	33.5	27.3	30.4	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3

Range (dB)	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
-10 to 70	9.2	8.7	8.3	7.9	7.6	7.6	7.7	7.7	7.8	7.6	7.7	7.1	6.0	4.7	3.1
0 to 80	9.3	8.7	8.2	7.8	7.6	7.6	7.6	7.6	7.8	7.5	7.5	7.0	5.8	4.3	3.8
10 to 90	9.0	8.6	8.1	7.6	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3
20 to 100	8.4	8.3	8.3	8.3	8.3	8.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
30 to 110	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
40 to 120	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
50 to 130	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
60 to 140	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Z-Weighting

Table A.32- Z Weighting, Fast Response, SPL
When using 18 pF, 50 Ohm Termination

Z Weighting, Fast Response, SPL																		
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz
-10 to 70	25.2	25.3	22.6	21.8	21.4	19.8	19.1	18.7	18.5	16.3	16.5	14.8	14.4	13.6	12.3	12.0	11.0	10.3
0 to 80	25.3	23.7	22.8	21.4	21.8	22.1	20.0	19.1	18.0	17.2	16.7	15.9	14.7	14.0	13.0	12.0	11.2	10.0
10 to 90	25.7	24.4	22.9	23.5	21.8	21.2	19.7	19.3	18.5	17.1	15.8	14.9	14.2	13.6	12.4	11.7	10.7	10.3
20 to 100	25.3	23.5	23.9	23.8	21.7	21.2	19.2	20.0	17.6	17.4	16.3	14.5	14.1	13.7	12.9	12.0	11.0	10.4
30 to 110	23.9	25.5	23.8	21.0	23.1	20.1	19.3	19.5	18.2	16.7	15.5	14.0	14.6	13.7	12.5	11.2	10.4	9.9
40 to 120	26.6	23.9	21.3	21.8	21.6	20.0	18.7	19.2	18.4	16.7	16.7	15.4	13.6	13.1	12.1	13.2	13.2	13.2
50 to 130	23.5	24.9	22.0	22.5	22.3	21.2	19.6	20.6	18.3	18.1	17.7	17.4	20.2	20.2	20.2	23.2	23.2	23.2
60 to 140	26.7	23.9	25.9	23.8	25.8	26.5	24.7	24.5	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	33.2
90 to 170	71.2	61.3	58.8	61.7	61.7	61.7	64.7	64.7	64.7	67.7	67.7	67.7	70.7	70.7	70.7	73.8	73.8	73.8

Range (dB)	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
-10 to 70	9.0	9.0	8.6	7.9	7.9	7.9	8.2	8.5	9.0	9.6	10.5	11.4	12.0	13.0	13.8
0 to 80	9.2	8.5	8.2	7.9	7.6	7.9	8.0	8.4	9.3	9.5	10.5	11.3	12.0	12.9	13.8
10 to 90	9.1	8.5	8.2	7.8	7.8	7.7	7.9	8.4	9.0	9.5	10.5	11.2	12.1	12.9	13.8
20 to 100	9.1	8.6	8.1	7.6	7.3	7.6	8.0	8.3	8.6	9.2	10.1	11.2	11.3	13.0	13.7
30 to 110	9.0	8.9	7.6	9.2	9.2	9.2	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
40 to 120	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
50 to 130	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
60 to 140	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
90 to 170	76.8	76.8	76.8	79.8	771.0	79.8	82.8	82.8	82.9	85.8	85.8	85.8	85.8	84.8	83.8

Self Generated Noise

1/3 Octave Band

Table A.33- Z Weighting, Fast Response and LEQ

When using 18 pF, 50 Ohm Termination

Z Weighting, Fast Response, LEQ																		
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz
-10 to 70	24.9	23.7	23.9	23.2	22.2	21.0	20.2	19.8	18.3	16.6	16.3	15.4	14.5	13.8	13.0	11.9	10.9	10.0
0 to 80	25.7	24.6	24.2	23.7	22.3	21.5	19.9	19.9	18.8	17.7	16.2	15.5	14.6	13.7	12.6	11.9	11.0	10.2
10 to 90	25.0	25.9	23.9	22.3	22.3	22.0	20.1	19.4	18.3	16.8	16.3	15.4	14.4	13.5	12.6	11.9	11.0	10.1
20 to 100	25.3	24.8	23.0	24.0	22.3	20.5	20.2	19.5	18.0	17.2	16.2	15.6	14.7	13.8	12.6	11.9	10.9	10.1
30 to 110	25.1	23.5	23.1	23.6	22.0	20.8	20.2	19.4	18.3	17.1	16.1	15.4	14.4	13.5	12.8	11.8	10.8	9.9
40 to 120	25.4	24.6	23.9	22.5	21.8	21.1	19.6	19.0	18.8	16.9	16.1	15.5	14.4	13.5	12.2	13.3	13.2	13.2
50 to 130	25.3	25.0	24.1	23.5	22.3	21.2	20.4	20.6	18.4	18.2	17.7	17.3	20.2	20.2	20.2	23.2	23.2	23.2
60 to 140	26.8	27.3	26.7	25.8	24.6	23.7	24.7	25.2	24.4	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	33.2
90 to 170	62.3	60.5	58.4	58.9	57.3	55.2	55.9	54.5	58.7	58.7	58.7	58.7	61.7	61.7	61.7	64.7	64.7	64.7

Range	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
-10 to 70	9.3	8.9	8.3	7.9	7.7	7.8	8.1	8.6	9.1	9.6	10.5	11.4	12.1	13.0	13.9
0 to 80	9.0	8.7	8.3	7.8	7.7	7.8	8.0	8.4	9.1	9.6	10.4	11.3	12.1	12.9	13.8
10 to 90	9.2	8.6	8.3	8.0	7.6	7.7	7.9	8.4	9.0	9.5	10.5	11.2	12.0	12.9	13.8
20 to 100	8.9	8.6	8.2	7.8	7.6	7.7	7.9	8.2	8.9	9.2	10.0	11.3	11.3	13.0	13.7
30 to 110	9.1	8.7	7.5	9.2	9.2	9.2	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
40 to 120	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
50 to 130	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
60 to 140	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
90 to 170	67.7	67.7	67.7	70.7	70.7	70.7	73.8	73.8	73.8	76.8	76.8	76.8	79.8	79.8	79.8

Table A.34- Z Weighting, Slow Response and SPL
When using 18 pF, 50 Ohm Termination

Z Weighting, Slow Response, SPL																			
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz
-10 to 70	25.4	24.2	24.0	23.6	21.7	21.8	20.0	19.4	18.7	17.4	16.5	15.8	14.6	13.6	12.9	11.6	10.9	10.1	9.3
0 to 80	26.5	25.5	24.6	23.1	22.6	21.2	20.2	19.2	18.1	17.5	16.3	15.5	14.8	13.8	12.6	11.7	11.0	10.2	9.1
10 to 90	26.1	24.7	24.2	22.9	22.6	21.8	20.0	19.4	18.3	17.6	16.8	15.6	14.5	13.7	12.6	11.6	10.9	10.2	9.1
20 to 100	25.4	25.1	24.0	22.9	22.0	21.3	20.8	18.8	18.5	17.1	16.2	15.2	14.5	13.8	12.6	11.4	10.8	10.0	8.4
30 to 110	26.1	25.1	23.6	24.1	22.3	21.1	20.4	19.5	18.5	16.9	16.1	15.1	14.3	13.4	12.3	12.3	12.3	12.3	15.3
40 to 120	25.3	25.0	24.7	22.7	22.5	21.2	19.7	19.0	18.3	16.6	16.3	16.3	19.2	19.2	19.2	22.3	22.3	22.3	25.3
50 to 130	26.0	24.6	24.3	23.8	22.3	21.1	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3
60 to 140	28.2	27.5	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3

Range (dB)	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
-10 to 70	9.3	8.8	8.3	8.0	7.8	7.9	8.2	8.5	9.1	9.6	10.5	11.4	12.1	12.9	13.9
0 to 80	9.1	8.6	8.4	7.9	7.7	7.8	8.0	8.4	9.0	9.5	10.4	11.3	12.0	12.9	13.8
10 to 90	9.1	8.6	8.1	7.8	7.6	7.8	7.5	8.3	9.0	9.0	10.3	11.3	12.1	12.1	13.3
20 to 100	8.4	8.3	8.3	8.3	8.3	8.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
30 to 110	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
40 to 120	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
50 to 130	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
60 to 140	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Table A.35- Z Weighting, Slow Response and LEQ
When using 18 pF, 50 Ohm Termination

Z Weighting, Slow Response, LEQ																		
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz
-10 to 70	25.8	24.5	24.1	23.1	21.8	21.3	20.8	19.2	18.5	17.6	16.4	15.6	14.4	13.9	12.6	11.8	11.0	10.2
0 to 80	25.8	24.9	24.4	23.4	21.8	20.8	20.2	19.3	18.3	17.4	16.3	15.6	14.6	13.7	12.6	11.7	11.0	10.2
10 to 90	25.5	24.5	24.0	23.1	21.8	21.5	20.4	19.1	18.0	17.0	16.4	15.5	14.4	13.7	12.6	11.7	10.8	10.1
20 to 100	25.7	25.3	23.9	23.0	22.0	21.5	20.2	19.2	18.4	17.2	16.3	15.1	14.6	13.6	12.7	11.6	10.7	9.9
30 to 110	26.1	24.8	24.1	23.5	22.4	21.2	20.1	19.5	18.3	17.4	16.0	15.2	14.3	13.6	12.3	12.3	12.3	12.3
40 to 120	25.1	24.8	24.2	22.8	22.2	21.2	19.8	19.3	17.9	16.6	16.3	16.2	19.2	19.2	19.2	22.3	22.3	22.3
50 to 130	25.5	24.4	23.8	23.5	21.2	21.1	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3
60 to 140	28.7	27.5	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3

Range	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
-10 to 70	9.1	8.7	8.4	8.0	7.8	7.9	8.1	8.5	9.1	9.6	10.5	11.4	12.1	13.0	13.9
0 to 80	9.1	8.7	8.2	7.9	7.7	7.8	8.0	8.4	9.0	9.5	10.5	11.3	12.0	12.9	13.8
10 to 90	9.0	8.6	8.2	7.7	7.6	7.7	7.6	8.3	9.0	9.1	10.3	11.3	12.1	12.1	13.3
20 to 100	8.4	8.3	8.3	8.3	8.3	8.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
30 to 110	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
40 to 120	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
50 to 130	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
60 to 140	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Linear Operating Range

Table A.40- Broad Band with A-Weighting

Testing was performed using an 18pf input adaptor under the following conditions: Reference level 114 dB @ 1 kHz, Reference Range 50 dB to 140 dB, Cal level 394.9 mV for testing level ranges – 20 dB to 70 dB through 50 dB to 140 dB. This represents a nominal sensitivity QE4936 microphone, 34.45 mV for testing level ranges 60 dB to 150 dB and 70 dB 160 dB this represents a nominal sensitivity QE4110 microphone, 10.29 mV for testing level range 80 dB to 170 dB this represents a nominal sensitivity

IEC 61627				
Range -20 dB to 70 dB				
Frequency	SPL A Weighting		LEQ A Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	64	74	64	74
1000	24	75	24	75
4000	22	74	22	74
8000	25	75	25	75
12500	28	75	28	75

ANSI S1.4		
Range -20 dB to 70 dB		
Frequency	LEQ A Weighting	
	Linear Operating Range (dB)	
31.5	65	74
1000	24	75
4000	24	74
8000	25	75

Range -10 dB to 80 dB				
Frequency	SPL A Weighting		LEQ A Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	64	85	64	85
1000	24	85	24	85
4000	22	84	22	84
8000	25	85	25	85
12500	28	85	28	85

Range -10 dB to 80 dB		
Frequency	LEQ A Weighting	
	Linear Operating Range (dB)	
31.5	64	85
1000	24	85
4000	22	84
8000	25	85

Range 0 dB to 90 dB				
Frequency	SPL A Weighting		LEQ A Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	64	95	64	95
1000	24	95	24	95
4000	22	94	22	94
8000	24	95	24	95
12500	28	95	28	95

Range 0 dB to 90 dB		
Frequency	LEQ A Weighting	
	Linear Operating Range (dB)	
31.5	64	95
1000	24	95
4000	22	94
8000	25	95

Table A.40 (Continued)

IEC 61627				
Range 10 dB to 100 dB				
Frequency	SPL A Weighting		LEQ A Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	63	105	63	105
1000	24	105	24	105
4000	22	104	22	104
8000	25	105	25	105
12500	28	105	28	105
Range 20 dB to 110 dB				
Frequency	SPL A Weighting		LEQ A Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	66	115	66	115
1000	25	115	25	115
4000	24	114	24	114
8000	27	115	27	115
12500	30	115	30	115
Range 30 dB to 120 dB				
Frequency	SPL A Weighting		LEQ A Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	73	125	73	125
1000	33	125	33	125
4000	32	124	32	124
8000	34	125	34	125
12500	37	125	37	125
IEC 61627				
Range 40 dB to 130 dB				
Frequency	SPL A Weighting		LEQ A Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	82	132	82	132
1000	43	132	43	132
4000	42	132	42	132
8000	44	132	44	132
12500	47	132	47	132

ANSI S1.4		
Range 10 dB to 100 dB		
Frequency	LEQ A Weighting	
	Linear Operating Range (dB)	
31.5	65	105
1000	25	105
4000	24	104
8000	27	105

Range 20 dB to 110 dB		
Frequency	LEQ A Weighting	
	Linear Operating Range (dB)	
31.5	66	115
1000	25	115
4000	24	114
8000	27	115

Range 30 dB to 120 dB		
Frequency	LEQ A Weighting	
	Linear Operating Range (dB)	
31.5	73	125
1000	33	125
4000	32	124
8000	34	125

ANSI S1.4		
Range 40 dB to 130 dB		
Frequency	LEQ A Weighting	
	Linear Operating Range (dB)	
31.5	82	132
1000	43	132
4000	42	132
8000	44	132

Table A.40 (Continued)

Range 50 dB to 140 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		Frequency	
	31.5	92	142	92
1000	53	142	53	142
4000	52	142	52	142
8000	54	142	54	142
12500	57	142	57	142

Range 60 dB to 150 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	31.5	103	153	103
1000	62	153	62	153
4000	61	153	61	153
8000	64	153	64	153
12500	67	153	66	153

Range 70 dB to 160 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	31.5	114	163	113
1000	72	163	72	163
4000	72	163	72	163
8000	74	163	73	163
12500	77	163	76	163

Range 80 dB to 170 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	31.5	122	174	122
1000	82	173	82	173
4000	81	174	81	174
8000	83	174	83	174
12500	86	174	86	174

Range 50 dB to 140 dB		
Frequency	LEQ A Weighting Linear Operating Range (dB)	
	31.5	92
1000	53	142
4000	52	142
8000	54	142

Range 60 dB to 150 dB		
Frequency	LEQ A Weighting Linear Operating Range (dB)	
	31.5	103
1000	62	153
4000	62	153
8000	64	153

Range 70 dB to 160 dB		
Frequency	LEQ A Weighting Linear Operating Range (dB)	
	31.5	114
1000	72	163
4000	72	163
8000	73	163

Range 80 dB to 170 dB		
Frequency	LEQ A Weighting Linear Operating Range (dB)	
	31.5	122
1000	82	173
4000	82	174
8000	83	174

Table A.40 (Continued)

IEC 651		
Range -20 dB to 70 dB		
Frequency	SPL A Weighting Linear Operating Range (dB)	
31.5	66	74
1000	25	75
4000	25	74
8000	26	75
Range -10 dB to 80 dB		
Frequency	SPL A Weighting Linear Operating Range (dB)	
31.5	65	85
1000	25	85
4000	23	84
8000	26	85
Range 0 dB to 90 dB		
Frequency	SPL A Weighting Linear Operating Range (dB)	
31.5	65	95
1000	25	95
4000	23	94
8000	26	95
Range 10 dB to 100 dB		
Frequency	SPL A Weighting Linear Operating Range (dB)	
31.5	66	105
1000	26	105
4000	25	104
8000	28	105
Range 20 dB to 110 dB		
Frequency	SPL A Weighting Linear Operating Range (dB)	
31.5	68	115
1000	26	115
4000	26	114
8000	28	115

IEC 804				
Range -20 dB to 70 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	4000	25	74	25

Range -10 dB to 80 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	4000	25	84	25

Range 0 dB to 90 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	4000	25	94	25

Range 10 dB to 100 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	4000	25	104	25

Range 20 dB to 110 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	4000	27	114	27

Table A.40(Continued)

IEC 651		
Range 30 dB to 120 dB		
Frequency	SPL A Weighting Linear Operating Range (dB)	
31.5	75	125
1000	34	125
4000	33	124
8000	35	125
Range 40 dB to 130 dB		
Frequency	SPL A Weighting Linear Operating Range (dB)	
31.5	83	132
1000	44	132
4000	43	132
8000	45	132
Range 50 dB to 140 dB		
Frequency	SPL A Weighting Linear Operating Range (dB)	
31.5	100	142
1000	54	142
4000	55	142
8000	55	142
Range 60 dB to 150 dB		
Frequency	SPL A Weighting Linear Operating Range (dB)	
31.5	105	153
1000	63	153
4000	63	153
8000	65	153
Range 70 dB to 160 dB		
Frequency	SPL A Weighting Linear Operating Range (dB)	
31.5	115	163
1000	74	163
4000	73	163
8000	75	163

IEC 804				
Range 30 dB to 120 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	4000	34	124	34

Range 40 dB to 130 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	4000	43	132	43

Range 50 dB to 140 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	4000	53	142	53

Range 60 dB to 150 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	4000	65	153	65

Range 70 dB to 160 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	4000	75	163	74

Table A.40(Continued)

IEC 651 Range 80 dB to 170 dB		
Frequency	SPL A Weighting Linear Operating Range (dB)	
31.5	124	174
1000	83	173
4000	83	174
8000	84	174

IEC 804 Range 80 dB to 170 dB				
Frequency	SPL A Weighting Linear Operating Range (dB)		LEQ A Weighting Linear Operating Range (dB)	
	4000	84	174	84

Table A.41- Broad Band C Weighting

Testing was performed using an 18pf input adapter under the following conditions: Reference level 114 dB @ 1 kHz, Reference Range 50 dB to 140 dB, Cal level 394.9 mV for testing level ranges – 20 dB to 70 dB through 50 dB to 140 dB. This represents a nominal sensitivity QE4936 microphone, 34.45 mV for testing level ranges 60 dB to 150 dB and 70 dB 160 dB this represents a nominal sensitivity QE-4110 microphone, 10.29 mV for testing level range 80 dB to 170 dB this represents a nominal sensitivity .

IEC 61672 Range -20 dB to 70 dB				
Frequency	SPL C Weighting Linear Operating Range (dB)		LEQ C Weighting Linear Operating Range (dB)	
	31.5	26	75	26
1000	22	75	22	75
4000	24	74	24	74
8000	25	75	25	75
12500	29	75	29	75

ANSI S1.4 Range -20 dB to 70 dB		
Frequency	LEQ C Weighting Linear Operating Range (dB)	
31.5	26	75
1000	23	75
4000	24	74
8000	26	75

Range -10 dB to 80 dB				
Frequency	SPL C Weighting Linear Operating Range (dB)		LEQ C Weighting Linear Operating Range (dB)	
	31.5	25	85	25
1000	22	85	22	85
4000	24	84	23	84
8000	25	85	25	85
12500	29	85	29	85

Range -10 dB to 80 dB		
Frequency	LEQ C Weighting Linear Operating Range (dB)	
31.5	25	85
1000	22	85
4000	24	84
8000	25	85

Range 0 dB to 90 dB				
Frequency	SPL C Weighting Linear Operating Range (dB)		LEQ C Weighting Linear Operating Range (dB)	
	31.5	25	95	25
1000	22	95	22	95
4000	23	94	23	94
8000	25	95	25	95
12500	28	95	28	95

Range 0 dB to 90 dB		
Frequency	LEQ C Weighting Linear Operating Range (dB)	
31.5	25	95
1000	22	95
4000	24	94
8000	25	95

Table A.41 (continued)

IEC 61672 Range 10 dB to 100 dB				
Frequency	SPL C Weighting Linear Operating Range (dB)		LEQ C Weighting Linear Operating Range (dB)	
	31.5	25	105	25
1000	22	105	22	105
4000	24	104	24	104
8000	25	105	25	105
12500	29	105	29	105

ANSI S1.4 Range 10 dB to 100 dB		
Frequency	LEQ C Weighting Linear Operating Range (dB)	
	31.5	28
1000	24	105
4000	24	104
8000	27	105

Range 20 dB to 110 dB				
Frequency	SPL C Weighting Linear Operating Range (dB)		LEQ C Weighting Linear Operating Range (dB)	
	31.5	29	115	28
1000	25	115	24	115
4000	25	114	25	114
8000	27	115	27	115
12500	30	115	30	115

Range 20 dB to 110 dB		
Frequency	LEQ C Weighting Linear Operating Range (dB)	
	31.5	28
1000	25	115
4000	25	114
8000	28	115

Range 30 dB to 120 dB				
Frequency	SPL C Weighting Linear Operating Range (dB)		LEQ C Weighting Linear Operating Range (dB)	
	31.5	36	125	36
1000	33	125	33	125
4000	34	124	34	124
8000	36	125	36	125
12500	39	125	38	125

Range 30 dB to 120 dB		
Frequency	LEQ C Weighting Linear Operating Range (dB)	
	31.5	36
1000	33	125
4000	34	124
8000	36	125

IEC 61672 Range 40 dB to 130 dB				
Frequency	SPL C Weighting Linear Operating Range (dB)		LEQ C Weighting Linear Operating Range (dB)	
	31.5	46	132	46
1000	43	132	43	132
4000	44	132	44	132
8000	46	132	46	132
12500	49	132	49	132

ANSI S1.4 Range 40 dB to 130 dB		
Frequency	LEQ C Weighting Linear Operating Range (dB)	
	31.5	46
1000	43	132
4000	44	132
8000	46	132

Table A.41 (Continued)

Range 50 dB to 140 dB				
Frequency	SPL C Weighting		LEQ C Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	56	142	56	142
1000	53	142	53	142
4000	54	142	54	142
8000	56	142	56	142
12500	59	142	59	142

Range 50 dB to 140 dB		
Frequency	LEQ C Weighting	
	Linear Operating Range (dB)	
31.5	56	142
1000	53	142
4000	54	142
8000	56	142

Range 60 dB to 150 dB				
Frequency	SPL C Weighting		LEQ C Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	68	153	67	153
1000	63	153	63	153
4000	64	153	64	153
8000	66	153	66	153
12500	69	153	69	153

Range 60 dB to 150 dB		
Frequency	LEQ C Weighting	
	Linear Operating Range (dB)	
31.5	67	153
1000	63	153
4000	64	153
8000	66	153

Range 70 dB to 160 dB				
Frequency	SPL C Weighting		LEQ C Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	77	163	77	163
1000	73	163	73	163
4000	73	163	73	163
8000	76	163	76	163
12500	79	163	79	163

Range 70 dB to 160 dB		
Frequency	LEQ C Weighting	
	Linear Operating Range (dB)	
31.5	78	163
1000	73	163
4000	73	163
8000	76	163

Range 80 dB to 170 dB				
Frequency	SPL C Weighting		LEQ C Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	86	170	86	170
1000	86	173	85	173
4000	84	173	84	173
8000	87	173	87	173

Range 80 dB to 170 dB		
Frequency	LEQ C Weighting	
	Linear Operating Range (dB)	
31.5	87	170
1000	86	173
4000	85	173
8000	88	173

Table A.41 (Continued)

IEC 651		
Range -20 dB to 70 dB		
Frequency	SPL C Weighting	
	Linear Operating Range (dB)	
31.5	27	75
1000	24	75
4000	25	74
8000	27	75
Range -10 dB to 80 dB		
Frequency	SPL C Weighting	
	Linear Operating Range (dB)	
31.5	26	85
1000	23	85
4000	25	84
8000	26	85
Range 0 dB to 90 dB		
Frequency	SPL C Weighting	
	Linear Operating Range (dB)	
31.5	26	95
1000	23	95
4000	25	94
8000	26	95
Range 10 dB to 100 dB		
Frequency	SPL C Weighting	
	Linear Operating Range (dB)	
31.5	29	105
1000	25	105
4000	25	104
8000	28	105

IEC 804				
Range -20 dB to 70 dB				
Frequency	SPL C Weighting		LEQ C Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
4000	26	74	26	74

Range -10 dB to 80 dB				
Frequency	SPL C Weighting		LEQ C Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
4000	25	84	25	84

Range 0 dB to 90 dB				
Frequency	SPL C Weighting		LEQ C Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
4000	25	94	25	94

Range 10 dB to 100 dB				
Frequency	SPL C Weighting		LEQ C Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
4000	25	104	25	104

Table A.41 (Continued)

IEC 651		
Range 20 dB to 110 dB		
Frequency	SPL C Weighting	
	Linear Operating Range (dB)	
31.5	30	115
1000	26	115
4000	26	114
8000	29	115
Range 30 dB to 120 dB		
Frequency	SPL C Weighting	
	Linear Operating Range (dB)	
31.5	37	125
1000	34	125
4000	35	124
8000	37	125
Range 40 dB to 130 dB		
Frequency	SPL C Weighting	
	Linear Operating Range (dB)	
31.5	47	132
1000	44	132
4000	45	132
8000	47	132
Range 50 dB to 140 dB		
Frequency	SPL C Weighting	
	Linear Operating Range (dB)	
31.5	61	142
1000	57	142
4000	55	142
8000	58	142
Range 60 dB to 150 dB		
Frequency	SPL C Weighting	
	Linear Operating Range (dB)	
31.5	69	153
1000	64	153
4000	65	153
8000	67	153

IEC 804				
Range 20 dB to 110 dB				
Frequency	SPL C Weighting	LEQ C Weighting		
	Linear Operating Range (dB)	Linear Operating Range (dB)		
4000	28	114	28	114

Range 30 dB to 120 dB				
Frequency	SPL C Weighting	LEQ C Weighting		
	Linear Operating Range (dB)	Linear Operating Range (dB)		
4000	35	124	35	124

Range 40 dB to 130 dB				
Frequency	SPL C Weighting	LEQ C Weighting		
	Linear Operating Range (dB)	Linear Operating Range (dB)		
4000	45	132	45	132

Range 50 dB to 140 dB				
Frequency	SPL C Weighting	LEQ C Weighting		
	Linear Operating Range (dB)	Linear Operating Range (dB)		
4000	55	142	55	142

Range 60 dB to 150 dB				
Frequency	SPL C Weighting	LEQ C Weighting		
	Linear Operating Range (dB)	Linear Operating Range (dB)		
4000	65	153	66	153

Table A.41 (Continued)

IEC 651		
Range 70 dB to 160 dB		
Frequency	SPL C Weighting	
	Linear Operating Range (dB)	
31.5	79	163
1000	75	163
4000	75	163
8000	77	163
Range 80 dB to 170 dB		
Frequency	SPL C Weighting	
	Linear Operating Range (dB)	
31.5	88	170
1000	87	173
4000	86	173
8000	89	173

IEC 804				
Range 70 dB to 160 dB				
Frequency	SPL C Weighting		LEQ C Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
4000	76	163	76	163

Range 80 dB to 170 dB				
Frequency	SPL C Weighting		LEQ C Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
4000	88	173	88	173

Table A.42- Broad Band with Z-Weighting

Testing was performed using an 18pf input adaptor under the following conditions: Reference level 114 dB @ 1 kHz, Reference Range 50 dB to 140 dB, Cal level 394.9 mV for testing level ranges – 20 dB to 70 dB through 50 dB to 140 dB. This represents a nominal sensitivity QE4936 microphone, 34.45 mV for testing level ranges 60 dB to 150 dB and 70 dB 160 dB this represents a nominal sensitivity QE4110 microphone, 10.29 mV for testing level range 80 dB to 170 dB this represents a nominal sensitivity.

IEC 61672				
Range -20 dB to 70 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	27	74	27	74
1000	27	74	27	74
4000	27	74	27	74
8000	28	75	28	75
12500	27	74	27	74

Range -10 dB to 80 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	27	85	27	85
1000	27	85	27	85
4000	27	84	27	84
8000	27	85	27	85
12500	27	85	27	85

Range 0 dB to 90 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	28	95	27	95
1000	27	95	27	95
4000	27	94	27	94
8000	27	95	27	95
12500	26	95	26	95

Range 10 dB to 100 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	27	105	27	105
1000	27	105	27	105
4000	27	104	27	104
8000	27	105	27	105
12500	26	105	26	105

ANSI S1.4		
Range -20 dB to 70 dB		
Frequency	LEQ Z Weighting	
	Linear Operating Range (dB)	
31.5	27	74
1000	28	74
4000	28	74
8000	28	75

Range -10 dB to 80 dB		
Frequency	LEQ Z Weighting	
	Linear Operating Range (dB)	
31.5	27	85
1000	27	85
4000	27	84
8000	28	85

Range 0 dB to 90 dB		
Frequency	LEQ Z Weighting	
	Linear Operating Range (dB)	
27	95	27
27	95	27
27	94	27
27	95	27

Range 10 dB to 100 dB		
Frequency	LEQ Z Weighting	
	Linear Operating Range (dB)	
28	105	28
28	105	28
28	104	28
28	105	28

Table 42 (Continued)

IEC 61672				
Range 20 dB to 110 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
31.5	28	115	28	115
1000	27	115	28	115
4000	28	114	28	114
8000	28	115	28	115
12500	28	115	28	115
Range 30 dB to 120 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
31.5	33	125	33	125
1000	33	125	33	125
4000	33	124	33	124
8000	33	125	33	125
12500	33	125	33	125
Range 40 dB to 130 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
31.5	43	132	43	132
1000	43	132	43	132
4000	43	132	43	132
8000	43	132	43	132
12500	43	132	43	132
Range 50 dB to 140 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
31.5	53	142	53	142
1000	53	142	53	142
4000	53	142	53	142
8000	53	142	53	142
12500	53	142	53	142
Range 60 dB to 150 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
31.5	63	153	63	153
1000	63	153	63	153
4000	63	153	63	153
8000	63	153	63	153
12500	63	153	63	153

ANSI S1.4		
Range 20 dB to 110 dB		
Frequency	LEQ Z Weighting Linear Operating Range (dB)	
28	115	28
28	115	28
28	114	28
28	115	28

Range 30 dB to 120 dB		
Frequency	LEQ Z Weighting Linear Operating Range (dB)	
31.5	33	125
1000	33	125
4000	33	124
8000	33	125

Range 40 dB to 130 dB		
Frequency	LEQ Z Weighting Linear Operating Range (dB)	
31.5	43	132
1000	43	132
4000	43	132
8000	43	132

Range 50 dB to 140 dB		
Frequency	LEQ Z Weighting Linear Operating Range (dB)	
31.5	53	142
1000	53	142
4000	53	142
8000	53	142

Range 60 dB to 150 dB		
Frequency	LEQ Z Weighting Linear Operating Range (dB)	
31.5	63	153
1000	63	153
4000	63	153
8000	63	153

Table A.42 (Continued)

IEC 61672				
Range 70 dB to 160 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	73	163	73	163
1000	73	163	73	163
4000	73	163	73	163
8000	73	163	73	163
12500	73	163	73	163

Range 80 dB to 170 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
31.5	85	173	84	173
1000	85	173	84	173
4000	85	173	85	173
8000	83	173	83	173
12500	84	173	83	173

IEC 651		
Range -20 dB to 70 dB		
Frequency	SPL Z Weighting	
	Linear Operating Range (dB)	
31.5	29	74
1000	28	74
4000	28	74
8000	28	75

Range -10 dB to 80 dB		
Frequency	SPL Z Weighting	
	Linear Operating Range (dB)	
31.5	28	85
1000	27	85
4000	27	84
8000	28	85

ANSI S1.4		
Range 70 dB to 160 dB		
Frequency	LEQ Z Weighting	
	Linear Operating Range (dB)	
31.5	73	163
1000	73	163
4000	73	163
8000	73	163

Range 80 dB to 170 dB		
Frequency	LEQ Z Weighting	
	Linear Operating Range (dB)	
31.5	85	173
1000	85	173
4000	85	173
8000	83	173

IEC 804				
Range -20 dB to 70 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
4000	30	74	30	74

Range -10 dB to 80 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
4000	29	84	29	84

Table A.42(Continued)

IEC 651		
Range 0 dB to 90 dB		
Frequency	SPL Z Weighting Linear Operating Range (dB)	
31.5	28	95
1000	27	95
4000	27	94
8000	28	95
Range 10 dB to 100 dB		
Frequency	SPL Z Weighting Linear Operating Range (dB)	
31.5	29	105
1000	28	105
4000	28	104
8000	28	105
Range 20 dB to 110 dB		
Frequency	SPL Z Weighting Linear Operating Range (dB)	
31.5	28	115
1000	28	115
4000	28	114
8000	29	115
Range 30 dB to 120 dB		
Frequency	SPL Z Weighting Linear Operating Range (dB)	
31.5	34	125
1000	34	125
4000	34	124
8000	34	125
Range 40 dB to 130 dB		
Frequency	SPL Z Weighting Linear Operating Range (dB)	
31.5	44	132
1000	44	132
4000	44	132
8000	44	132

IEC 804			
Range 0 dB to 90 dB			
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)
4000	30	94	30 94

Range 10 dB to 100 dB			
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)
4000	29	104	29 104

Range 20 dB to 110 dB			
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)
4000	31	114	31 114

Range 30 dB to 120 dB			
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)
4000	35	124	35 124

Range 40 dB to 130 dB			
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)
4000	44	132	44 132

Table A.42(Continued)

IEC 651		
Range 50 dB to 140 dB		
Frequency	SPL Z Weighting Linear Operating Range (dB)	
31.5	58	142
1000	55	142
4000	55	142
8000	54	142
Range 60 dB to 150 dB		
Frequency	SPL Z Weighting Linear Operating Range (dB)	
31.5	64	153
1000	64	153
4000	65	153
8000	64	153
Range 70 dB to 160 dB		
Frequency	SPL Z Weighting Linear Operating Range (dB)	
31.5	74	163
1000	74	163
4000	74	163
8000	74	163
Range 80 dB to 170 dB		
Frequency	SPL Z Weighting Linear Operating Range (dB)	
31.5	86	173
1000	86	173
4000	86	173
8000	85	173

IEC 804				
Range 50 dB to 140 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
	4000	54	142	54

Range 60 dB to 150 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
	4000	66	153	66

Range 70 dB to 160 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
	4000	76	163	76

Range 80 dB to 170 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
	4000	89	173	89

Table A.44- Octave Band

Testing was performed using an 18pf input adaptor under the following conditions: Reference level 114 dB @ 1 kHz, Reference Range 50 dB to 140 dB, Cal level 394.9 mV for testing level ranges – 20 dB to 70 dB through 50 dB to 140 dB. This represents a nominal sensitivity QE4936 microphone, 34.45 mV for testing level ranges 60 dB to 150 dB and 70 dB 160 dB this represents a nominal sensitivity QE4110 microphone, 10.29 mV for testing level range 80 dB to 170 dB this represents a nominal sensitivity.

Range -10 dB to 70 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
16 Hz	45	75	41	75
31.5 Hz	41	75	40	75
63 Hz	39	75	35	75
125 Hz	31	75	31	75
250 Hz	28	75	28	75
Range -10 dB to 70 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
500 Hz	27	75	25	75
1 kHz	24	75	22	75
2 kHz	22	74	21	74
4 kHz	24	74	22	74
8 kHz	25	75	25	75
16 kHz	28	75	28	75
Range 20 dB to 100 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
16 Hz	53	105	43	105
31.5 Hz	40	105	39	105
63 Hz	37	105	34	105
125 Hz	31	105	31	105
250 Hz	28	105	26	105
500 Hz	27	105	25	105
1 kHz	22	105	22	105
2 kHz	21	104	21	104
4 kHz	22	104	22	104
8 kHz	25	105	25	105
16 kHz	27	105	27	105

Range 0 dB to 80 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
16 Hz	49	85	39	85
31.5 Hz	40	85	37	85
63 Hz	35	85	34	85
125 Hz	33	85	31	85
250 Hz	28	85	28	85
Range 0 dB to 80 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
500 Hz	25	85	25	85
1 kHz	22	85	22	85
2 kHz	21	84	21	84
4 kHz	22	84	22	84
8 kHz	25	85	25	85
16 kHz	27	85	27	85
Range 30 dB to 110 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
16 Hz	34	115	34	115
31.5 Hz	33	115	33	115
63 Hz	33	115	33	115
125 Hz	33	115	33	115
250 Hz	33	115	33	115
500 Hz	33	115	33	115
1 kHz	33	115	33	115
2 kHz	33	114	33	114
4 kHz	33	114	33	114
8 kHz	33	115	33	115
16 kHz	33	115	33	115

Table A.44 (Continued)

Range 50 dB to 130 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
16 Hz	54	132	54	132
31.5 Hz	54	132	54	132
63 Hz	53	132	53	132
125 Hz	53	132	53	132
250 Hz	53	132	53	132
500 Hz	53	132	53	132
1 kHz	53	132	53	132
2 kHz	53	132	53	132
4 kHz	53	132	53	132
8 kHz	53	132	53	132
16 kHz	53	132	53	132

Range 80 dB to 160 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
16 Hz	84	163	84	163
31.5 Hz	84	163	84	163
63 Hz	84	163	84	163
125 Hz	84	163	84	163
250 Hz	84	163	84	163
500 Hz	84	163	84	163
1 kHz	84	163	84	163
2 kHz	84	163	84	163
4 kHz	83	163	83	163
8 kHz	84	163	84	163
16 kHz	84	163	84	163

Range 10 dB to 90 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
16 Hz	49	95	42	95
31.5 Hz	39	95	37	95
63 Hz	36	95	34	95
125 Hz	29	95	30	95
250 Hz	28	95	28	95
500 Hz	25	95	25	95
1 kHz	22	95	21	95
2 kHz	21	94	21	94
4 kHz	22	94	22	94
8 kHz	25	95	25	95
16 kHz	27	95	27	95

Range 60 dB to 140 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
16 Hz	64	142	64	142
31.5 Hz	64	142	64	142
63 Hz	64	142	64	142
125 Hz	63	142	63	142
250 Hz	63	142	63	142
500 Hz	63	142	63	142
1 kHz	63	142	63	142
2 kHz	63	142	63	142
4 kHz	63	142	63	142
8 kHz	63	142	63	142
16 kHz	63	142	63	142

Range 90 dB to 170 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
16 Hz	96	173	94	173
31.5 Hz	93	173	93	173
63 Hz	93	173	93	173
125 Hz	93	173	93	173
250 Hz	93	173	93	173
500 Hz	93	173	93	173
1 kHz	93	173	93	173
2 kHz	93	173	93	173
4 kHz	93	173	93	173
8 kHz	93	173	93	173
16 kHz	93	173	93	173

Range 40 dB to 120 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
16 Hz	3	125	3	125
31.5 Hz	3	125	3	125
63 Hz	3	125	3	125
125 Hz	3	125	3	125
250 Hz	3	125	3	125
500 Hz	3	125	3	125
1 kHz	3	125	3	125
2 kHz	3	124	3	124
4 kHz	3	124	3	124
8 kHz	3	125	3	125
16 kHz	3	125	3	125

Table A.44 (Continued)

Range 70 dB to 150 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
16 Hz	74	153	74	153
31.5 Hz	74	153	74	153
63 Hz	74	153	74	153
125 Hz	74	153	74	153
250 Hz	74	153	74	153
500 Hz	74	153	74	153
1 kHz	73	153	73	153
2 kHz	74	153	74	153
4 kHz	73	153	73	153
8 kHz	74	153	74	153
16 kHz	74	153	74	153

Table A.45- One-Third Octave Band

Testing was performed using an 18pf input adaptor under the following conditions: Reference level 114 dB @ 1 kHz, Reference Range 50 dB to 140 dB, Cal level 394.9 mV for testing level ranges – 20 dB to 70 dB through 50 dB to 140 dB. This represents a nominal sensitivity QE4936 microphone, 34.45 mV for testing level ranges 60 dB to 150 dB and 70 dB 160 dB this represents a nominal sensitivity QE4110 microphone, 10.29 mV for testing level range 80 dB to 170 dB this represents a nominal sensitivity.

Range -10 dB to 70 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
	12.5 Hz	45	75	39
16 Hz	45	75	45	75
20 Hz	49	75	36	75
25 Hz	42	75	37	75
31.5 Hz	36	75	34	75
40 Hz	36	75	30	75
50 Hz	32	75	36	75
63 Hz	37	75	28	75
80 Hz	36	75	31	75
100 Hz	30	75	27	75
125 Hz	29	75	25	75
160 Hz	28	75	25	75
200 Hz	28	75	25	75
250 Hz	23	75	22	75
315 Hz	22	75	24	75
400 Hz	21	75	21	75
500 Hz	21	75	19	75
630 Hz	19	75	19	75
800 Hz	19	75	19	75
1 kHz	20	75	20	75
1.25 kHz	20	74	19	74
1.6 kHz	21	74	20	74
2 kHz	24	74	22	74
2.5 kHz	25	74	24	74
3.15 kHz	25	74	25	74
4 kHz	25	74	24	74
5 kHz	22	74	22	74
6.3 kHz	22	75	22	75
8 kHz	21	75	21	75
10 kHz	22	75	22	75
12.5 kHz	21	75	22	75
16 kHz	22	75	22	75
20 kHz	23	75	24	75

Range 0 dB to 80 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
	12.5 Hz	44	85	44
16 Hz	48	85	43	85
20 Hz	49	85	36	85
25 Hz	39	85	36	85
31.5 Hz	41	85	34	85
40 Hz	40	85	32	85
50 Hz	35	85	30	85
63 Hz	33	85	31	85
80 Hz	32	85	30	85
100 Hz	28	85	28	85
125 Hz	27	85	27	85
160 Hz	27	85	25	85
200 Hz	26	85	25	85
250 Hz	25	85	21	85
315 Hz	23	85	21	85
400 Hz	21	85	19	85
500 Hz	19	85	19	85
630 Hz	19	85	19	85
800 Hz	19	85	20	85
1 kHz	19	85	19	85
1.25 kHz	19	84	19	84
1.6 kHz	19	84	19	84
2 kHz	19	84	19	84
2.5 kHz	19	84	19	84
3.15 kHz	19	84	19	84
4 kHz	20	84	19	84
5 kHz	20	84	19	84
6.3 kHz	19	85	19	85
8 kHz	19	85	19	85
10 kHz	21	85	19	85
12.5 kHz	21	85	21	85
16 kHz	22	85	22	85
20 kHz	22	85	24	85

Table A.45 (Continued)

Range 10 dB to 90 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
	12.5 Hz	51	95	48
16 Hz	48	95	43	95
20 Hz	46	95	38	95
25 Hz	47	95	37	95
31.5 Hz	35	95	35	95
40 Hz	35	95	31	95
50 Hz	38	95	33	95
63 Hz	35	95	31	95
80 Hz	29	95	28	95
100 Hz	32	95	26	95
125 Hz	32	95	25	95
160 Hz	31	95	27	95
200 Hz	25	95	24	95
250 Hz	25	95	24	95
315 Hz	22	95	22	95
400 Hz	20	95	19	95
500 Hz	22	95	19	95
630 Hz	19	95	19	95
800 Hz	19	95	19	95
1 kHz	19	95	19	95
1.25 kHz	17	94	16	94
1.6 kHz	16	94	16	94
2 kHz	16	94	16	94
2.5 kHz	16	94	16	94
3.15 kHz	17	94	16	94
4 kHz	17	94	16	94
5 kHz	19	94	19	94
6.3 kHz	19	95	19	95
8 kHz	19	95	19	95
10 kHz	19	95	19	95
12.5 kHz	21	95	20	95
16 kHz	22	95	22	95
20 kHz	22	95	22	95

Range 20 dB to 100 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
	12.5 Hz	20	105	20
16 Hz	20	105	20	105
20 Hz	20	105	20	105
25 Hz	23	105	20	105
31.5 Hz	21	105	20	105
40 Hz	26	105	21	105
50 Hz	21	105	20	105
63 Hz	20	105	20	105
80 Hz	20	105	20	105
100 Hz	21	105	21	105
125 Hz	21	105	20	105
160 Hz	20	105	20	105
200 Hz	20	105	20	105
250 Hz	21	105	21	105
315 Hz	20	105	20	105
400 Hz	20	105	20	105
500 Hz	20	105	20	105
630 Hz	20	105	20	105
800 Hz	20	105	20	105
1 kHz	20	105	20	105
1.25 kHz	20	104	20	104
1.6 kHz	20	104	20	104
2 kHz	20	104	20	104
2.5 kHz	20	104	20	104
3.15 kHz	20	104	20	104
4 kHz	19	104	19	104
5 kHz	18	104	18	104
6.3 kHz	18	105	18	105
8 kHz	18	105	18	105
10 kHz	19	105	19	105
12.5 kHz	19	105	19	105
16 kHz	24	105	24	105
20 kHz	24	105	22	105

Table A.45 (Continued)

Range 30 dB to 110 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
12.5 Hz	34	115	34	115
16 Hz	34	115	34	115
20 Hz	33	115	33	115
25 Hz	33	115	33	115
31.5 Hz	33	115	33	115
40 Hz	33	115	33	115
50 Hz	33	115	33	115
63 Hz	33	115	33	115
80 Hz	33	115	33	115
100 Hz	33	115	33	115
125 Hz	33	115	33	115
160 Hz	33	115	33	115
200 Hz	33	115	33	115
250 Hz	33	115	33	115
315 Hz	33	115	33	115
400 Hz	33	115	33	115
500 Hz	33	115	33	115
630 Hz	33	115	33	115
800 Hz	33	115	33	115
1 kHz	33	115	33	115
1.25 kHz	33	114	33	114
1.6 kHz	33	114	33	114
2 kHz	33	114	33	114
2.5 kHz	33	114	33	114
3.15 kHz	33	114	33	114
4 kHz	33	114	33	114
5 kHz	33	114	33	114
6.3 kHz	33	115	33	115
8 kHz	33	115	33	115
10 kHz	33	115	33	115
12.5 kHz	33	115	33	115
16 kHz	33	115	33	115
20 kHz	33	115	33	115

Range 40 dB to 120 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
12.5 Hz	44	125	44	125
16 Hz	44	125	44	125
20 Hz	44	125	44	125
25 Hz	44	125	44	125
31.5 Hz	44	125	44	125
40 Hz	44	125	44	125
50 Hz	44	125	44	125
63 Hz	44	125	44	125
80 Hz	43	125	43	125
100 Hz	43	125	43	125
125 Hz	43	125	43	125
160 Hz	43	125	43	125
200 Hz	43	125	43	125
250 Hz	43	125	43	125
315 Hz	43	125	43	125
400 Hz	43	125	43	125
500 Hz	43	125	43	125
630 Hz	43	125	43	125
800 Hz	43	125	43	125
1 kHz	43	125	43	125
1.25 kHz	43	124	43	124
1.6 kHz	43	124	43	124
2 kHz	43	124	43	124
2.5 kHz	43	124	43	124
3.15 kHz	44	124	44	124
4 kHz	43	124	43	124
5 kHz	43	124	43	124
6.3 kHz	43	125	43	125
8 kHz	44	125	44	125
10 kHz	43	125	43	125
12.5 kHz	44	125	44	125
16 kHz	44	125	44	125
20 kHz	44	125	44	125

Table A.45 (Continued)

Range 50 dB to 130 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
12.5 Hz	54	132	54	132
16 Hz	54	132	54	132
20 Hz	54	132	54	132
25 Hz	54	132	54	132
31.5 Hz	54	132	54	132
40 Hz	54	132	54	132
50 Hz	54	132	54	132
63 Hz	54	132	54	132
80 Hz	53	132	53	132
100 Hz	53	132	53	132
125 Hz	53	132	53	132
160 Hz	53	132	53	132
200 Hz	53	132	53	132
250 Hz	53	132	53	132
315 Hz	53	132	53	132
400 Hz	53	132	53	132
500 Hz	53	132	53	132
630 Hz	53	132	53	132
800 Hz	53	132	53	132
1 kHz	53	132	53	132
1.25 kHz	53	132	53	132
1.6 kHz	53	132	53	132
2 kHz	53	132	53	132
2.5 kHz	53	132	53	132
3.15 kHz	54	132	54	132
4 kHz	53	132	53	132
5 kHz	53	132	53	132
6.3 kHz	53	132	53	132
8 kHz	54	132	54	132
10 kHz	53	132	53	132
12.5 kHz	54	132	54	132
16 kHz	54	132	54	132
20 kHz	54	132	54	132

Range 60 dB to 140 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
12.5 Hz	64	142	64	142
16 Hz	64	142	64	142
20 Hz	64	142	64	142
25 Hz	64	142	64	142
31.5 Hz	64	142	64	142
40 Hz	64	142	64	142
50 Hz	64	142	64	142
63 Hz	64	142	64	142
80 Hz	63	142	63	142
100 Hz	63	142	63	142
125 Hz	63	142	63	142
160 Hz	63	142	63	142
200 Hz	63	142	63	142
250 Hz	63	142	63	142
315 Hz	63	142	63	142
400 Hz	63	142	63	142
500 Hz	63	142	63	142
630 Hz	63	142	63	142
800 Hz	63	142	63	142
1 kHz	63	142	63	142
1.25 kHz	63	142	63	142
1.6 kHz	63	142	63	142
2 kHz	63	142	63	142
2.5 kHz	63	142	63	142
3.15 kHz	63	142	63	142
4 kHz	63	142	63	142
5 kHz	63	142	63	142
6.3 kHz	63	142	63	142
8 kHz	64	142	64	142
10 kHz	63	142	63	142
12.5 kHz	64	142	64	142
16 kHz	64	142	64	142
20 kHz	64	142	64	142

Table A.45 (Continued)

Range 70 dB to 150 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
	12.5 Hz	74	153	74
16 Hz	74	153	74	153
20 Hz	74	153	74	153
25 Hz	74	153	74	153
31.5 Hz	74	153	74	153
40 Hz	74	153	74	153
50 Hz	74	153	74	153
63 Hz	74	153	74	153
80 Hz	73	153	73	153
100 Hz	73	153	73	153
125 Hz	73	153	73	153
160 Hz	73	153	73	153
200 Hz	73	153	73	153
250 Hz	73	153	73	153
315 Hz	73	153	73	153
400 Hz	73	153	73	153
500 Hz	73	153	73	153
630 Hz	73	153	73	153
800 Hz	73	153	73	153
1 kHz	73	153	73	153
1.25 kHz	73	153	73	153
1.6 kHz	73	153	73	153
2 kHz	73	153	73	153
2.5 kHz	73	153	73	153
3.15 kHz	73	153	73	153
4 kHz	73	153	73	153
5 kHz	73	153	73	153
6.3 kHz	73	153	73	153
8 kHz	74	153	74	153
10 kHz	73	153	73	153
12.5 kHz	74	153	74	153
16 kHz	74	153	20	153
20 kHz	74	153	74	153

Range 80 dB to 160 dB				
Frequency	SPL Z Weighting Linear Operating Range (dB)		LEQ Z Weighting Linear Operating Range (dB)	
	12.5 Hz	84	163	84
16 Hz	84	163	84	163
20 Hz	84	163	84	163
25 Hz	84	163	84	163
31.5 Hz	84	163	84	163
40 Hz	84	163	84	163
50 Hz	84	163	84	163
63 Hz	84	163	84	163
80 Hz	83	163	83	163
100 Hz	83	163	83	163
125 Hz	84	163	84	163
160 Hz	83	163	83	163
200 Hz	83	163	83	163
250 Hz	83	163	83	163
315 Hz	83	163	83	163
400 Hz	83	163	83	163
500 Hz	83	163	83	163
630 Hz	83	163	83	163
800 Hz	83	163	83	163
1 kHz	83	163	83	163
1.25 kHz	83	163	83	163
1.6 kHz	83	163	83	163
2 kHz	83	163	83	163
2.5 kHz	83	163	83	163
3.15 kHz	83	163	83	163
4 kHz	83	163	83	163
5 kHz	83	163	83	163
6.3 kHz	83	163	83	163
8 kHz	84	163	84	163
10 kHz	83	163	83	163
12.5 kHz	84	163	84	163
16 kHz	84	163	84	163
20 kHz	84	163	84	163

Table A.45 (Continued)

Range 90 dB to 170 dB				
Frequency	SPL Z Weighting		LEQ Z Weighting	
	Linear Operating Range (dB)		Linear Operating Range (dB)	
12.5 Hz	94	174	94	174
16 Hz	94	174	94	174
20 Hz	94	174	94	174
25 Hz	94	174	94	174
31.5 Hz	94	174	94	174
40 Hz	94	174	94	174
50 Hz	94	174	94	174
63 Hz	94	174	94	174
80 Hz	94	173	94	173
100 Hz	94	173	94	173
125 Hz	94	174	94	174
160 Hz	94	174	94	174
200 Hz	94	174	94	174
250 Hz	94	174	94	174
315 Hz	94	174	94	174
400 Hz	94	174	94	174
500 Hz	94	174	94	174
630 Hz	94	174	94	174
800 Hz	94	173	94	173
1 kHz	94	173	94	173
1.25 kHz	94	174	94	174
1.6 kHz	94	174	94	174
2 kHz	94	174	94	174
2.5 kHz	94	174	94	174
3.15 kHz	94	174	94	174
4 kHz	94	174	94	174
5 kHz	94	174	94	174
6.3 kHz	94	174	94	174
8 kHz	94	174	94	174
10 kHz	94	174	94	174
12.5 kHz	101	174	101	174
16 kHz	94	174	94	174
20 kHz	100	174	100	174

Peak C

Table A.46- Peak C Level Range

Instrument Level Range in dB	Nominal Peak C Level Range in dB	Instrument Level Range in dB	Nominal Peak C Level Range in dB
-20 to 70	42 to 74	30 to 120	61 to 124
-10 to 80	52 to 84	40 to 130	60 to 131
0 to 90	55 to 94	50 to 140	65 to 141
10 to 100	59 to 104	60 to 150	72 to 152
20 to 110	61 to 114	70 to 160	80 to 162

Microphones

The Microphone section includes the QE7052 microphone with accessories and the BK4936 microphone with accessories. To select one of the microphone options below, click on the appropriate bulleted title, and it will automatically link you to designated section.

- QE7052 microphone (Figures/Tables “B”)
- QE7052 microphone with windscreen (Figures/Tables “C”)
- QE7052 microphone using remote preamp (Figures/Tables “D”)
- QE7052 microphone using windscreen and remote preamp (Figures/Tables “E”)
- BK4936 microphone (Figures/Tables “F”)
- BK4936 microphone with windscreen (Figures/Tables “G”)
- BK4936 microphone using remote preamp (Figures/Tables “H”)
- BK4936 microphone using windscreen and remote preamp (Figures/Tables “I”)
- [BK4936 microphone using the random incidence corrector \(Figures/Tables “J”\)](#)
- [BK4936 microphone using random incidence corrector and windscreen \(Figures/Tables “K”\)](#)
- [BK4936 microphone and random incidence corrector using a remote preamp \(Figures/Tables “L”\)](#)
- [BK4936 microphone using random incidence corrector, windscreen, and remote preamp \(Figures/Tables “M”\)](#)

QE7052 microphone (Figures/Tables "B")

Tolerance: IEC 61672 class 2

Directional frequency response using side toward speaker

Figure B.1 - 0-30 degree incidence angles

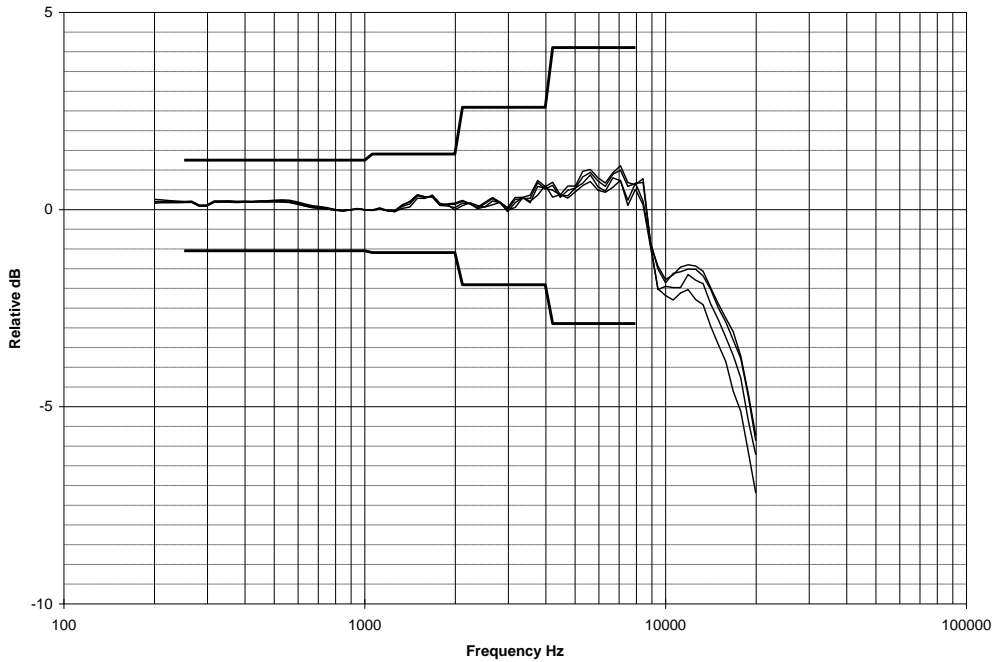


Figure B.2 - 0-90 degree incidence angles

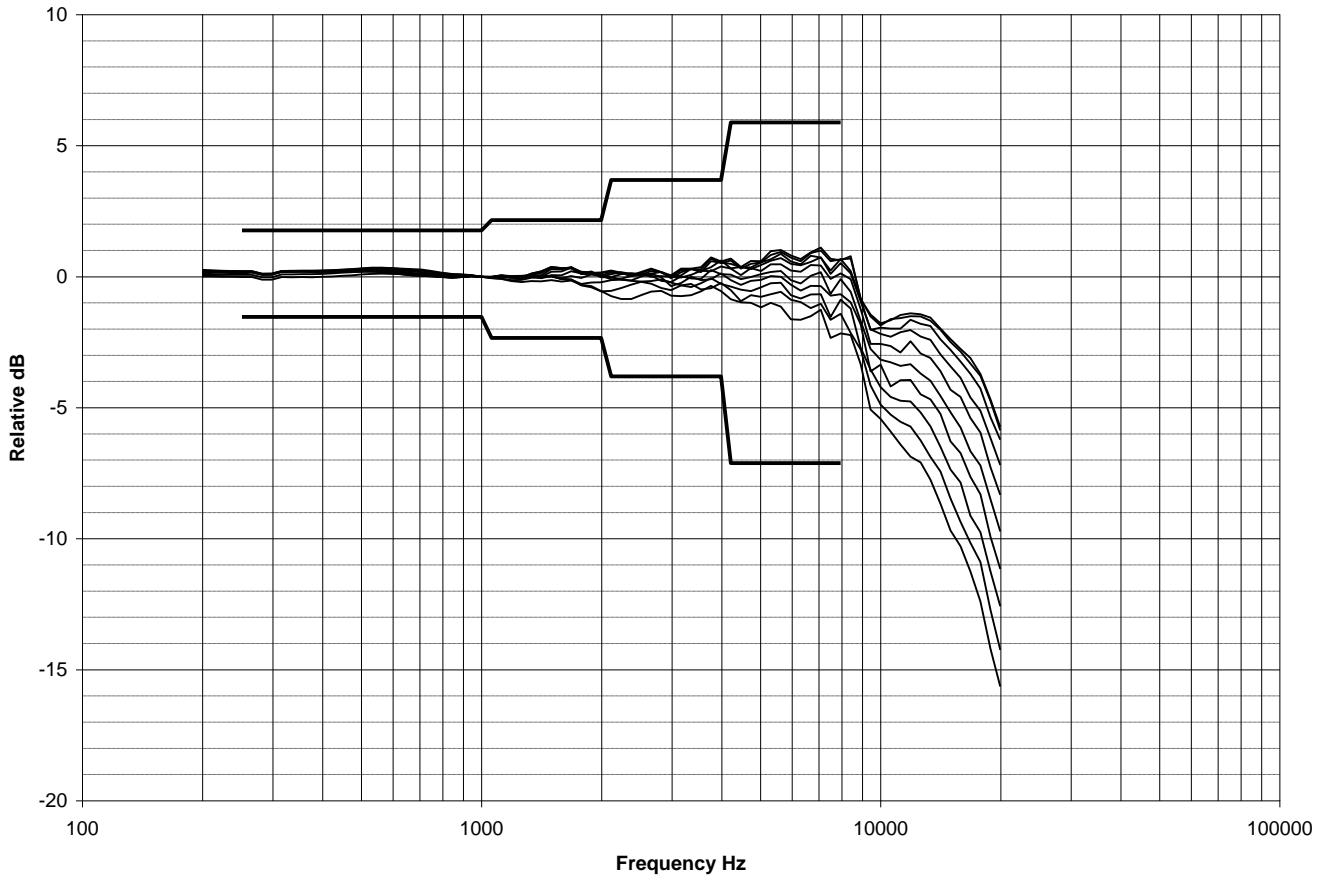
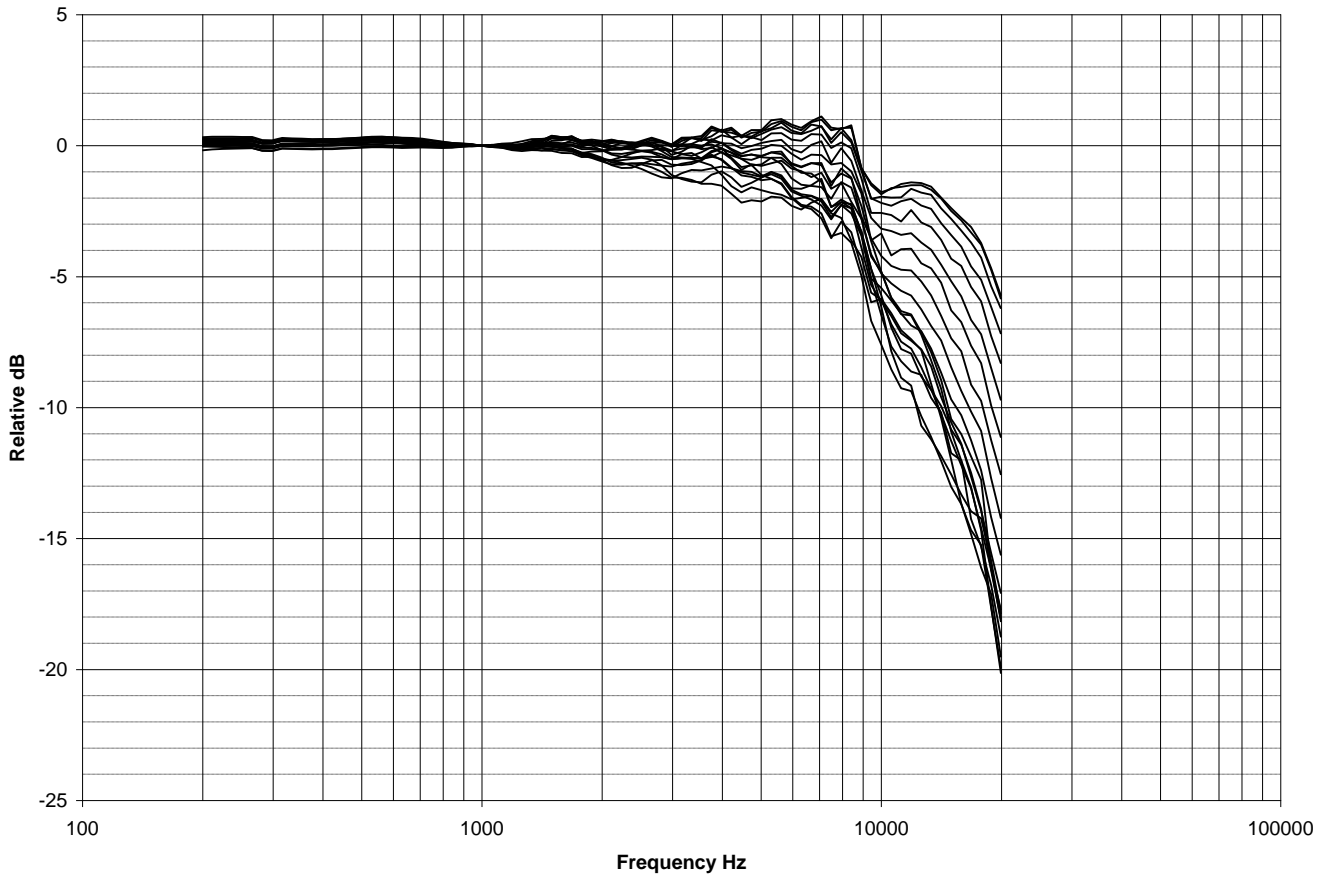


Figure B.3 - 0-150 degree incidence angles



Figure B.4 - 0-180 degree incidence angles



Directional frequency response with mounted face toward speaker

Figure B.5 -0-30-degree incidence angles

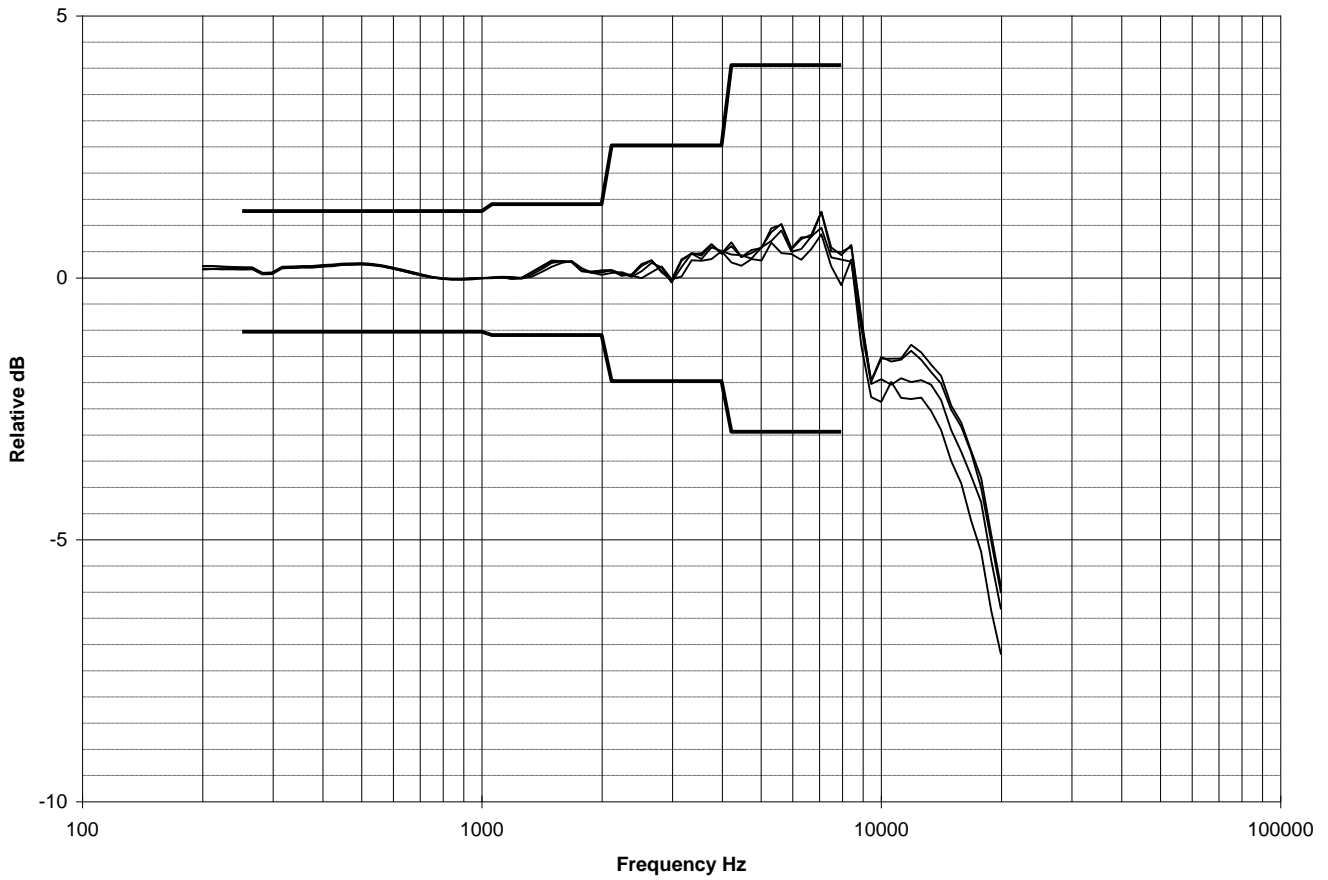


Figure B.6 - 0-90-degree incidence angles

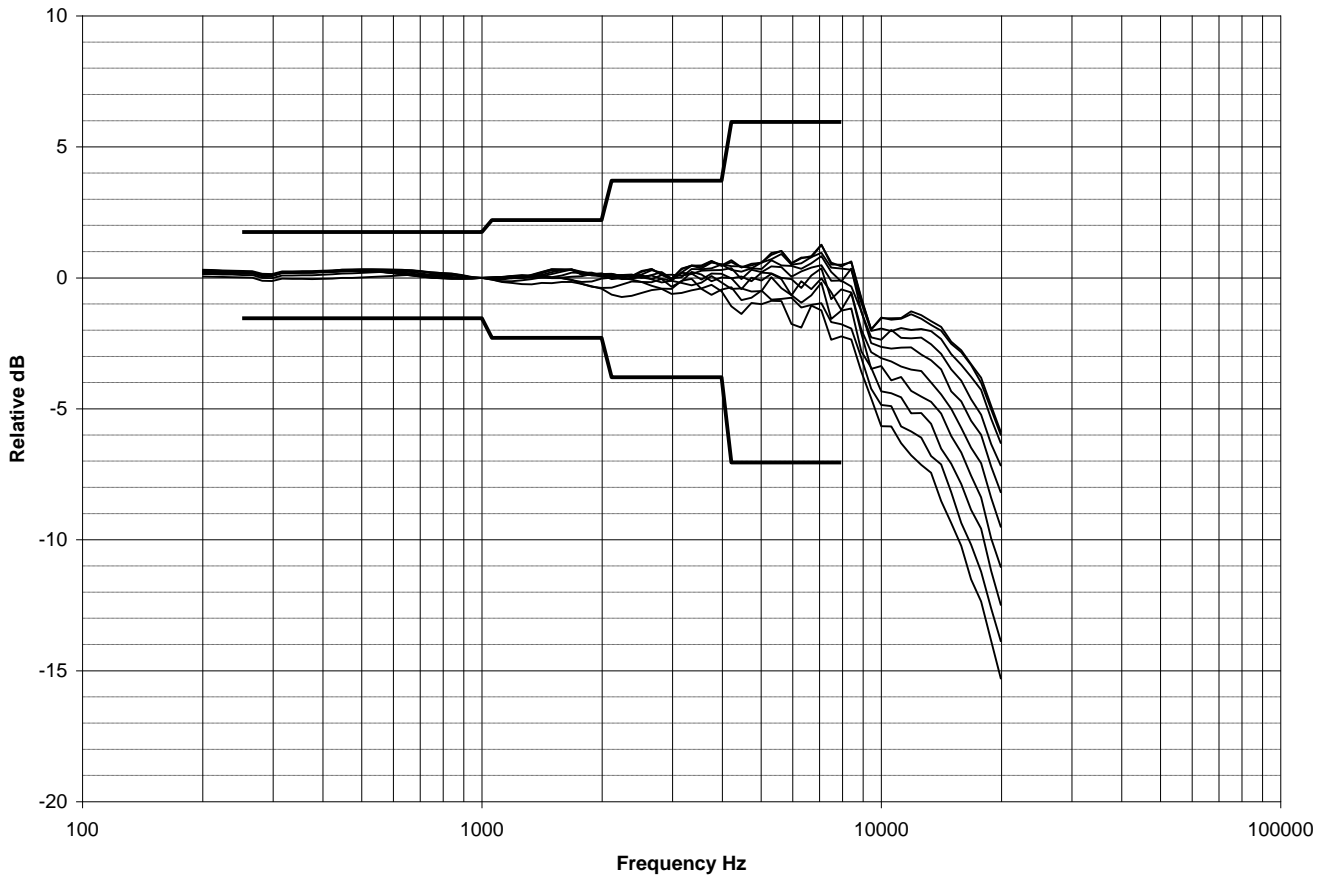


Figure B.7 - 0-150-degree incidence angles

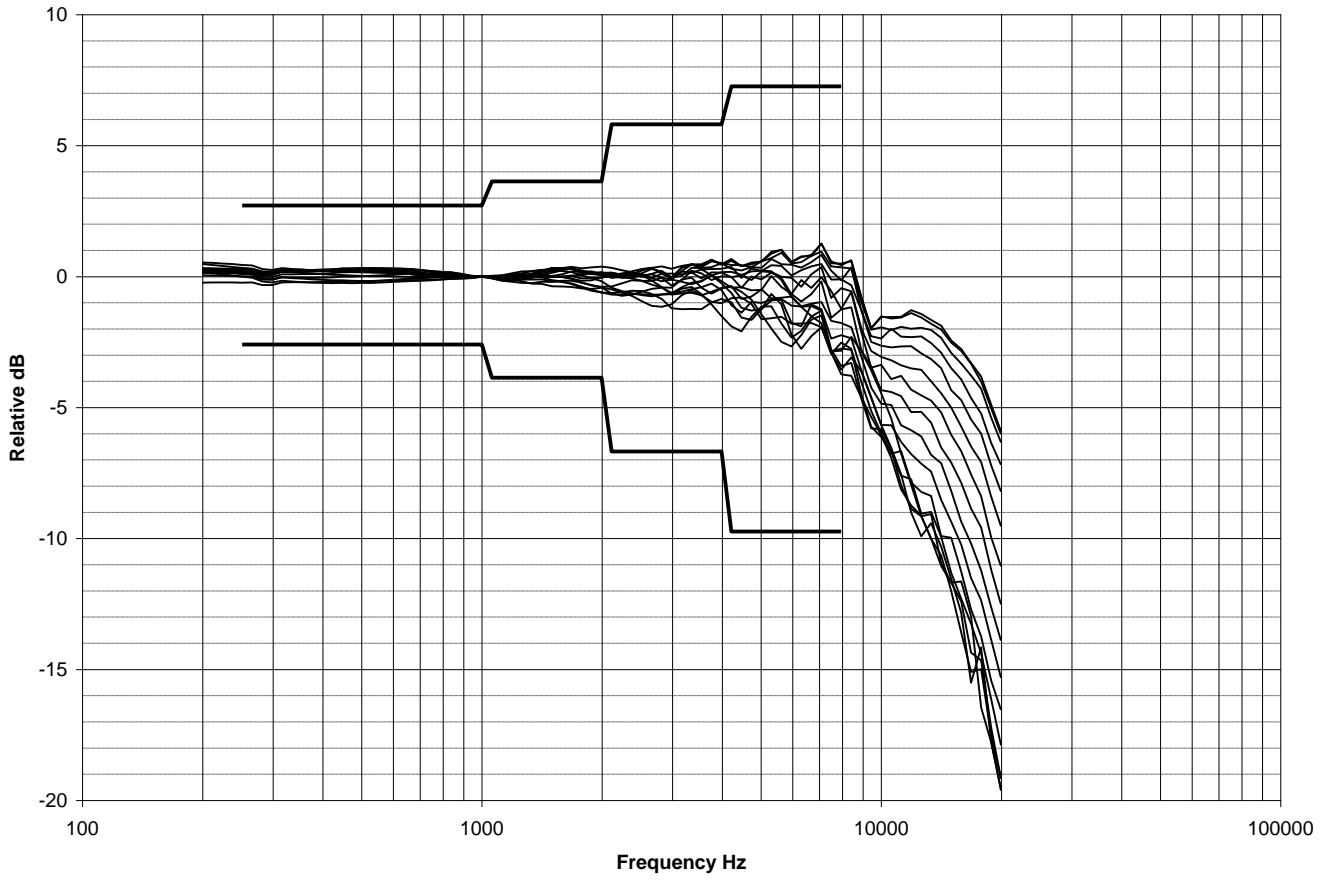
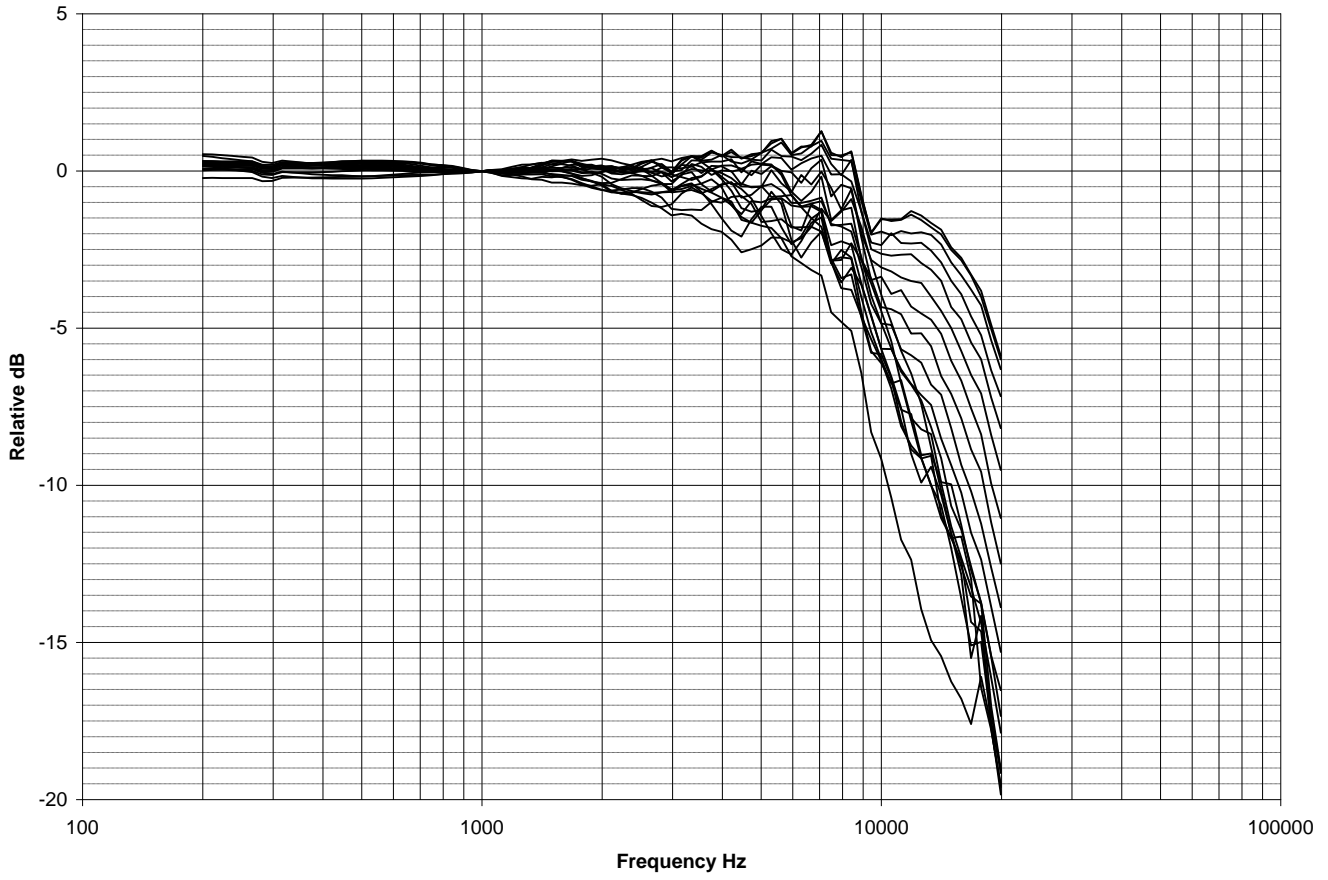
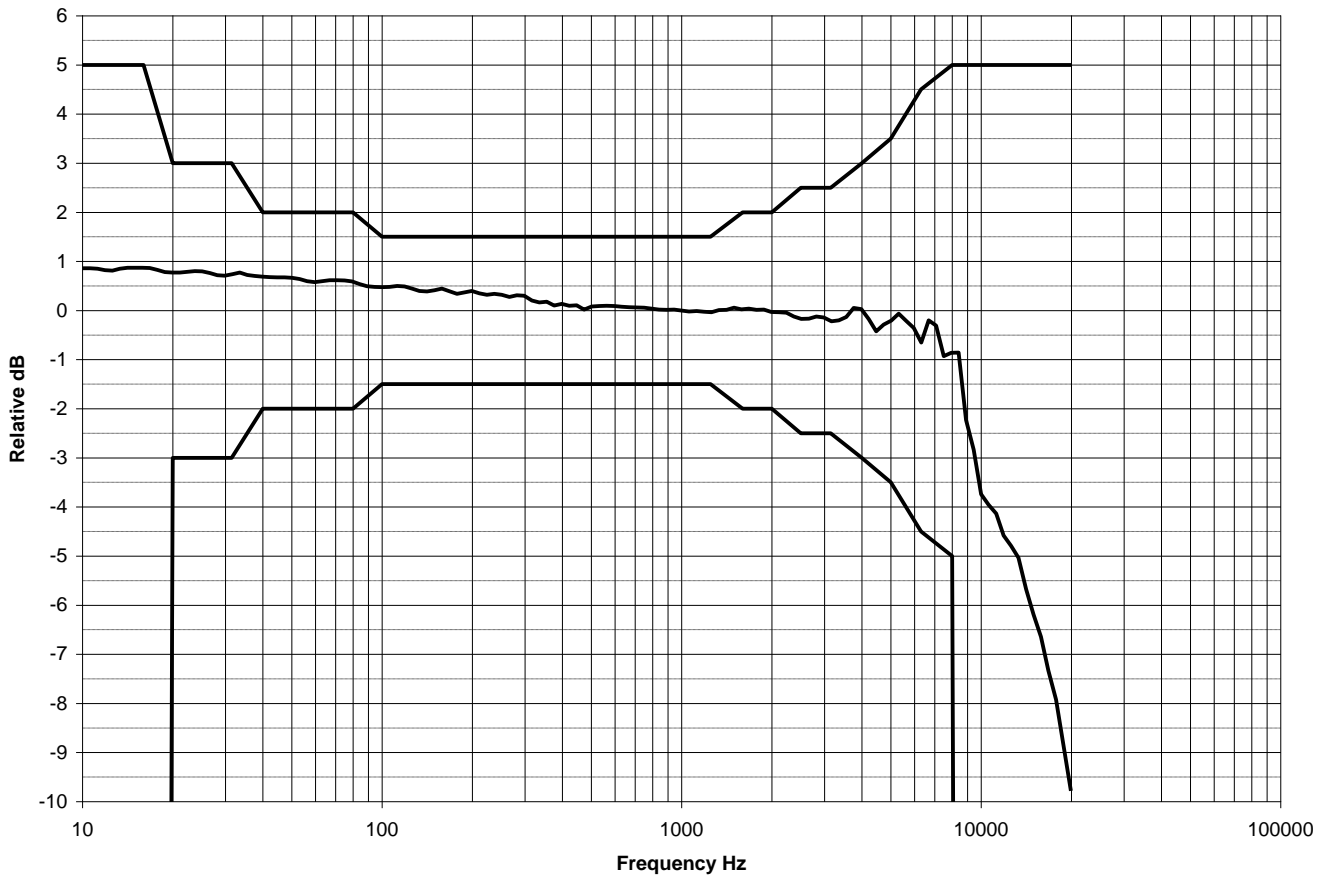


Figure B.8 - 0-180-degree incidence angles



Random Incidence

Figure B.9 - Frequency Response



Corrections

Table B.10 Reflection, Diffraction, and Microphone Frequency Response

1/12 OCTAVE FREQUENCY in Hz	Local Microphone Acoustic Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Local Microphone Acoustic Corrections in dB
199.53	0.0	3349.65	-0.2
211.35	0.0	3548.13	-0.4
223.87	0.0	3758.37	-0.8
237.14	0.0	3981.07	-0.6
251.19	0.0	4216.97	-0.7
266.07	0.0	4466.84	-0.4
281.84	0.0	4731.51	-0.6
298.54	0.0	5011.87	-0.7
316.23	0.0	5308.84	-1.1
334.97	0.0	5623.41	-1.1
354.81	0.0	5956.62	-1.0
375.84	0.0	6309.57	-0.9
398.11	0.0	6683.44	-1.3
421.70	0.0	7079.46	-1.4
446.68	0.0	7498.94	-1.1
473.15	0.0	7943.28	-1.1
501.19	0.0	8413.95	-1.3
530.88	0.0	8912.51	0.2
562.34	0.0	9440.61	0.7
595.66	0.0	10000.00	0.9
630.96	0.1	10592.54	0.7
668.34	0.1	11220.19	0.4
707.95	0.1	11885.02	0.3
749.89	0.2	12589.25	0.1
794.33	0.2	13335.21	0.1
841.40	0.2	14125.38	0.4
891.25	0.2	14962.36	0.6
944.06	0.2	15848.93	0.7
1000.00	0.2	16788.04	0.9
1059.25	0.2	17782.79	1.3
1122.02	0.2	18836.49	1.8
1188.50	0.2	19952.62	2.6
1258.93	0.2	1995.26	-0.1
1333.52	0.1	2113.49	-0.2
1412.54	0.0	2238.72	-0.1
1496.24	-0.2	2371.37	0.0
1584.89	-0.2	2511.89	-0.1
1678.80	-0.1	2660.73	-0.2
1778.28	0.0	2818.38	-0.1
1883.65	-0.1	2985.38	-0.1
		3162.28	-0.2

Table B.11 - Pressure Field to Free Field Corrections

Frequency in Hz	BK4936 Correction in dB
125	0.04
250	0.00
1000	-0.21
2000	0.14
4000	1.29

Table B.12 - Pressure Field to Random Incidence Corrections

Frequency in Hz	BK4936 Correction in dB
125	0.05
250	0.00
1000	-0.09
2000	-0.06
4000	0.60

Self Generated Noise

Table B.13- Broadband

Range (dB)	SPL			LEQ		
	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting
Fast Response						
-20 to 70	22.4	30.8	37.8	22.4	30.8	37.9
-10 to 80	22.4	30.6	37.8	22.3	30.7	38.4
0 to 90	22.3	30.2	37.3	22.3	30.5	38.3
10 to 100	22.4	30.5	37.9	22.4	30.6	37.9
20 to 110	23.0	30.5	38.3	23.0	30.7	37.9
30 to 120	26.7	31.3	39.0	26.6	31.4	38.3
40 to 130	34.2	35.3	39.8	34.2	35.3	39.4
50 to 140	43.0	43.0	43.6	43.1	43.0	43.6
Slow Response						
-20 to 70	22.4	30.7	34.7	22.4	30.7	38.6
-10 to 80	22.3	30.5	34.7	22.3	30.5	38.5
0 to 90	22.3	30.7	34.7	22.3	30.6	38.3
10 to 100	22.4	30.7	34.7	22.4	30.6	38.5
20 to 110	23.0	30.6	35.0	23.0	30.7	38.4
30 to 120	26.7	31.5	35.0	26.7	31.5	38.5
40 to 130	34.2	35.3	36.9	34.2	35.3	39.6
50 to 140	43.1	43.0	43.1	43.1	43.0	43.5

Table B.14 - Octave Band

A Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.7	-7.3	3.6	10.0	14.6	17.6	18.9	18.6	18.4	17.3	14.0
0 to 80	-16.9	-6.2	3.4	10.4	14.6	17.5	18.8	18.8	18.3	17.1	13.8
10 to 90	-13.3	-7.3	3.7	10.7	14.8	17.4	18.7	18.7	18.2	17.1	13.8
20 to 100	-5.9	-4.2	3.3	10.4	14.9	17.8	18.7	18.6	18.2	17.0	14.0
30 to 110	4.2	1.3	4.5	9.9	14.8	17.3	18.6	18.2	18.7	19.3	19.3
40 to 120	13.0	9.1	9.2	11.3	14.5	17.2	20.2	23.3	26.3	29.3	29.3
50 to 130	24.6	20.5	18.3	21.2	24.2	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	34.8	30.2	28.2	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3
A Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.9	3.3	10.1	14.9	17.7	18.8	18.8	18.4	17.3	14.0
0 to 80	-16.7	-6.1	3.6	10.2	14.8	17.5	18.7	18.6	18.3	17.1	13.9
10 to 90	-14.1	-6.4	3.5	10.2	14.7	17.5	18.7	18.6	18.2	17.1	13.8
20 to 100	-6.0	-4.9	3.4	10.3	14.8	17.5	18.7	18.6	18.2	17.0	14.0
30 to 110	3.6	0.4	4.7	10.5	14.6	17.3	18.6	18.2	18.9	19.3	19.3
40 to 120	14.3	10.3	8.8	11.6	14.7	17.3	20.2	23.3	26.3	29.3	29.3
50 to 130	24.4	20.2	18.3	21.2	24.2	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	33.9	30.1	28.3	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3
A Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.3	3.4	10.2	14.8	17.7	18.8	18.7	18.4	17.3	13.9
0 to 80	-16.8	-6.2	3.5	10.2	14.6	17.5	18.7	18.6	18.3	17.1	13.8
10 to 90	-14.7	-6.7	3.5	10.0	14.7	17.5	18.7	18.6	18.1	16.8	13.1
20 to 100	-6.4	-5.4	3.3	10.0	14.6	17.4	18.5	18.3	18.3	18.3	18.3
30 to 110	3.9	4.2	7.2	10.2	13.3	16.3	19.3	22.3	25.3	28.3	28.3
40 to 120	13.5	14.2	17.2	20.2	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	23.7	24.2	27.2	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.1	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3
A Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.4	3.4	10.4	14.8	17.6	18.7	18.7	18.4	17.2	13.9
0 to 80	-16.9	-6.3	3.2	10.2	14.7	17.5	18.7	18.6	18.3	17.1	13.8
10 to 90	-14.4	-6.4	3.4	10.1	14.7	17.5	18.7	18.6	18.1	16.8	13.1
20 to 100	-6.0	-5.5	3.3	10.1	14.5	17.5	18.5	18.3	18.3	18.3	18.3
30 to 110	3.9	4.2	7.2	10.3	13.3	16.3	19.3	22.3	25.3	28.3	28.3
40 to 120	13.8	14.2	17.2	20.2	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	23.9	24.2	27.2	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.1	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3

Table B.14- (Continued)

C Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.2	28.2	28.2	25.9	23.6	21.2	18.9	17.2	16.3	15.1	11.8
0 to 80	26.0	29.1	27.5	25.6	23.2	20.5	18.6	17.1	16.3	15.0	11.8
10 to 90	24.3	29.1	27.3	25.6	23.3	20.8	18.5	17.1	16.1	14.9	11.7
20 to 100	25.9	28.4	28.2	25.8	23.9	20.7	18.6	17.2	16.2	15.1	12.3
30 to 110	24.7	28.6	28.1	25.7	23.1	20.4	18.4	16.4	16.3	19.3	19.3
40 to 120	27.4	28.6	28.3	26.3	23.4	20.4	20.2	23.3	26.3	29.3	29.3
50 to 130	28.6	29.6	28.7	26.6	24.3	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	34.9	32.0	30.2	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3
C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.6	28.6	27.9	25.8	23.4	21.0	18.7	17.2	16.4	15.2	11.8
0 to 80	25.7	28.5	27.8	26.0	23.5	20.7	18.7	17.1	16.3	15.1	11.8
10 to 90	25.5	28.4	28.2	25.8	23.4	20.8	18.6	17.2	16.2	15.0	11.7
20 to 100	25.9	28.4	27.9	25.8	23.2	20.9	18.6	17.1	16.1	15.2	12.3
30 to 110	25.7	28.2	27.9	25.8	23.4	20.7	18.5	16.4	16.3	19.3	19.3
40 to 120	26.4	28.6	28.0	25.7	23.3	20.4	20.2	23.3	26.3	29.3	29.3
50 to 130	28.3	29.6	28.5	26.1	24.3	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	35.1	32.3	30.5	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3
C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.8	28.2	28.0	25.9	23.4	20.8	18.8	17.3	16.4	15.2	11.8
0 to 80	25.9	28.8	28.0	26.0	23.4	20.9	18.7	17.2	16.3	15.0	11.7
10 to 90	26.6	28.7	27.9	26.0	23.6	20.8	18.7	17.1	16.1	14.3	11.3
20 to 100	26.5	28.6	28.0	26.1	24.7	22.4	19.8	17.4	15.3	18.3	18.3
30 to 110	25.7	28.3	27.7	25.8	23.1	20.9	19.3	22.3	25.3	28.3	28.3
40 to 120	26.5	28.9	28.1	25.9	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	27.9	29.4	27.6	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.6	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3
C Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	26.0	28.4	28.1	25.9	23.5	21.0	18.8	17.3	16.4	15.2	11.8
0 to 80	25.9	28.4	27.9	25.8	23.5	20.8	18.7	17.1	16.3	15.0	11.7
10 to 90	26.0	28.8	28.6	26.5	24.3	21.5	19.1	17.3	16.2	14.4	11.3
20 to 100	26.6	29.8	29.0	27.4	24.3	21.5	19.0	17.1	15.3	18.3	18.3
30 to 110	25.7	28.6	27.9	25.8	23.1	20.9	19.3	22.3	25.3	28.3	28.3
40 to 120	26.7	28.8	27.9	25.9	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	28.5	29.2	27.4	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.6	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3

Table B.14- (Continued)
Table B.14 (Continued)

Z Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	32.0	30.8	28.5	26.1	23.3	20.8	18.8	17.5	17.3	18.2	19.9
0 to 80	32.1	29.7	27.8	25.9	23.3	20.8	18.9	17.4	17.2	18.0	19.8
10 to 90	34.5	30.9	28.3	26.1	23.3	20.9	18.7	17.3	17.1	18.1	19.9
20 to 100	33.9	30.9	29.6	25.8	23.4	20.9	18.7	17.2	17.1	17.8	19.7
30 to 110	34.8	30.7	28.6	26.0	23.3	20.9	18.5	16.6	16.3	19.3	19.3
40 to 120	34.2	31.7	28.4	25.6	23.7	20.7	20.2	23.3	26.3	29.3	29.3
50 to 130	34.7	31.1	27.9	25.9	24.4	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	36.4	34.6	30.9	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3
Z Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.3	31.3	29.2	26.2	23.7	20.9	18.8	17.5	17.3	18.2	19.9
0 to 80	33.6	30.8	28.9	26.0	23.4	20.9	18.7	17.3	17.2	18.1	19.8
10 to 90	34.4	31.1	28.6	26.1	23.2	20.8	18.7	17.4	17.1	18.0	19.8
20 to 100	33.6	31.5	28.8	26.1	23.3	20.9	18.7	17.3	17.0	17.8	19.7
30 to 110	34.2	31.3	28.9	25.9	23.4	20.8	18.5	16.6	16.3	19.3	19.3
40 to 120	33.7	31.4	28.9	25.9	23.2	20.5	20.2	23.3	26.3	29.3	29.3
50 to 130	33.9	31.6	28.5	26.0	24.2	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	37.1	33.2	30.7	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3
Z Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	34.3	31.7	28.7	26.3	23.6	21.0	18.9	17.4	17.3	18.2	19.9
0 to 80	34.3	31.5	28.9	26.2	23.4	20.9	18.7	17.4	17.2	18.1	19.8
10 to 90	34.3	31.3	28.8	26.0	23.5	20.8	18.8	17.3	17.1	17.8	19.8
20 to 100	34.3	31.6	28.7	26.1	23.3	20.8	18.7	17.0	15.3	18.3	18.3
30 to 110	34.2	31.8	28.9	26.1	23.3	21.0	19.3	22.3	25.3	28.3	28.3
40 to 120	34.0	31.7	28.4	26.0	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	34.7	31.6	27.9	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	37.3	34.4	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3
Z Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	34.3	31.8	28.8	26.2	23.5	21.0	18.9	17.5	17.3	18.2	19.9
0 to 80	34.0	31.6	28.8	26.0	23.4	20.9	18.8	17.3	17.1	18.1	19.8
10 to 90	34.2	31.3	28.9	26.0	23.5	20.8	18.7	17.3	17.1	17.8	19.8
20 to 100	34.3	31.4	28.8	26.2	23.3	20.9	18.5	17.0	15.3	18.3	18.3
30 to 110	34.4	31.9	29.4	26.4	23.7	21.3	19.4	22.3	25.3	28.3	28.3
40 to 120	34.3	31.6	28.8	26.2	23.6	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	34.9	31.4	27.8	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	37.2	34.3	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3

Table B.15- 1/3 Octave Band

A Weighting, Fast Response, SPL																
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.5	-13.7	-11.3	-7.5	-2.4	-0.2	1.6	4.6	5.5	8.1	8.5	9.6	10.5
0 to 80	-16.9	-16.9	-16.9	-16.0	-13.7	-9.2	-5.5	-2.8	-0.4	1.9	3.6	5.4	7.3	8.5	9.7	10.1
10 to 90	-16.9	-16.8	-16.1	-15.1	-13.7	-10.7	-6.3	-5.3	-1.1	3.4	3.4	5.2	7.3	8.7	9.7	10.5
20 to 100	-16.2	-8.4	-13.9	-10.0	-10.6	-6.8	-5.6	-3.0	0.0	1.6	4.3	5.4	7.7	8.6	9.7	10.1
30 to 110	-6.2	3.7	-4.9	-0.5	-4.0	-4.1	-3.0	-1.5	0.1	3.4	4.9	5.8	7.6	8.4	9.7	9.9
40 to 120	3.9	13.3	5.2	8.8	4.2	5.4	5.5	5.5	5.5	8.3	8.3	8.4	11.2	11.3	11.3	14.2
50 to 130	12.4	22.0	14.9	19.3	15.4	14.3	15.2	15.8	15.2	18.2	18.2	18.2	21.2	21.2	21.2	24.2
60 to 140	23.0	33.0	24.3	29.8	25.7	24.3	25.2	25.3	25.2	28.2	28.2	28.2	31.2	31.2	31.2	34.2

A Weighting, Fast Response, SPL																
500 Hz	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.9	12.0	11.7	12.2	12.2	12.2	11.6	11.8	11.7	11.6	11.4	11.2	11.2	10.5	9.4	8.0	6.1
11.0	11.5	11.7	12.2	12.1	11.8	11.7	11.5	11.5	11.4	11.5	11.3	11.1	10.3	9.2	7.9	6.1
11.1	11.7	11.7	12.0	12.2	11.9	11.8	11.6	11.6	11.5	11.5	11.0	11.0	10.3	9.3	7.8	6.2
10.9	11.4	11.4	11.8	11.7	12.1	11.7	11.4	11.5	11.1	11.4	11.1	11.0	9.8	9.3	9.3	9.3
10.6	11.3	11.3	11.8	12.1	11.0	10.9	10.5	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

A Weighting, Fast Response, LEQ																
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz
-10 to 70	-16.9	-16.9	-16.9	-15.4	-12.8	-8.7	-5.5	-2.7	0.0	2.0	4.0	5.8	7.3	8.9	9.8	10.4
0 to 80	-16.9	-16.9	-16.9	-16.2	-13.7	-9.0	-6.0	-3.2	-0.6	3.2	3.9	5.9	7.7	9.0	9.8	10.8
10 to 90	-16.9	-16.3	-16.6	-15.4	-12.7	-9.3	-6.2	-2.8	-0.1	3.8	4.1	5.6	7.5	8.8	9.9	10.8
20 to 100	-14.9	-7.3	-13.2	-10.5	-9.7	-8.1	-5.9	-2.7	-0.1	3.7	4.1	6.0	7.4	8.9	9.6	10.4
30 to 110	-6.5	3.0	-4.4	-1.4	-3.4	-3.8	-2.7	-0.7	0.9	3.1	4.4	5.9	7.4	8.9	9.7	10.3
40 to 120	4.5	12.8	5.1	9.3	6.2	5.1	5.4	6.1	5.7	8.3	8.3	8.5	11.2	11.3	11.3	14.2
50 to 130	14.7	22.7	15.1	19.4	16.7	14.6	15.3	15.5	15.2	2	18.2	18.2	21.2	21.2	21.2	24.2
60 to 140	23.8	33.1	24.5	29.6	27.1	24.4	25.3	25.4	25.2	2	28.2	28.2	31.2	31.2	31.2	34.2

Table B.15- (Continued)

A Weighting, Fast Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.1	11.9	11.7	12.1	12.2	12.1	11.7	11.7	11.7	11.6	11.6	11.3	11.1	10.5	9.4	8.0	6.1
11.3	11.7	11.9	12.0	12.2	11.9	11.7	11.7	11.7	11.5	11.5	11.2	11.0	10.4	9.3	7.9	6.1
11.4	11.8	11.8	12.0	12.1	11.9	11.8	11.8	11.6	11.5	11.4	11.1	11.0	10.3	9.2	7.7	6.2
11.2	11.8	11.8	12.0	12.1	11.8	11.6	11.7	11.5	11.4	11.3	11.0	11.0	9.8	9.3	9.3	9.3
11.0	11.7	11.4	11.8	12.1	11.0	10.7	10.6	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

A Weighting, Slow Response, SPL																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	-16.9	-16.9	-16.9	-16.7	-13.5	-9.1	-6.4	-2.7	-0.2	3.0	4.2	5.9	7.5	8.7	10.0	10.4	
0 to 80	-16.9	-16.9	-16.9	-16.4	-13.7	-9.9	-6.1	-3.1	-0.4	3.6	3.8	5.9	7.6	8.7	9.7	10.5	
10 to 90	-16.9	-15.8	-16.8	-15.8	-12.8	-9.2	-6.1	-2.5	-0.1	3.4	4.2	5.7	7.3	8.7	9.8	10.5	
20 to 100	-11.7	-6.0	-11.6	-8.6	-8.7	-8.2	-5.7	-2.6	0.0	3.5	3.7	5.8	7.3	8.5	9.6	10.4	
30 to 110	-1.7	4.3	-1.5	1.3	1.3	1.3	4.2	4.2	4.2	7.2	7.2	7.2	10.2	10.2	10.2	13.3	
40 to 120	8.2	14.6	8.3	11.3	11.2	11.2	14.2	14.2	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.3	
50 to 130	18.2	24.9	18.3	21.2	21.2	21.2	24.2	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	
60 to 140	28.3	34.5	28.3	31.3	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	

A Weighting, Slow Response, SPL																	
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20	
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	
11.3	11.9	11.8	12.1	12.1	12.0	11.8	11.8	11.7	11.6	11.6	11.3	11.1	10.5	9.4	8.0	6.2	
11.3	11.8	11.8	12.1	12.1	12.0	11.7	11.7	11.7	11.5	11.5	11.2	11.0	10.4	9.3	7.8	6.1	
11.1	11.7	11.7	11.9	12.0	11.8	11.6	11.6	11.4	11.3	11.3	11.3	10.8	10.0	8.3	8.3	8.3	
11.2	11.5	11.2	11.6	11.9	12.3	12.2	12.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3	
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3	
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3	
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3	
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3	

A Weighting, Slow Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	-16.9	-16.9	-16.9	-16.6	-13.4	-9.0	-6.0	-2.8	-0.5	3.4	4.1	5.8	7.5	8.8	9.8	10.6	
0 to 80	-16.9	-16.9	-16.9	-16.6	-13.4	-9.9	-5.9	-3.1	0.1	3.3	4.2	5.8	7.7	8.9	9.9	10.6	
10 to 90	-16.9	-15.4	-16.9	-15.2	-12.3	-9.3	-5.8	-2.7	-0.1	3.0	4.2	5.9	7.4	8.6	9.8	10.5	
20 to 100	-11.7	-5.8	-11.7	-8.6	-8.7	-8.2	-5.5	-2.8	-0.3	3.5	3.9	6.0	7.6	8.7	9.6	10.4	
30 to 110	-1.7	4.3	-1.7	1.3	1.3	1.3	4.2	4.2	4.2	7.2	7.2	7.2	10.2	10.2	10.3	13.3	
40 to 120	8.2	14.5	8.3	11.2	11.2	11.2	14.2	14.2	14.2	17.2	17.2	17.2	20.2	17.2	20.2	23.3	
50 to 130	18.2	24.7	18.2	21.3	21.2	21.2	24.2	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	
60 to 140	28.3	34.8	28.2	31.3	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	

Table B.15- (Continued)

A Weighting, Slow Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.2	11.9	12.0	12.1	12.1	12.0	11.8	11.8	11.7	11.6	11.6	11.2	11.1	10.5	9.4	8.0	6.2
11.2	11.8	11.8	12.0	12.1	11.9	11.7	11.6	11.6	11.4	11.5	11.1	11.0	10.4	9.2	7.8	6.1
11.2	11.8	11.8	12.1	12.0	11.8	11.6	11.6	11.3	11.3	11.3	11.3	10.9	10.0	8.3	8.3	8.3
11.0	11.6	11.2	11.7	11.9	12.3	12.3	12.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

C Weighting, Fast Response, SPL																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	19.3	19.4	19.7	22.1	22.3	22.3	22.6	21.4	21.4	20.1	19.6	18.0	18.1	17.1	16.0	15.4	
0 to 80	16.1	18.0	20.0	21.2	21.7	22.3	21.5	22.0	20.6	20.7	20.2	18.6	18.5	16.8	16.5	15.1	
10 to 90	15.8	19.6	19.2	20.9	23.0	22.5	22.2	22.2	21.2	20.5	19.7	18.0	17.9	17.4	16.3	14.9	
20 to 100	17.2	18.1	21.1	21.6	23.0	22.3	22.6	21.8	19.6	20.9	20.1	19.2	18.1	16.7	16.1	14.7	
30 to 110	15.2	18.6	20.5	22.6	22.8	23.8	23.4	21.8	21.6	19.7	19.3	19.1	17.7	17.0	15.9	15.6	
40 to 120	16.0	20.7	21.3	21.4	22.6	22.6	22.7	21.4	21.8	21.2	20.0	18.9	17.3	16.7	15.9	14.7	
50 to 130	21.6	24.2	22.7	24.8	23.0	23.0	23.3	22.4	23.0	21.5	20.8	19.5	21.3	21.2	21.2	24.2	
60 to 140	25.4	35.7	27.8	31.6	26.9	28.2	25.9	27.2	25.4	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

C Weighting, Fast Response, SPL																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
14.0	13.2	12.4	11.7	11.3	10.8	10.1	10.0	9.8	9.7	9.6	9.2	8.9	8.5	7.3	5.9	4.1
14.3	13.4	12.6	12.1	11.2	10.3	10.1	9.9	9.8	9.7	9.4	9.2	9.0	8.4	7.3	5.8	4.0
14.5	13.8	12.6	11.8	11.0	10.8	10.0	9.8	9.6	9.4	9.4	9.1	8.9	8.3	7.0	5.4	4.0
14.1	13.5	12.6	11.9	11.1	10.5	9.8	9.9	9.5	9.4	9.3	9.2	9.3	9.1	9.3	9.3	9.3
14.2	13.0	11.8	11.7	10.9	10.3	10.3	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.3	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

C Weighting, Fast Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	17.7	20.6	22.5	22.9	22.7	23.1	22.4	22.1	21.1	20.2	20.1	19.2	17.7	17.0	16.0	15.1	
0 to 80	19.1	19.6	22.2	22.0	22.7	22.4	22.3	22.3	21.1	20.7	19.8	18.9	18.0	17.0	16.3	15.4	
10 to 90	17.9	19.3	21.2	22.3	22.9	23.2	22.6	21.9	21.1	20.2	19.7	18.9	18.2	17.1	16.0	15.0	
20 to 100	17.9	20.1	22.4	22.9	23.6	22.6	22.6	22.3	21.2	20.6	19.5	19.0	18.1	17.4	16.2	15.0	
30 to 110	17.9	20.2	21.6	22.8	22.3	22.9	22.6	22.3	21.4	20.4	19.5	19.0	18.1	17.2	16.1	15.0	
40 to 120	17.4	20.5	21.4	23.2	22.6	22.0	23.1	22.6	21.6	20.5	19.8	19.3	18.1	17.3	16.2	14.6	
50 to 130	21.2	25.8	22.3	25.6	24.1	23.9	23.7	22.3	22.4	21.8	20.3	19.7	21.2	21.2	21.2	24.2	
60 to 140	26.8	34.7	26.8	32.1	30.0	26.3	26.7	26.7	25.9	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

Table B.15- (Continued)

C Weighting, Fast Response ,LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.6	12.4	11.9	11.4	10.7	10.2	10.0	9.8	9.7	9.6	9.3	9.1	8.4	7.3	5.9	4.1
14.3	13.6	12.6	12.0	11.3	10.7	10.3	9.9	9.7	9.6	9.5	9.2	9.0	8.4	7.3	5.9	4.1
14.3	13.6	12.4	11.9	11.3	10.7	10.2	9.9	9.7	9.5	9.5	9.1	8.8	8.3	7.1	5.4	4.0
14.2	13.5	12.3	11.7	11.3	10.5	10.1	9.8	9.5	9.4	9.3	9.3	9.3	9.1	9.3	9.3	9.3
14.1	13.1	12.1	11.7	10.9	10.3	10.3	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.4	14.3	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

C Weighting, Slow Response, SPL																
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz
-10 to 70	17.7	20.7	22.1	22.7	23.1	23.2	22.4	22.7	22.1	20.9	19.9	19.0	18.1	17.0	16.3	15.1
0 to 80	18.1	20.5	21.9	22.5	22.3	22.7	22.6	21.7	21.2	20.8	19.7	19.0	18.4	17.4	16.4	15.1
10 to 90	19.7	20.4	21.3	22.7	23.6	22.7	22.6	22.5	21.5	20.5	19.7	18.9	18.1	17.2	16.2	15.4
20 to 100	18.1	21.1	22.1	23.1	23.0	22.5	22.8	22.2	21.0	20.8	19.7	18.8	18.2	17.2	16.3	15.3
30 to 110	18.0	20.5	21.8	22.8	22.4	22.9	22.3	22.4	21.0	20.3	19.7	19.1	18.0	17.2	16.1	14.0
40 to 120	18.1	21.5	22.5	22.8	23.2	23.0	22.9	22.5	21.0	20.5	20.3	19.0	20.2	20.2	20.2	23.3
50 to 130	20.1	25.6	22.9	24.8	23.9	23.7	24.3	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3
60 to 140	28.3	34.7	28.4	31.5	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3

C Weighting, Slow Response, SPL																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.6	12.5	11.9	11.4	10.9	10.3	10.0	9.8	9.7	9.6	9.3	9.1	8.5	7.3	5.9	4.0
14.3	13.6	12.5	12.0	11.3	10.7	10.3	9.9	9.7	9.5	9.4	9.1	8.9	8.3	7.2	5.3	4.3
14.3	13.5	12.5	11.8	11.2	10.5	10.0	9.8	9.3	9.3	9.3	8.3	8.3	8.3	8.3	8.3	8.3
14.3	13.4	12.4	11.3	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.4	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

C Weighting, Slow Response, LEQ																
Range(dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz
-10 to 70	18.6	20.3	21.9	23.2	23.3	22.8	22.4	22.5	21.6	21.0	20.0	19.1	18.2	17.1	16.1	15.2
0 to 80	18.8	20.7	21.6	23.0	22.3	23.0	22.8	22.2	21.7	20.8	19.9	19.1	18.1	17.2	16.3	15.2
10 to 90	18.8	20.1	20.8	22.1	23.1	22.7	22.8	22.2	21.5	20.8	20.0	19.0	18.0	17.3	16.0	15.1
20 to 100	17.6	20.8	22.4	22.6	22.9	22.8	22.6	22.1	21.4	21.0	19.8	19.1	18.3	17.3	16.2	15.1
30 to 110	18.5	20.5	22.6	22.7	23.1	23.0	22.5	22.6	21.7	20.3	19.9	19.0	18.1	17.3	16.2	13.9
40 to 120	18.8	21.0	22.4	22.5	23.3	23.6	22.7	22.1	21.3	20.7	20.2	19.1	20.2	20.2	20.2	23.3
50 to 130	20.1	25.8	23.1	24.3	24.4	24.2	24.2	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3
60 to 140	28.4	34.6	28.5	31.4	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3

Table B.15- (Continued)

C Weighting, Slow Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.7	12.6	12.0	11.3	10.8	10.2	10.0	9.8	9.6	9.6	9.2	9.1	8.4	7.3	5.9	4.0
14.4	13.5	12.6	11.9	11.3	10.7	10.3	9.9	9.7	9.5	9.5	9.1	8.9	8.3	7.2	5.4	4.3
14.4	13.6	12.5	11.8	11.3	10.5	10.1	9.8	9.3	9.3	9.3	8.3	8.3	8.3	8.3	8.3	8.3
14.2	13.4	12.3	11.4	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

Table B.15- (Continued)

Z Weighting, Fast Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	28.3	26.5	26.1	27.5	24.3	24.3	24.0	22.5	21.3	20.4	20.1	19.7	18.1	17.6	16.1	14.9	
0 to 80	28.5	27.1	27.8	25.4	25.8	24.4	23.9	22.6	21.4	20.1	19.8	19.7	18.1	17.1	16.5	14.9	
10 to 90	27.4	27.0	29.4	26.3	23.9	23.7	24.5	22.5	21.9	20.9	20.4	18.7	18.5	16.8	16.3	15.0	
20 to 100	28.8	27.8	26.5	25.8	25.4	25.5	23.3	22.8	20.1	20.7	20.4	18.6	19.0	17.1	16.8	15.3	
30 to 110	28.7	28.1	28.3	24.7	26.0	23.7	23.3	22.9	21.4	20.7	19.8	18.9	18.1	16.3	16.3	15.2	
40 to 120	25.3	26.7	27.3	26.8	24.3	24.9	23.0	22.1	21.2	20.6	19.8	18.0	17.9	17.3	16.4	14.5	
50 to 130	29.1	28.8	28.8	26.3	25.2	25.2	23.3	24.1	21.5	19.6	19.8	19.2	21.3	21.3	21.2	24.2	
60 to 140	28.0	27.2	27.5	27.9	27.9	26.9	25.9	26.9	25.2	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

Z Weighting, Slow Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.5	13.5	12.7	11.7	11.4	11.1	10.4	10.3	10.3	10.4	10.8	11.2	11.8	12.7	13.3	14.2	15.0
14.4	13.6	12.4	11.8	11.2	10.8	10.5	10.2	10.5	10.3	10.7	11.3	12.0	12.6	13.4	14.1	15.0
14.7	13.7	12.4	12.0	11.4	10.9	10.2	10.4	10.1	10.3	10.6	11.1	11.9	12.6	13.2	14.2	15.0
14.4	13.1	12.7	11.8	11.5	10.8	10.1	10.0	10.2	10.0	10.6	11.0	11.3	12.3	12.4	14.0	15.2
14.4	13.2	12.2	11.9	10.6	10.3	10.2	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.4	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	29.3	28.0	26.8	26.0	25.0	24.3	23.6	22.4	21.6	24.5
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	40.5	39.6	38.4	37.2	36.9	36.1	35.1	34.2	37.5

Z Weighting, Fast Response, LEQ																
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz
-10 to 70	28.8	28.5	27.1	26.8	25.0	24.3	24.4	23.4	22.5	21.3	19.8	19.0	17.9	17.4	16.2	15.1
0 to 80	29.9	28.8	27.2	26.1	25.8	24.8	23.6	23.4	22.2	20.8	20.1	19.1	17.6	17.0	16.1	15.3
10 to 90	28.9	28.3	28.3	26.0	25.9	25.1	24.1	22.3	22.1	20.9	20.3	18.7	18.3	17.0	16.3	15.1
20 to 100	29.2	28.5	27.1	26.5	25.2	25.3	23.5	23.1	22.1	21.2	19.7	18.7	18.1	17.3	16.1	15.0
30 to 110	28.6	29.7	26.8	27.3	24.8	24.0	23.6	23.3	21.8	21.1	19.8	19.1	18.0	17.2	16.4	15.1
40 to 120	29.2	28.0	27.4	27.1	25.6	24.7	23.9	22.4	21.5	20.6	19.7	19.0	18.2	16.9	16.1	14.8
50 to 130	28.6	27.9	27.4	27.7	26.5	24.9	23.7	23.4	21.9	21.0	20.0	19.3	21.2	21.2	21.2	24.2
60 to 140	30.8	28.3	28.1	27.8	26.9	26.8	26.4	27.1	25.4	28.2	28.2	28.2	31.2	31.2	31.2	34.2

Table B.15- (Continued)

Z Weighting, Fast Response, LEQ																	
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20	
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.6	12.6	12.1	11.4	10.9	10.4	10.3	10.3	10.4	10.8	11.2	12.0	12.7	13.4	14.2	15.0	
14.3	13.6	12.5	11.9	11.3	10.7	10.4	10.3	10.3	10.4	10.8	11.0	11.8	12.6	13.4	14.1	15.0	
14.4	13.5	12.6	11.9	11.4	10.9	10.6	10.1	10.2	10.4	10.8	11.0	11.8	12.6	13.2	14.1	14.9	
14.6	13.6	12.5	11.9	11.2	10.8	10.2	10.1	10.0	10.2	10.6	11.0	11.4	12.3	12.4	14.0	15.2	
14.2	13.5	12.2	11.6	10.9	10.3	10.3	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	
14.4	14.3	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	
24.2	24.2	27.2	27.2	27.2	30.2	30.2	29.3	28.0	26.8	26.0	25.0	24.3	23.6	22.4	21.6	24.3	
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	40.5	39.6	38.4	37.2	36.9	36.1	35.1	34.2	37.4	

Z Weighting, Slow Response, SPL																		
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400		
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	29.8	28.6	28.1	26.5	25.2	24.7	23.7	23.3	21.8	20.8	20.0	18.9	18.3	17.3	16.2	15.5		
0 to 80	29.8	29.3	27.9	26.1	25.2	24.3	23.8	23.1	22.2	21.1	20.3	18.9	18.1	17.3	16.1	15.4		
10 to 90	28.5	27.6	26.5	26.8	25.8	24.8	24.1	23.0	22.0	20.8	20.1	19.0	18.0	17.1	16.0	15.3		
20 to 100	30.1	28.2	27.2	26.3	26.1	24.8	23.4	23.0	21.8	20.9	19.9	18.9	18.1	17.1	16.3	15.2		
30 to 110	28.8	29.2	27.3	27.1	25.6	24.7	23.6	23.0	21.7	21.2	19.9	19.0	18.1	16.9	16.0	14.8		
40 to 120	29.5	28.5	27.5	27.0	25.3	25.0	23.9	22.8	22.2	20.5	20.0	18.1	20.2	20.2	20.2	23.3		
50 to 130	29.1	27.8	28.2	27.2	24.9	24.4	24.4	24.3	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3		
60 to 140	28.8	29.7	29.1	31.2	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3		

Z Weighting, Slow Response, SPL																		
500	630	800	100	1250	160	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20		
Hz	Hz	Hz	0 Hz	Hz	0 Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	
14.3	13.7	12.6	11.9	11.4	10.8	10.4	10.4	10.2	10.5	10.9	11.1	11.9	12.7	13.3	14.2	15.0		
14.2	13.5	12.5	11.8	11.3	10.9	10.4	10.2	10.2	10.4	10.7	11.0	11.8	12.6	13.2	14.1	14.9		
14.3	13.5	12.5	11.9	11.3	10.7	10.2	10.2	10.0	10.1	10.7	11.2	11.3	12.1	13.1	14.3	15.1		
14.3	13.5	12.3	11.6	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	16.1	18.3	18.3	18.3		
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	26.1	28.3	28.3	28.3		
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	36.1	38.3	38.3	38.3		
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	46.1	48.3	48.3	48.3		
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	56.1	58.3	58.3	58.3		

Z Weighting, Slow Response, LEQ																		
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400		
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	29.6	28.0	27.5	26.7	25.4	24.8	24.3	23.0	21.8	20.8	19.8	19.0	18.0	17.2	16.2	15.4		
0 to 80	29.4	28.7	28.2	26.4	25.7	25.0	24.3	22.9	22.2	21.0	20.0	19.0	18.0	17.4	16.4	15.2		
10 to 90	28.9	28.2	26.9	26.8	25.4	25.1	24.1	23.0	21.7	21.0	20.0	18.8	18.2	17.4	16.3	15.3		
20 to 100	29.2	28.7	27.6	26.5	25.6	24.6	23.9	22.9	21.8	20.8	20.0	19.2	18.2	17.1	16.1	15.2		
30 to 110	28.4	28.2	27.3	26.8	25.3	25.1	23.9	22.6	21.8	21.0	19.8	18.9	18.0	16.9	16.1	14.7		
40 to 120	29.2	28.5	28.0	26.8	25.5	24.6	23.6	22.6	21.4	20.5	20.0	17.8	20.2	20.2	20.2	23.3		
50 to 130	29.8	28.7	27.9	26.5	25.0	24.4	24.4	24.3	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3		
60 to 140	29.0	29.6	29.1	31.2	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3		

Z Weighting, Slow Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.5	13.5	12.6	12.1	11.4	10.9	10.4	10.3	10.3	10.4	10.8	11.2	12.0	12.7	13.3	14.1	15.0
14.3	13.4	12.5	11.9	11.3	10.8	10.4	10.3	10.2	10.4	10.7	11.0	11.8	12.6	13.2	14.1	14.9
14.5	13.6	12.5	11.9	11.3	10.7	10.2	10.1	10.0	10.1	10.7	11.1	11.3	12.3	13.1	14.3	14.3
14.2	13.4	12.3	11.4	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

QE7052 microphone with windscreen (Figures/Tables "C")

Tolerance: IEC 61672 class 2

Directional frequency response using side toward speaker

Figure C.1- 0-30 degree incidence angles

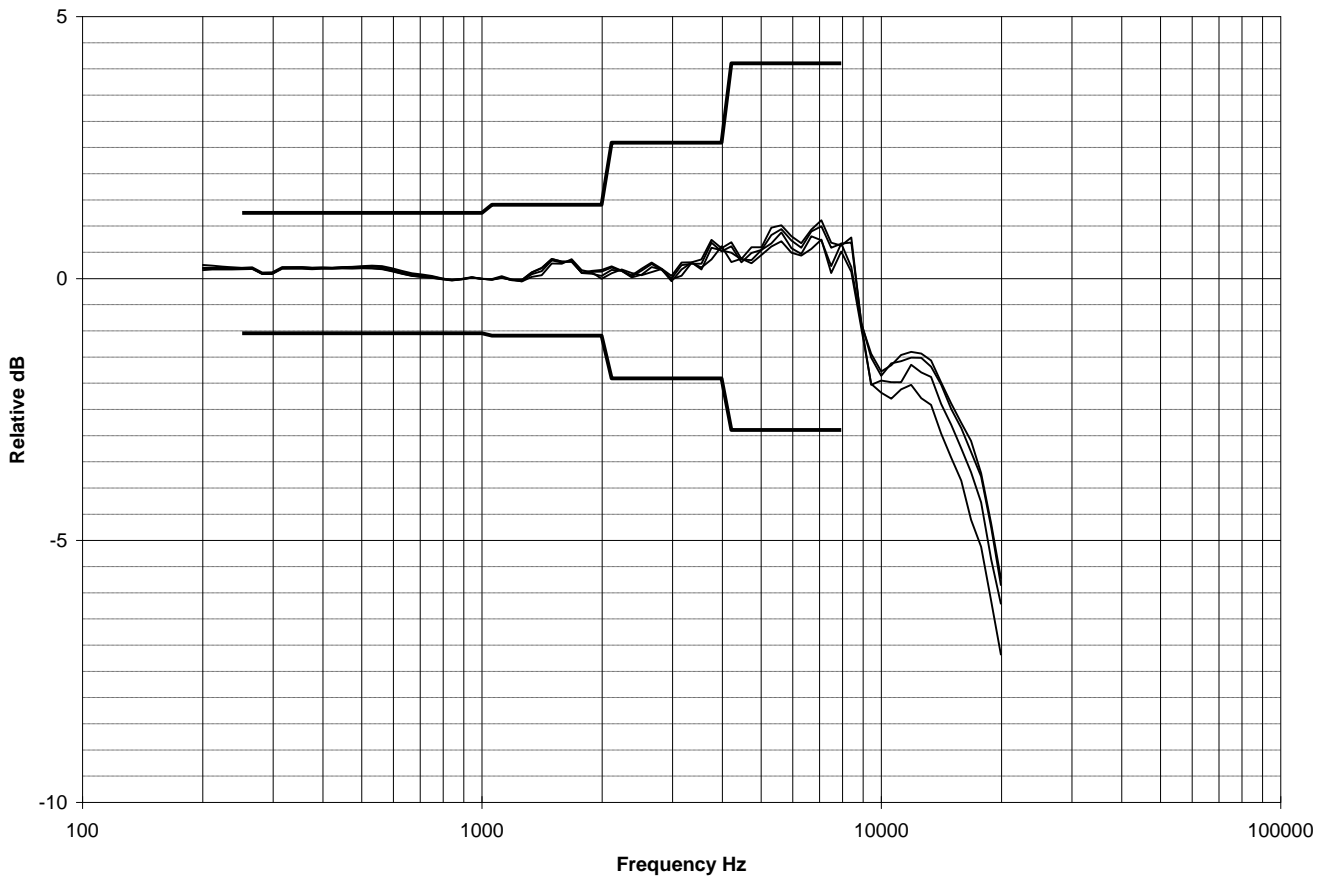


Figure C.2 - 0-90 degree incidence angles

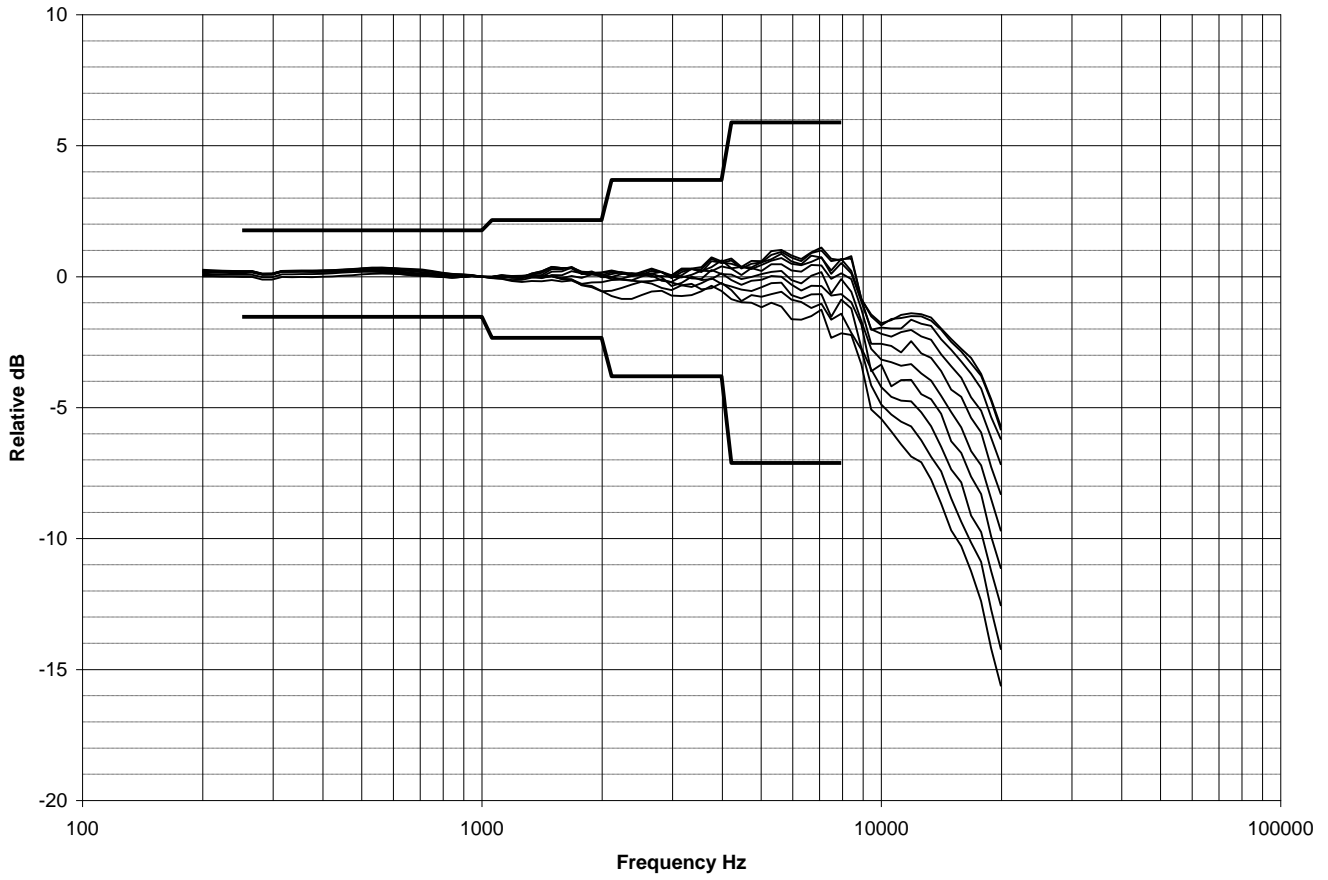


Figure C.3- 0-150 degree incidence angles

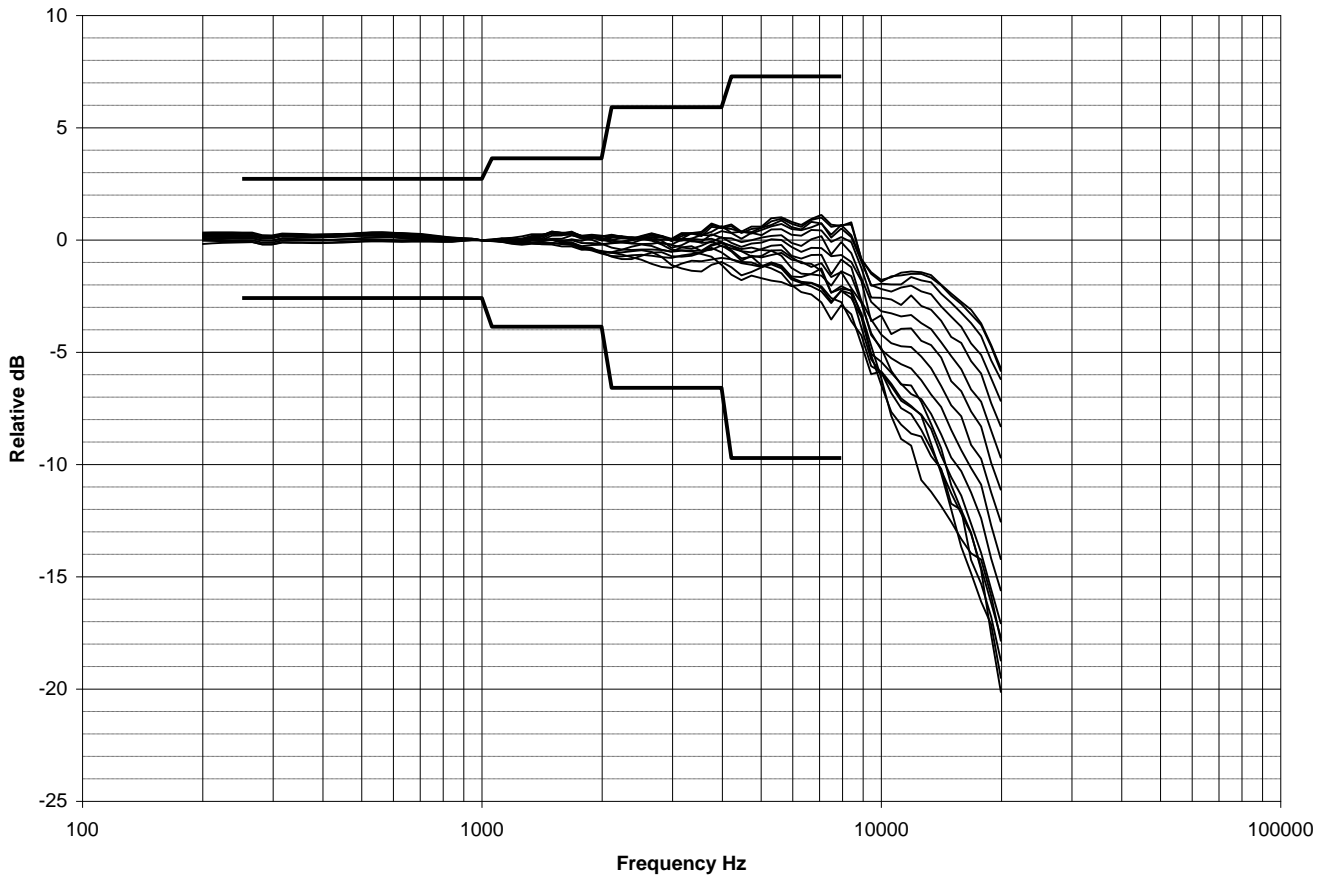
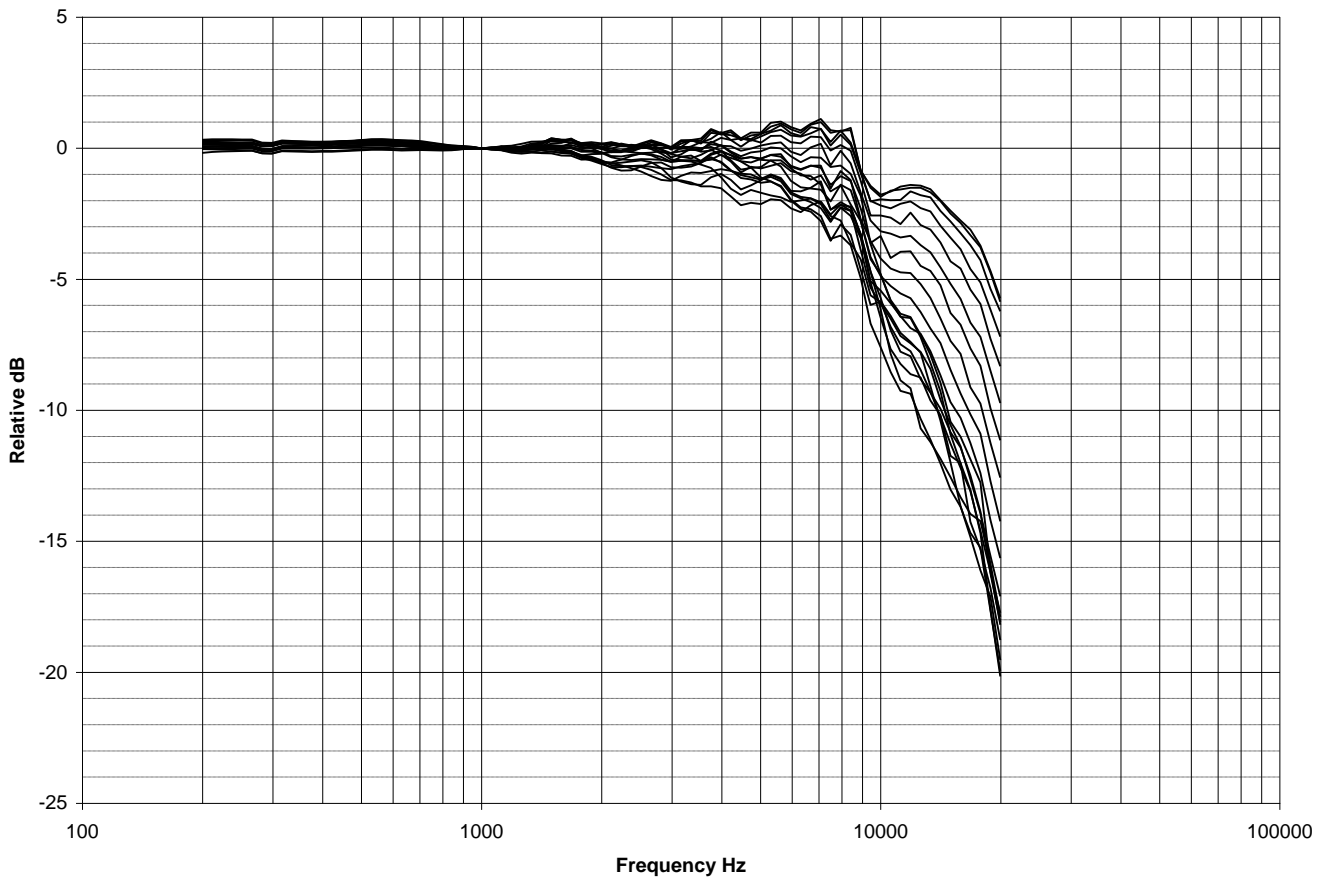


Figure C.4 - 0-180 degree incidence angles



Directional frequency response using windscreen & face toward speaker

Figure C.5 - 0-30 degree incidence angles

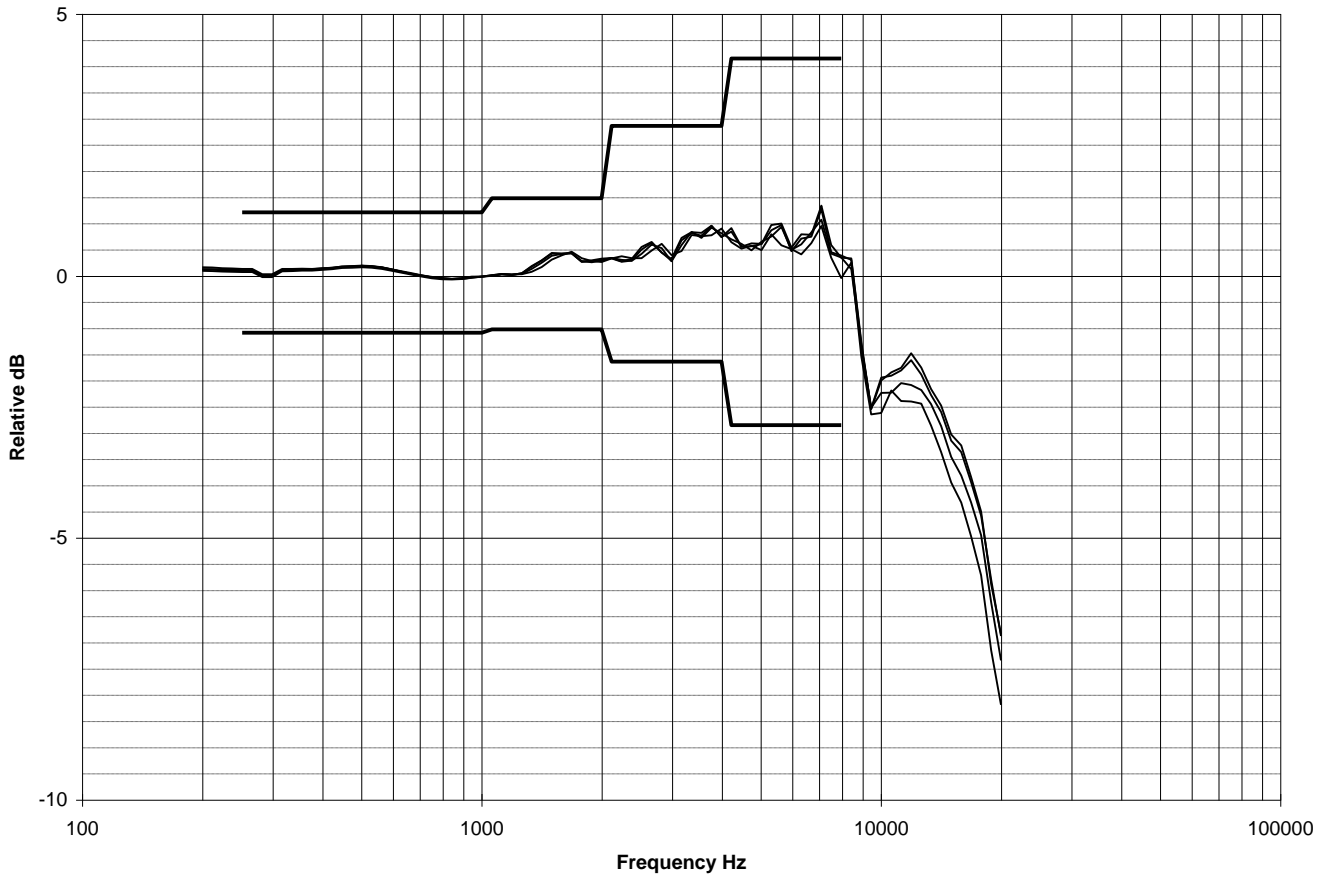


Figure C.6- 0-90 degree incidence angles

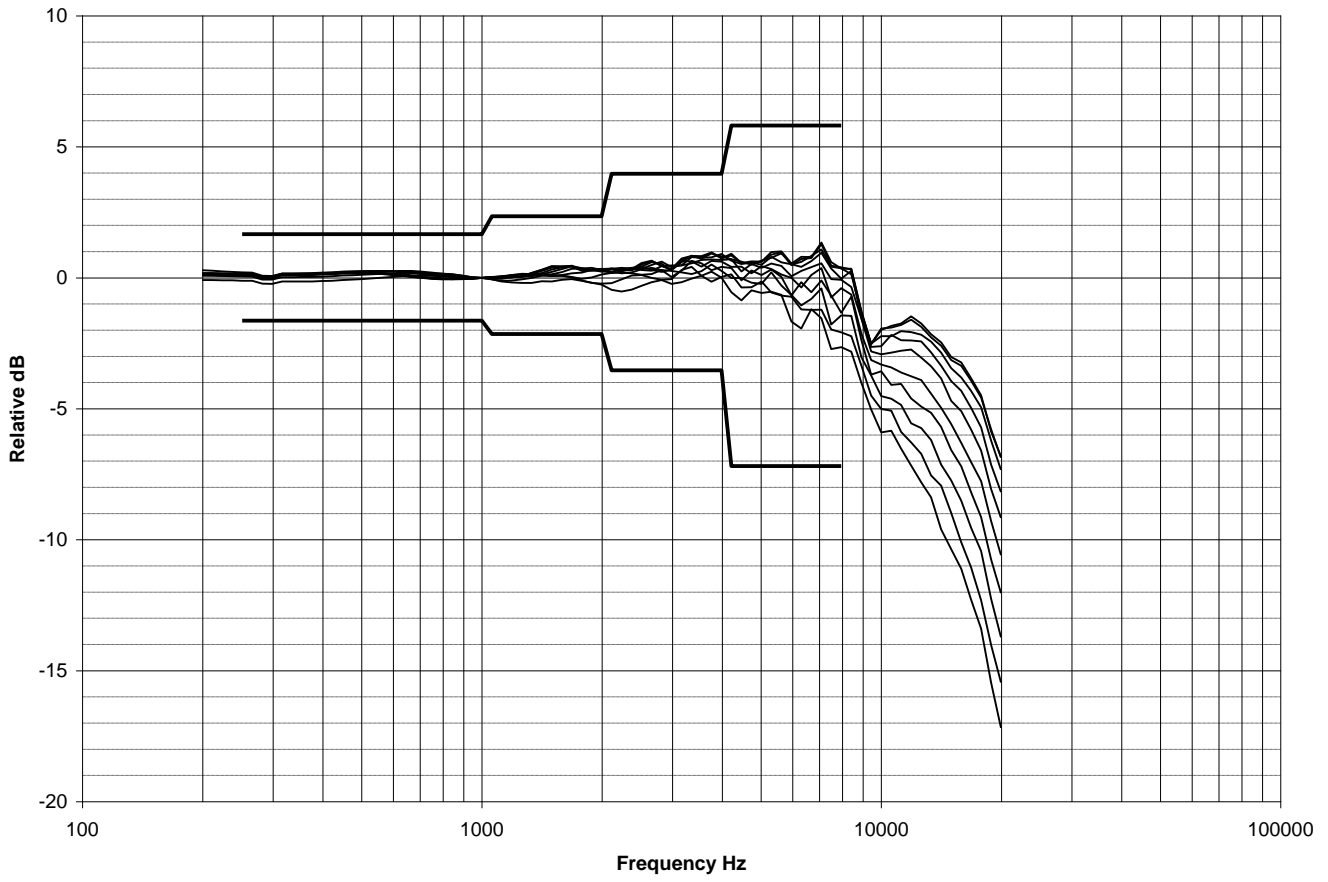


Figure C.7 - 0-150 degree incidence angles

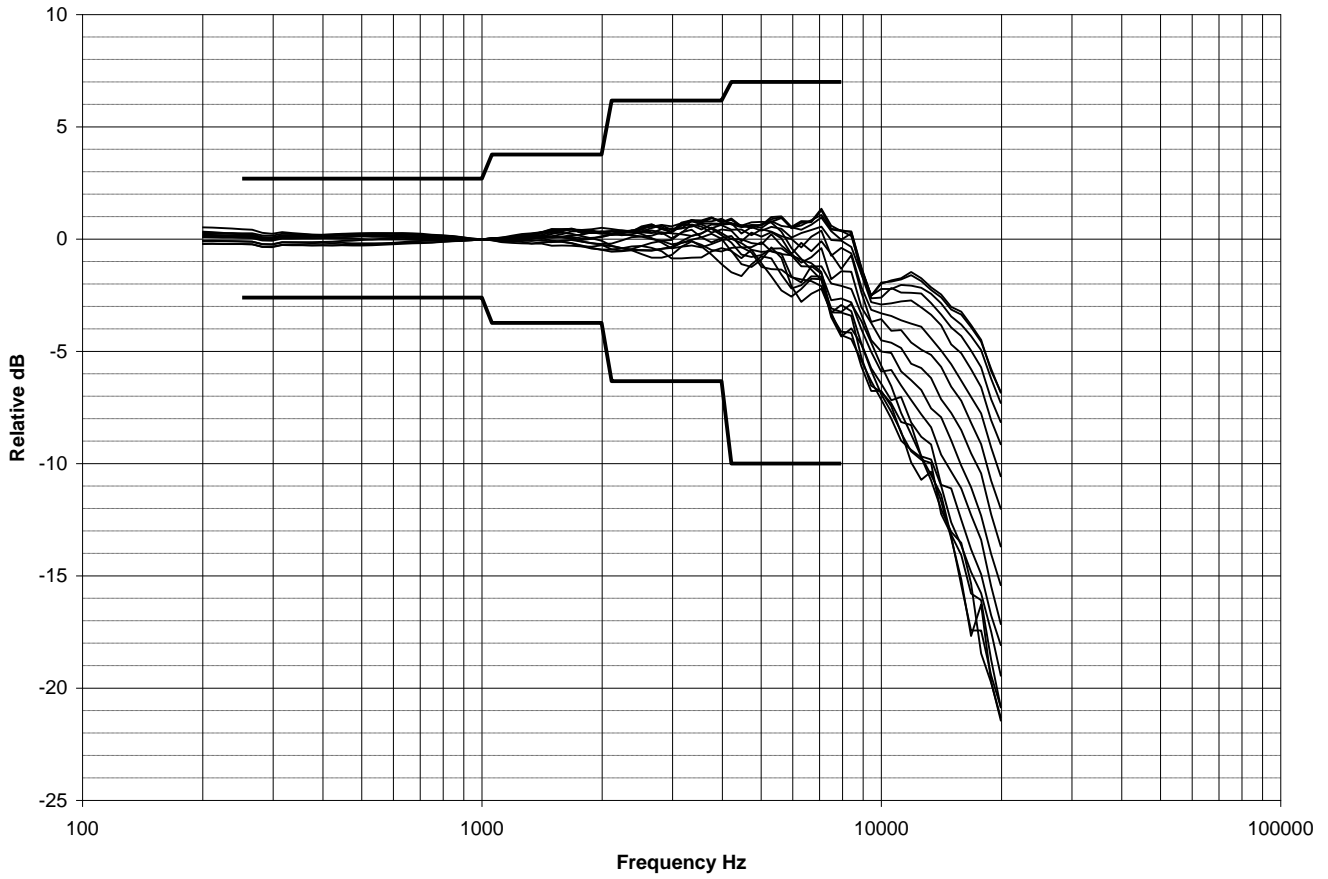
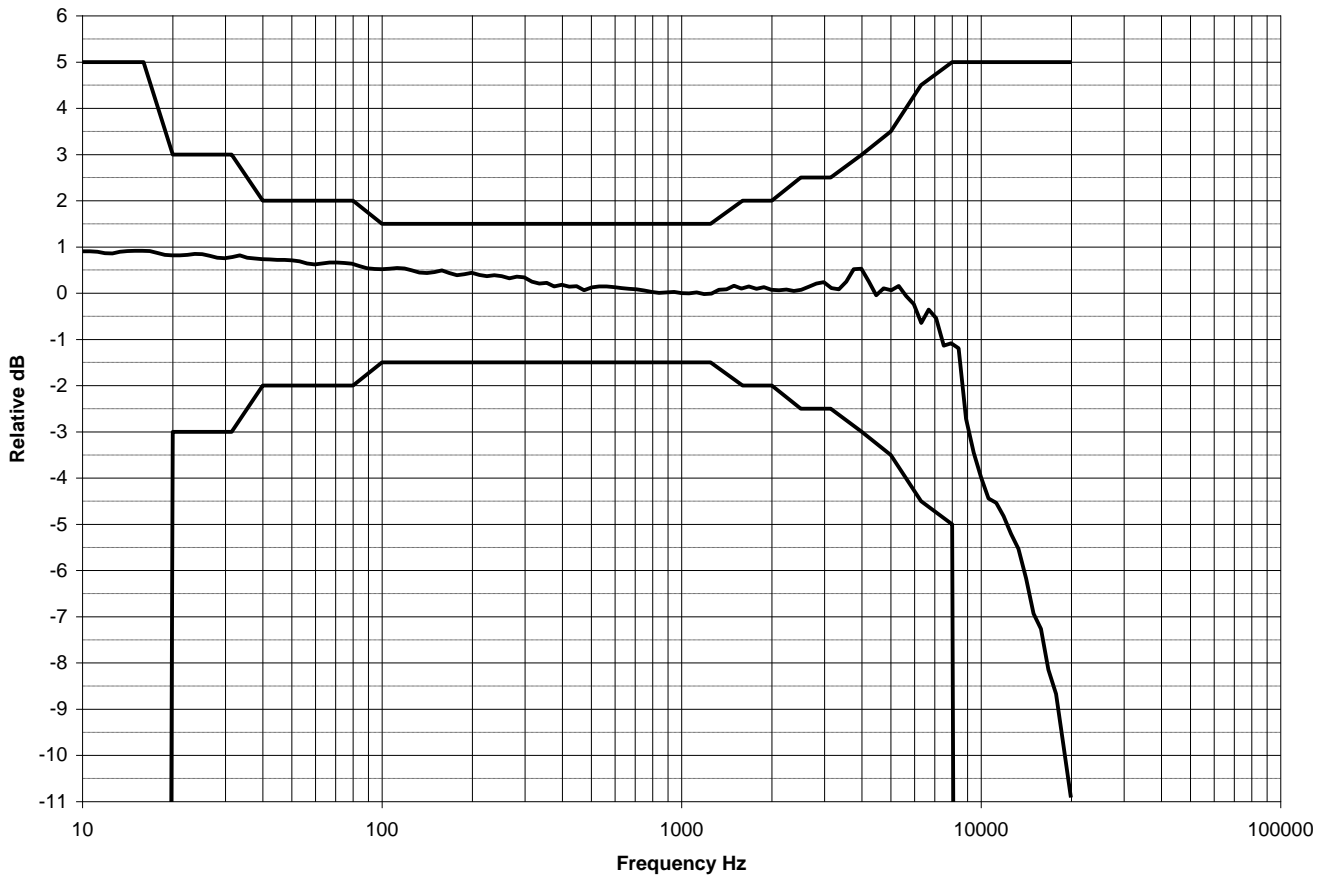


Figure C.8- 0-180 degree



Random Incidence

Figure C.9 - Frequency Response



Corrections

Table C.10- Reflection, Diffraction, and Local Microphone Frequency Response

1/12 OCTAVE FREQUENCY in Hz	Local Microphone Acoustic Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Local Microphone Acoustic Corrections in dB
199.53	0.0	2238.72	-0.1
211.35	0.0	2371.37	0.0
223.87	0.0	2511.89	-0.1
237.14	0.0	2660.73	-0.2
251.19	0.0	2818.38	-0.1
266.07	0.0	2985.38	-0.1
281.84	0.0	3162.28	-0.2
298.54	0.0	3349.65	-0.2
316.23	0.0	3548.13	-0.4
334.97	0.0	3758.37	-0.8
354.81	0.0	3981.07	-0.6
375.84	0.0	4216.97	-0.7
398.11	0.0	4466.84	-0.4
421.70	0.0	4731.51	-0.6
446.68	0.0	5011.87	-0.7
473.15	0.0	5308.84	-1.1
501.19	0.0	5623.41	-1.1
530.88	0.0	5956.62	-1.0
562.34	0.0	6309.57	-0.9
595.66	0.0	6683.44	-1.3
630.96	0.1	7079.46	-1.4
668.34	0.1	7498.94	-1.1
707.95	0.1	7943.28	-1.1
749.89	0.2	8413.95	-1.3
794.33	0.2	8912.51	0.2
841.40	0.2	9440.61	0.7
891.25	0.2	10000.00	0.9
944.06	0.2	10592.54	0.7
1000.00	0.2	11220.19	0.4
1059.25	0.2	11885.02	0.3
1122.02	0.2	12589.25	0.1
1188.50	0.2	13335.21	0.1
1258.93	0.2	14125.38	0.4
1333.52	0.1	14962.36	0.6
1412.54	0.0	15848.93	0.7
1496.24	-0.2	16788.04	0.9
1584.89	-0.2	17782.79	1.3
1678.80	-0.1	18836.49	1.8
1778.28	0.0	19952.62	2.6
1883.65	-0.1	2113.49	-0.2
1995.26	-0.1		

Table C.11- Reflection, Diffraction, Microphone Frequency Response, and Windscreen Corrections

1/12 OCTAVE FREQUENCY in Hz	Microphone Windscreen Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Microphone Windscreen Corrections in dB
199.53	0.1	2238.72	0.5
211.35	0.0	2371.37	0.5
223.87	0.0	2511.89	0.5
237.14	0.0	2660.73	0.5
251.19	0.0	2818.38	0.6
266.07	0.0	2985.38	0.6
281.84	0.0	3162.28	0.6
298.54	0.0	3349.65	0.7
316.23	0.0	3548.13	0.6
334.97	0.1	3758.37	0.6
354.81	0.1	3981.07	0.5
375.84	0.1	4216.97	0.5
398.11	0.1	4466.84	0.5
421.70	0.1	4731.51	0.4
446.68	0.1	5011.87	0.3
473.15	0.1	5308.84	0.3
501.19	0.1	5623.41	0.3
530.88	0.1	5956.62	0.2
562.34	0.1	6309.57	0.2
595.66	0.1	6683.44	0.2
630.96	0.1	7079.46	0.2
668.34	0.1	7498.94	0.4
707.95	0.1	7943.28	0.1
749.89	0.1	8413.95	-0.2
794.33	0.1	8912.51	-0.1
841.40	0.1	9440.61	-0.3
891.25	0.1	10000.00	-0.4
944.06	0.2	10592.54	0.1
1000.00	0.2	11220.19	0.0
1059.25	0.2	11885.02	-0.1
1122.02	0.2	12589.25	0.0
1188.50	0.2	13335.21	-0.4
1258.93	0.2	14125.38	-0.3
1333.52	0.2	14962.36	-0.5
1412.54	0.2	15848.93	-0.3
1496.24	0.2	16788.04	-0.5
1584.89	0.3	17782.79	-0.6
1678.80	0.3	18836.49	-1.0
1778.28	0.3	19952.62	-0.9
1883.65	0.4		
1995.26	0.4		
2113.49	0.4		

Self Generated Noise

Table C.12- Broadband

		SPL			LEQ		
Fast Response							
Range (dB)	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting	
-20 to 70	22.4	30.8	37.8	22.4	30.8	37.9	
-10 to 80	22.4	30.6	37.8	22.3	30.7	38.4	
0 to 90	22.3	30.2	37.3	22.3	30.5	38.3	
10 to 100	22.4	30.5	37.9	22.4	30.6	37.9	
20 to 110	23.0	30.5	38.3	23.0	30.7	37.9	
30 to 120	26.7	31.3	39.0	26.6	31.4	38.3	
40 to 130	34.2	35.3	39.8	34.2	35.3	39.4	
50 to 140	43.0	43.0	43.6	43.1	43.0	43.6	
Slow Response							
Range(dB)	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting	
-20 to 70	22.4	30.7	38.7	22.4	30.7	38.6	
-10 to 80	22.3	30.5	38.3	22.3	30.5	38.5	
0 to 90	22.3	30.7	38.6	22.3	30.6	38.3	
10 to 100	22.4	30.7	38.3	22.4	30.6	38.5	
20 to 110	23.0	30.6	38.3	23.0	30.7	38.4	
30 to 120	26.7	31.5	38.4	26.7	31.5	38.5	
40 to 130	34.2	35.3	39.6	34.2	35.3	39.6	
50 to 140	43.1	43.0	43.5	43.1	43.0	43.5	

Table C.13 - Octave Band

A Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.7	-7.3	3.6	10.0	14.6	17.6	18.9	18.6	18.4	17.3	14.0
0 to 80	-16.9	-6.2	3.4	10.4	14.6	17.5	18.8	18.8	18.3	17.1	13.8
10 to 90	-13.3	-7.3	3.7	10.7	14.8	17.4	18.7	18.7	18.2	17.1	13.8
20 to 100	-5.9	-4.2	3.3	10.4	14.9	17.8	18.7	18.6	18.2	17.0	14.0
30 to 110	4.2	1.3	4.5	9.9	14.8	17.3	18.6	18.2	18.7	19.3	19.3
40 to 120	13.0	9.1	9.2	11.3	14.5	17.2	20.2	23.3	26.3	29.3	29.3
50 to 130	24.6	20.5	18.3	21.2	24.2	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	34.8	30.2	28.2	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3
A Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.9	3.3	10.1	14.9	17.7	18.8	18.8	18.4	17.3	14.0
0 to 80	-16.7	-6.1	3.6	10.2	14.8	17.5	18.7	18.6	18.3	17.1	13.9
10 to 90	-14.1	-6.4	3.5	10.2	14.7	17.5	18.7	18.6	18.2	17.1	13.8
20 to 100	-6.0	-4.9	3.4	10.3	14.8	17.5	18.7	18.6	18.2	17.0	14.0
30 to 110	3.6	0.4	4.7	10.5	14.6	17.3	18.6	18.2	18.9	19.3	19.3
40 to 120	14.3	10.3	8.8	11.6	14.7	17.3	20.2	23.3	26.3	29.3	29.3
50 to 130	24.4	20.2	18.3	21.2	24.2	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	33.9	30.1	28.3	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3

Table C.13 – (Continued)

A Weighting, Slow Response, SPL											
Range (dB)	16	31.5	63	125	250	500	1000	2000	4000	8000	16
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz
-10 to 70	-16.9	-6.3	3.4	10.2	14.8	17.7	18.8	18.7	18.4	17.3	13.9
0 to 80	-16.8	-6.2	3.5	10.2	14.6	17.5	18.7	18.6	18.3	17.1	13.8
10 to 90	-14.7	-6.7	3.5	10.0	14.7	17.5	18.7	18.6	18.1	16.8	13.1
20 to 100	-6.4	-5.4	3.3	10.0	14.6	17.4	18.5	18.3	18.3	18.3	18.3
30 to 110	3.9	4.2	7.2	10.2	13.3	16.3	19.3	22.3	25.3	28.3	28.3
40 to 120	13.5	14.2	17.2	20.2	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	23.7	24.2	27.2	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.1	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3

A Weighting, Slow Response, LEQ											
Range (dB)	16	31.5	63	125	250	500	1000	2000	4000	8000	16
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz
-10 to 70	-16.9	-6.4	3.4	10.4	14.8	17.6	18.7	18.7	18.4	17.2	13.9
0 to 80	-16.9	-6.3	3.2	10.2	14.7	17.5	18.7	18.6	18.3	17.1	13.8
10 to 90	-14.4	-6.4	3.4	10.1	14.7	17.5	18.7	18.6	18.1	16.8	13.1
20 to 100	-6.0	-5.5	3.3	10.1	14.5	17.5	18.5	18.3	18.3	18.3	18.3
30 to 110	3.9	4.2	7.2	10.3	13.3	16.3	19.3	22.3	25.3	28.3	28.3
40 to 120	13.8	14.2	17.2	20.2	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	23.9	24.2	27.2	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.1	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3

C Weighting, Fast Response, SPL											
Range (dB)	16	31.5	63	125	250	500	1000	2000	4000	8000	16
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz
-10 to 70	25.2	28.2	28.2	25.9	23.6	21.2	18.9	17.2	16.3	15.1	11.8
0 to 80	26.0	29.1	27.5	25.6	23.2	20.5	18.6	17.1	16.3	15.0	11.8
10 to 90	24.3	29.1	27.3	25.6	23.3	20.8	18.5	17.1	16.1	14.9	11.7
20 to 100	25.9	28.4	28.2	25.8	23.9	20.7	18.6	17.2	16.2	15.1	12.3
30 to 110	24.7	28.6	28.1	25.7	23.1	20.4	18.4	16.4	16.3	19.3	19.3
40 to 120	27.4	28.6	28.3	26.3	23.4	20.4	20.2	23.3	26.3	29.3	29.3
50 to 130	28.6	29.6	28.7	26.6	24.3	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	34.9	32.0	30.2	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3

C Weighting, Fast Response, LEQ											
Range (dB)	16	31.5	63	125	250	500	1000	2000	4000	8000	16
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz
-10 to 70	25.6	28.6	27.9	25.8	23.4	21.0	18.7	17.2	16.4	15.2	11.8
0 to 80	25.7	28.5	27.8	26.0	23.5	20.7	18.7	17.1	16.3	15.1	11.8
10 to 90	25.5	28.4	28.2	25.8	23.4	20.8	18.6	17.2	16.2	15.0	11.7
20 to 100	25.9	28.4	27.9	25.8	23.2	20.9	18.6	17.1	16.1	15.2	12.3
30 to 110	25.7	28.2	27.9	25.8	23.4	20.7	18.5	16.4	16.3	19.3	19.3
40 to 120	26.4	28.6	28.0	25.7	23.3	20.4	20.2	23.3	26.3	29.3	29.3
50 to 130	28.3	29.6	28.5	26.1	24.3	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	35.1	32.3	30.5	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3

Table C.13 - (Continued)

C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.8	28.2	28.0	25.9	23.4	20.8	18.8	17.3	16.4	15.2	11.8
0 to 80	25.9	28.8	28.0	26.0	23.4	20.9	18.7	17.2	16.3	15.0	11.7
10 to 90	26.6	28.7	27.9	26.0	23.6	20.8	18.7	17.1	16.1	14.3	11.3
20 to 100	26.5	28.6	28.0	26.1	24.7	22.4	19.8	17.4	15.3	18.3	18.3
30 to 110	25.7	28.3	27.7	25.8	23.1	20.9	19.3	22.3	25.3	28.3	28.3
40 to 120	26.5	28.9	28.1	25.9	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	27.9	29.4	27.6	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.6	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3
C Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	26.0	28.4	28.1	25.9	23.5	21.0	18.8	17.3	16.4	15.2	11.8
0 to 80	25.9	28.4	27.9	25.8	23.5	20.8	18.7	17.1	16.3	15.0	11.7
10 to 90	26.0	28.8	28.6	26.5	24.3	21.5	19.1	17.3	16.2	14.4	11.3
20 to 100	26.6	29.8	29.0	27.4	24.3	21.5	19.0	17.1	15.3	18.3	18.3
30 to 110	25.7	28.6	27.9	25.8	23.1	20.9	19.3	22.3	25.3	28.3	28.3
40 to 120	26.7	28.8	27.9	25.9	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	28.5	29.2	27.4	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.6	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3

Table C.13- (Continued)

Z Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	32.0	30.8	28.5	26.1	23.3	20.8	18.8	17.5	17.3	18.2	19.9
0 to 80	32.1	29.7	27.8	25.9	23.3	20.8	18.9	17.4	17.2	18.0	19.8
10 to 90	34.5	30.9	28.3	26.1	23.3	20.9	18.7	17.3	17.1	18.1	19.9
20 to 100	33.9	30.9	29.6	25.8	23.4	20.9	18.7	17.2	17.1	17.8	19.7
30 to 110	34.8	30.7	28.6	26.0	23.3	20.9	18.5	16.6	16.3	19.3	19.3
40 to 120	34.2	31.7	28.4	25.6	23.7	20.7	20.2	23.3	26.3	29.3	29.3
50 to 130	34.7	31.1	27.9	25.9	24.4	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	36.4	34.6	30.9	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3
Z Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.3	31.3	29.2	26.2	23.7	20.9	18.8	17.5	17.3	18.2	19.9
0 to 80	33.6	30.8	28.9	26.0	23.4	20.9	18.7	17.3	17.2	18.1	19.8
10 to 90	34.4	31.1	28.6	26.1	23.2	20.8	18.7	17.4	17.1	18.0	19.8
20 to 100	33.6	31.5	28.8	26.1	23.3	20.9	18.7	17.3	17.0	17.8	19.7
30 to 110	34.2	31.3	28.9	25.9	23.4	20.8	18.5	16.6	16.3	19.3	19.3
40 to 120	33.7	31.4	28.9	25.9	23.2	20.5	20.2	23.3	26.3	29.3	29.3
50 to 130	33.9	31.6	28.5	26.0	24.2	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	37.1	33.2	30.7	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3
Z Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	34.3	31.7	28.7	26.3	23.6	21.0	18.9	17.4	17.3	18.2	19.9
0 to 80	34.3	31.5	28.9	26.2	23.4	20.9	18.7	17.4	17.2	18.1	19.8
10 to 90	34.3	31.3	28.8	26.0	23.5	20.8	18.8	17.3	17.1	17.8	19.8
20 to 100	34.3	31.6	28.7	26.1	23.3	20.8	18.7	17.0	15.3	18.3	18.3
30 to 110	34.2	31.8	28.9	26.1	23.3	21.0	19.3	22.3	25.3	28.3	28.3
40 to 120	34.0	31.7	28.4	26.0	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	34.7	31.6	27.9	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	37.3	34.4	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3
Z Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	34.3	31.8	28.8	26.2	23.5	21.0	18.9	17.5	17.3	18.2	19.9
0 to 80	34.0	31.6	28.8	26.0	23.4	20.9	18.8	17.3	17.1	18.1	19.8
10 to 90	34.2	31.3	28.9	26.0	23.5	20.8	18.7	17.3	17.1	17.8	19.8
20 to 100	34.3	31.4	28.8	26.2	23.3	20.9	18.5	17.0	15.3	18.3	18.3
30 to 110	34.4	31.9	29.4	26.4	23.7	21.3	19.4	22.3	25.3	28.3	28.3
40 to 120	34.3	31.6	28.8	26.2	23.6	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	34.9	31.4	27.8	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	37.2	34.3	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3

Table C.14- 1/3 Octave Band

A Weighting, Fast Response, SPL																
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.5	-13.7	-11.3	-7.5	-2.4	-0.2	1.6	4.6	5.5	8.1	8.5	9.6	10.5
0 to 80	-16.9	-16.9	-16.9	-16.0	-13.7	-9.2	-5.5	-2.8	-0.4	1.9	3.6	5.4	7.3	8.5	9.7	10.1
10 to 90	-16.9	-16.8	-16.1	-15.1	-13.7	-10.7	-6.3	-5.3	-1.1	3.4	3.4	5.2	7.3	8.7	9.7	10.5
20 to 100	-16.2	-8.4	-13.9	-10.0	-10.6	-6.8	-5.6	-3.0	0.0	1.6	4.3	5.4	7.7	8.6	9.7	10.1
30 to 110	-6.2	3.7	-4.9	-0.5	-4.0	-4.1	-3.0	-1.5	0.1	3.4	4.9	5.8	7.6	8.4	9.7	9.9
40 to 120	3.9	13.3	5.2	8.8	4.2	5.4	5.5	5.5	5.5	8.3	8.3	8.4	11.2	11.3	11.3	14.2
50 to 130	12.4	22.0	14.9	19.3	15.4	14.3	15.2	15.8	15.2	18.2	18.2	18.2	21.2	21.2	21.2	24.2
60 to 140	23.0	33.0	24.3	29.8	25.7	24.3	25.2	25.3	25.2	28.2	28.2	28.2	31.2	31.2	31.2	34.2

A Weighting, Fast Response, SPL																
500 Hz	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.9	12.0	11.7	12.2	12.2	12.2	11.6	11.8	11.7	11.6	11.4	11.2	11.2	10.5	9.4	8.0	6.1
11.0	11.5	11.7	12.2	12.1	11.8	11.7	11.5	11.5	11.4	11.5	11.3	11.1	10.3	9.2	7.9	6.1
11.1	11.7	11.7	12.0	12.2	11.9	11.8	11.6	11.6	11.5	11.5	11.0	11.0	10.3	9.3	7.8	6.2
10.9	11.4	11.4	11.8	11.7	12.1	11.7	11.4	11.5	11.1	11.4	11.1	11.0	9.8	9.3	9.3	9.3
10.6	11.3	11.3	11.8	12.1	11.0	10.9	10.5	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

A Weighting, Fast Response, LEQ																
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz
-10 to 70	-16.9	-16.9	-16.9	-15.4	-12.8	-8.7	-5.5	-2.7	0.0	2.0	4.0	5.8	7.3	8.9	9.8	10.4
0 to 80	-16.9	-16.9	-16.9	-16.2	-13.7	-9.0	-6.0	-3.2	-0.6	3.2	3.9	5.9	7.7	9.0	9.8	10.8
10 to 90	-16.9	-16.3	-16.6	-15.4	-12.7	-9.3	-6.2	-2.8	-0.1	3.8	4.1	5.6	7.5	8.8	9.9	10.8
20 to 100	-14.9	-7.3	-13.2	-10.5	-9.7	-8.1	-5.9	-2.7	-0.1	3.7	4.1	6.0	7.4	8.9	9.6	10.4
30 to 110	-6.5	3.0	-4.4	-1.4	-3.4	-3.8	-2.7	-0.7	0.9	3.1	4.4	5.9	7.4	8.9	9.7	10.3
40 to 120	4.5	12.8	5.1	9.3	6.2	5.1	5.4	6.1	5.7	8.3	8.3	8.5	11.2	11.3	11.3	14.2
50 to 130	14.7	22.7	15.1	19.4	16.7	14.6	15.3	15.5	15.2	2	18.2	18.2	21.2	21.2	21.2	24.2
60 to 140	23.8	33.1	24.5	29.6	27.1	24.4	25.3	25.4	25.2	2	28.2	28.2	31.2	31.2	31.2	34.2

Table C.14- (Continued)

A Weighting, Fast Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.1	11.9	11.7	12.1	12.2	12.1	11.7	11.7	11.7	11.6	11.6	11.3	11.1	10.5	9.4	8.0	6.1
11.3	11.7	11.9	12.0	12.2	11.9	11.7	11.7	11.7	11.5	11.5	11.2	11.0	10.4	9.3	7.9	6.1
11.4	11.8	11.8	12.0	12.1	11.9	11.8	11.8	11.6	11.5	11.4	11.1	11.0	10.3	9.2	7.7	6.2
11.2	11.8	11.8	12.0	12.1	11.8	11.6	11.7	11.5	11.4	11.3	11.0	11.0	9.8	9.3	9.3	9.3
11.0	11.7	11.4	11.8	12.1	11.0	10.7	10.6	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

A Weighting, Slow Response, SPL																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	-16.9	-16.9	-16.9	-16.7	-13.5	-9.1	-6.4	-2.7	-0.2	3.0	4.2	5.9	7.5	8.7	10.0	10.4	
0 to 80	-16.9	-16.9	-16.9	-16.4	-13.7	-9.9	-6.1	-3.1	-0.4	3.6	3.8	5.9	7.6	8.7	9.7	10.5	
10 to 90	-16.9	-15.8	-16.8	-15.8	-12.8	-9.2	-6.1	-2.5	-0.1	3.4	4.2	5.7	7.3	8.7	9.8	10.5	
20 to 100	-11.7	-6.0	-11.6	-8.6	-8.7	-8.2	-5.7	-2.6	0.0	3.5	3.7	5.8	7.3	8.5	9.6	10.4	
30 to 110	-1.7	4.3	-1.5	1.3	1.3	1.3	4.2	4.2	4.2	7.2	7.2	7.2	10.2	10.2	10.2	13.3	
40 to 120	8.2	14.6	8.3	11.3	11.2	11.2	14.2	14.2	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.3	
50 to 130	18.2	24.9	18.3	21.2	21.2	21.2	24.2	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	
60 to 140	28.3	34.5	28.3	31.3	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	

A Weighting, Slow Response, SPL																	
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20	
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	
11.3	11.9	11.8	12.1	12.1	12.0	11.8	11.8	11.7	11.6	11.6	11.3	11.1	10.5	9.4	8.0	6.2	
11.3	11.8	11.8	12.1	12.1	12.0	11.7	11.7	11.7	11.5	11.5	11.2	11.0	10.4	9.3	7.8	6.1	
11.1	11.7	11.7	11.9	12.0	11.8	11.6	11.6	11.4	11.3	11.3	11.3	10.8	10.0	8.3	8.3	8.3	
11.2	11.5	11.2	11.6	11.9	12.3	12.2	12.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3	
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3	
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3	
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3	
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3	

A Weighting, Slow Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	-16.9	-16.9	-16.9	-16.6	-13.4	-9.0	-6.0	-2.8	-0.5	3.4	4.1	5.8	7.5	8.8	9.8	10.6	
0 to 80	-16.9	-16.9	-16.9	-16.6	-13.4	-9.9	-5.9	-3.1	0.1	3.3	4.2	5.8	7.7	8.9	9.9	10.6	
10 to 90	-16.9	-15.4	-16.9	-15.2	-12.3	-9.3	-5.8	-2.7	-0.1	3.0	4.2	5.9	7.4	8.6	9.8	10.5	
20 to 100	-11.7	-5.8	-11.7	-8.6	-8.7	-8.2	-5.5	-2.8	-0.3	3.5	3.9	6.0	7.6	8.7	9.6	10.4	
30 to 110	-1.7	4.3	-1.7	1.3	1.3	1.3	4.2	4.2	4.2	7.2	7.2	7.2	10.2	10.2	10.3	13.3	
40 to 120	8.2	14.5	8.3	11.2	11.2	11.2	14.2	14.2	14.2	17.2	17.2	17.2	20.2	17.2	20.2	23.3	
50 to 130	18.2	24.7	18.2	21.3	21.2	21.2	24.2	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	
60 to 140	28.3	34.8	28.2	31.3	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	

Table C.14- (Continued)

A Weighting, Slow Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.2	11.9	12.0	12.1	12.1	12.0	11.8	11.8	11.7	11.6	11.6	11.2	11.1	10.5	9.4	8.0	6.2
11.2	11.8	11.8	12.0	12.1	11.9	11.7	11.6	11.6	11.4	11.5	11.1	11.0	10.4	9.2	7.8	6.1
11.2	11.8	11.8	12.1	12.0	11.8	11.6	11.6	11.3	11.3	11.3	11.3	10.9	10.0	8.3	8.3	8.3
11.0	11.6	11.2	11.7	11.9	12.3	12.3	12.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

C Weighting, Fast Response, SPL																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	19.3	19.4	19.7	22.1	22.3	22.3	22.6	21.4	21.4	20.1	19.6	18.0	18.1	17.1	16.0	15.4	
0 to 80	16.1	18.0	20.0	21.2	21.7	22.3	21.5	22.0	20.6	20.7	20.2	18.6	18.5	16.8	16.5	15.1	
10 to 90	15.8	19.6	19.2	20.9	23.0	22.5	22.2	22.2	21.2	20.5	19.7	18.0	17.9	17.4	16.3	14.9	
20 to 100	17.2	18.1	21.1	21.6	23.0	22.3	22.6	21.8	19.6	20.9	20.1	19.2	18.1	16.7	16.1	14.7	
30 to 110	15.2	18.6	20.5	22.6	22.8	23.8	23.4	21.8	21.6	19.7	19.3	19.1	17.7	17.0	15.9	15.6	
40 to 120	16.0	20.7	21.3	21.4	22.6	22.6	22.7	21.4	21.8	21.2	20.0	18.9	17.3	16.7	15.9	14.7	
50 to 130	21.6	24.2	22.7	24.8	23.0	23.0	23.3	22.4	23.0	21.5	20.8	19.5	21.3	21.2	21.2	24.2	
60 to 140	25.4	35.7	27.8	31.6	26.9	28.2	25.9	27.2	25.4	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

C Weighting, Fast Response, SPL																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
14.0	13.2	12.4	11.7	11.3	10.8	10.1	10.0	9.8	9.7	9.6	9.2	8.9	8.5	7.3	5.9	4.1
14.3	13.4	12.6	12.1	11.2	10.3	10.1	9.9	9.8	9.7	9.4	9.2	9.0	8.4	7.3	5.8	4.0
14.5	13.8	12.6	11.8	11.0	10.8	10.0	9.8	9.6	9.4	9.4	9.1	8.9	8.3	7.0	5.4	4.0
14.1	13.5	12.6	11.9	11.1	10.5	9.8	9.9	9.5	9.4	9.3	9.2	9.3	9.1	9.3	9.3	9.3
14.2	13.0	11.8	11.7	10.9	10.3	10.3	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.3	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

C Weighting, Fast Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	17.7	20.6	22.5	22.9	22.7	23.1	22.4	22.1	21.1	20.2	20.1	19.2	17.7	17.0	16.0	15.1	
0 to 80	19.1	19.6	22.2	22.0	22.7	22.4	22.3	22.3	21.1	20.7	19.8	18.9	18.0	17.0	16.3	15.4	
10 to 90	17.9	19.3	21.2	22.3	22.9	23.2	22.6	21.9	21.1	20.2	19.7	18.9	18.2	17.1	16.0	15.0	
20 to 100	17.9	20.1	22.4	22.9	23.6	22.6	22.6	22.3	21.2	20.6	19.5	19.0	18.1	17.4	16.2	15.0	
30 to 110	17.9	20.2	21.6	22.8	22.3	22.9	22.6	22.3	21.4	20.4	19.5	19.0	18.1	17.2	16.1	15.0	
40 to 120	17.4	20.5	21.4	23.2	22.6	22.0	23.1	22.6	21.6	20.5	19.8	19.3	18.1	17.3	16.2	14.6	
50 to 130	21.2	25.8	22.3	25.6	24.1	23.9	23.7	22.3	22.4	21.8	20.3	19.7	21.2	21.2	21.2	24.2	
60 to 140	26.8	34.7	26.8	32.1	30.0	26.3	26.7	26.7	25.9	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

Table C.14- (Continued)

C Weighting, Fast Response ,LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.6	12.4	11.9	11.4	10.7	10.2	10.0	9.8	9.7	9.6	9.3	9.1	8.4	7.3	5.9	4.1
14.3	13.6	12.6	12.0	11.3	10.7	10.3	9.9	9.7	9.6	9.5	9.2	9.0	8.4	7.3	5.9	4.1
14.3	13.6	12.4	11.9	11.3	10.7	10.2	9.9	9.7	9.5	9.5	9.1	8.8	8.3	7.1	5.4	4.0
14.2	13.5	12.3	11.7	11.3	10.5	10.1	9.8	9.5	9.4	9.3	9.3	9.3	9.1	9.3	9.3	9.3
14.1	13.1	12.1	11.7	10.9	10.3	10.3	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.4	14.3	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

C Weighting, Slow Response, SPL																
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz
-10 to 70	17.7	20.7	22.1	22.7	23.1	23.2	22.4	22.7	22.1	20.9	19.9	19.0	18.1	17.0	16.3	15.1
0 to 80	18.1	20.5	21.9	22.5	22.3	22.7	22.6	21.7	21.2	20.8	19.7	19.0	18.4	17.4	16.4	15.1
10 to 90	19.7	20.4	21.3	22.7	23.6	22.7	22.6	22.5	21.5	20.5	19.7	18.9	18.1	17.2	16.2	15.4
20 to 100	18.1	21.1	22.1	23.1	23.0	22.5	22.8	22.2	21.0	20.8	19.7	18.8	18.2	17.2	16.3	15.3
30 to 110	18.0	20.5	21.8	22.8	22.4	22.9	22.3	22.4	21.0	20.3	19.7	19.1	18.0	17.2	16.1	14.0
40 to 120	18.1	21.5	22.5	22.8	23.2	23.0	22.9	22.5	21.0	20.5	20.3	19.0	20.2	20.2	20.2	23.3
50 to 130	20.1	25.6	22.9	24.8	23.9	23.7	24.3	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3
60 to 140	28.3	34.7	28.4	31.5	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3

C Weighting, Slow Response, SPL																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.6	12.5	11.9	11.4	10.9	10.3	10.0	9.8	9.7	9.6	9.3	9.1	8.5	7.3	5.9	4.0
14.3	13.6	12.5	12.0	11.3	10.7	10.3	9.9	9.7	9.5	9.4	9.1	8.9	8.3	7.2	5.3	4.3
14.3	13.5	12.5	11.8	11.2	10.5	10.0	9.8	9.3	9.3	9.3	8.3	8.3	8.3	8.3	8.3	8.3
14.3	13.4	12.4	11.3	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.4	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

C Weighting, Slow Response, LEQ																
Range(dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz
-10 to 70	18.6	20.3	21.9	23.2	23.3	22.8	22.4	22.5	21.6	21.0	20.0	19.1	18.2	17.1	16.1	15.2
0 to 80	18.8	20.7	21.6	23.0	22.3	23.0	22.8	22.2	21.7	20.8	19.9	19.1	18.1	17.2	16.3	15.2
10 to 90	18.8	20.1	20.8	22.1	23.1	22.7	22.8	22.2	21.5	20.8	20.0	19.0	18.0	17.3	16.0	15.1
20 to 100	17.6	20.8	22.4	22.6	22.9	22.8	22.6	22.1	21.4	21.0	19.8	19.1	18.3	17.3	16.2	15.1
30 to 110	18.5	20.5	22.6	22.7	23.1	23.0	22.5	22.6	21.7	20.3	19.9	19.0	18.1	17.3	16.2	13.9
40 to 120	18.8	21.0	22.4	22.5	23.3	23.6	22.7	22.1	21.3	20.7	20.2	19.1	20.2	20.2	20.2	23.3
50 to 130	20.1	25.8	23.1	24.3	24.4	24.2	24.2	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3
60 to 140	28.4	34.6	28.5	31.4	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3

Table C.14- (Continued)

C Weighting, Slow Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.7	12.6	12.0	11.3	10.8	10.2	10.0	9.8	9.6	9.6	9.2	9.1	8.4	7.3	5.9	4.0
14.4	13.5	12.6	11.9	11.3	10.7	10.3	9.9	9.7	9.5	9.5	9.1	8.9	8.3	7.2	5.4	4.3
14.4	13.6	12.5	11.8	11.3	10.5	10.1	9.8	9.3	9.3	9.3	8.3	8.3	8.3	8.3	8.3	8.3
14.2	13.4	12.3	11.4	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

Z Weighting, Fast Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	28.3	26.5	26.1	27.5	24.3	24.3	24.0	22.5	21.3	20.4	20.1	19.7	18.1	17.6	16.1	14.9	
0 to 80	28.5	27.1	27.8	25.4	25.8	24.4	23.9	22.6	21.4	20.1	19.8	19.7	18.1	17.1	16.5	14.9	
10 to 90	27.4	27.0	29.4	26.3	23.9	23.7	24.5	22.5	21.9	20.9	20.4	18.7	18.5	16.8	16.3	15.0	
20 to 100	28.8	27.8	26.5	25.8	25.4	25.5	23.3	22.8	20.1	20.7	20.4	18.6	19.0	17.1	16.8	15.3	
30 to 110	28.7	28.1	28.3	24.7	26.0	23.7	23.3	22.9	21.4	20.7	19.8	18.9	18.1	16.3	16.3	15.2	
40 to 120	25.3	26.7	27.3	26.8	24.3	24.9	23.0	22.1	21.2	20.6	19.8	18.0	17.9	17.3	16.4	14.5	
50 to 130	29.1	28.8	28.8	26.3	25.2	25.2	23.3	24.1	21.5	19.6	19.8	19.2	21.3	21.3	21.2	24.2	
60 to 140	28.0	27.2	27.5	27.9	27.9	26.9	25.9	26.9	25.2	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

Z Weighting, Slow Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.5	13.5	12.7	11.7	11.4	11.1	10.4	10.3	10.3	10.4	10.8	11.2	11.8	12.7	13.3	14.2	15.0
14.4	13.6	12.4	11.8	11.2	10.8	10.5	10.2	10.5	10.3	10.7	11.3	12.0	12.6	13.4	14.1	15.0
14.7	13.7	12.4	12.0	11.4	10.9	10.2	10.4	10.1	10.3	10.6	11.1	11.9	12.6	13.2	14.2	15.0
14.4	13.1	12.7	11.8	11.5	10.8	10.1	10.0	10.2	10.0	10.6	11.0	11.3	12.3	12.4	14.0	15.2
14.4	13.2	12.2	11.9	10.6	10.3	10.2	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.4	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	29.3	28.0	26.8	26.0	25.0	24.3	23.6	22.4	21.6	24.5
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	40.5	39.6	38.4	37.2	36.9	36.1	35.1	34.2	37.5

Z Weighting, Fast Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	28.8	28.5	27.1	26.8	25.0	24.3	24.4	23.4	22.5	21.3	19.8	19.0	17.9	17.4	16.2	15.1	
0 to 80	29.9	28.8	27.2	26.1	25.8	24.8	23.6	23.4	22.2	20.8	20.1	19.1	17.6	17.0	16.1	15.3	
10 to 90	28.9	28.3	28.3	26.0	25.9	25.1	24.1	22.3	22.1	20.9	20.3	18.7	18.3	17.0	16.3	15.1	
20 to 100	29.2	28.5	27.1	26.5	25.2	25.3	23.5	23.1	22.1	21.2	19.7	18.7	18.1	17.3	16.1	15.0	
30 to 110	28.6	29.7	26.8	27.3	24.8	24.0	23.6	23.3	21.8	21.1	19.8	19.1	18.0	17.2	16.4	15.1	
40 to 120	29.2	28.0	27.4	27.1	25.6	24.7	23.9	22.4	21.5	20.6	19.7	19.0	18.2	16.9	16.1	14.8	
50 to 130	28.6	27.9	27.4	27.7	26.5	24.9	23.7	23.4	21.9	21.0	20.0	19.3	21.2	21.2	21.2	24.2	
60 to 140	30.8	28.3	28.1	27.8	26.9	26.8	26.4	27.1	25.4	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

Z Weighting, Fast Response, LEQ																	
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20	
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.6	12.6	12.1	11.4	10.9	10.4	10.3	10.3	10.4	10.8	11.2	12.0	12.7	13.4	14.2	15.0	
14.3	13.6	12.5	11.9	11.3	10.7	10.4	10.3	10.3	10.4	10.8	11.0	11.8	12.6	13.4	14.1	15.0	
14.4	13.5	12.6	11.9	11.4	10.9	10.6	10.1	10.2	10.4	10.8	11.0	11.8	12.6	13.2	14.1	14.9	
14.6	13.6	12.5	11.9	11.2	10.8	10.2	10.1	10.0	10.2	10.6	11.0	11.4	12.3	12.4	14.0	15.2	
14.2	13.5	12.2	11.6	10.9	10.3	10.3	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	
14.4	14.3	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	
24.2	24.2	27.2	27.2	27.2	30.2	30.2	29.3	28.0	26.8	26.0	25.0	24.3	23.6	22.4	21.6	24.3	
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	40.5	39.6	38.4	37.2	36.9	36.1	35.1	34.2	37.4	

Z Weighting, Slow Response, SPL																		
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400		
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	29.8	28.6	28.1	26.5	25.2	24.7	23.7	23.3	21.8	20.8	20.0	18.9	18.3	17.3	16.2	15.5		
0 to 80	29.8	29.3	27.9	26.1	25.2	24.3	23.8	23.1	22.2	21.1	20.3	18.9	18.1	17.3	16.1	15.4		
10 to 90	28.5	27.6	26.5	26.8	25.8	24.8	24.1	23.0	22.0	20.8	20.1	19.0	18.0	17.1	16.0	15.3		
20 to 100	30.1	28.2	27.2	26.3	26.1	24.8	23.4	23.0	21.8	20.9	19.9	18.9	18.1	17.1	16.3	15.2		
30 to 110	28.8	29.2	27.3	27.1	25.6	24.7	23.6	23.0	21.7	21.2	19.9	19.0	18.1	16.9	16.0	14.8		
40 to 120	29.5	28.5	27.5	27.0	25.3	25.0	23.9	22.8	22.2	20.5	20.0	18.1	20.2	20.2	20.2	23.3		
50 to 130	29.1	27.8	28.2	27.2	24.9	24.4	24.4	24.3	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3		
60 to 140	28.8	29.7	29.1	31.2	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3		

Z Weighting, Slow Response, SPL																		
500	630	800	100	1250	160	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20		
Hz	Hz	Hz	0 Hz	Hz	0 Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	
14.3	13.7	12.6	11.9	11.4	10.8	10.4	10.4	10.2	10.5	10.9	11.1	11.9	12.7	13.3	14.2	15.0		
14.2	13.5	12.5	11.8	11.3	10.9	10.4	10.2	10.2	10.4	10.7	11.0	11.8	12.6	13.2	14.1	14.9		
14.3	13.5	12.5	11.9	11.3	10.7	10.2	10.2	10.0	10.1	10.7	11.2	11.3	12.1	13.1	14.3	15.1		
14.3	13.5	12.3	11.6	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3		

Z Weighting, Slow Response, LEQ																		
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400		
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	29.6	28.0	27.5	26.7	25.4	24.8	24.3	23.0	21.8	20.8	19.8	19.0	18.0	17.2	16.2	15.4		
0 to 80	29.4	28.7	28.2	26.4	25.7	25.0	24.3	22.9	22.2	21.0	20.0	19.0	18.0	17.4	16.4	15.2		
10 to 90	28.9	28.2	26.9	26.8	25.4	25.1	24.1	23.0	21.7	21.0	20.0	18.8	18.2	17.4	16.3	15.3		
20 to 100	29.2	28.7	27.6	26.5	25.6	24.6	23.9	22.9	21.8	20.8	20.0	19.2	18.2	17.1	16.1	15.2		
30 to 110	28.4	28.2	27.3	26.8	25.3	25.1	23.9	22.6	21.8	21.0	19.8	18.9	18.0	16.9	16.1	14.7		
40 to 120	29.2	28.5	28.0	26.8	25.5	24.6	23.6	22.6	21.4	20.5	20.0	17.8	20.2	20.2	20.2	23.3		
50 to 130	29.8	28.7	27.9	26.5	25.0	24.4	24.4	24.3	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3		
60 to 140	29.0	29.6	29.1	31.2	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3		

Z Weighting, Slow Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.5	13.5	12.6	12.1	11.4	10.9	10.4	10.3	10.3	10.4	10.8	11.2	12.0	12.7	13.3	14.1	15.0
14.3	13.4	12.5	11.9	11.3	10.8	10.4	10.3	10.2	10.4	10.7	11.0	11.8	12.6	13.2	14.1	14.9
14.5	13.6	12.5	11.9	11.3	10.7	10.2	10.1	10.0	10.1	10.7	11.1	11.3	12.3	13.1	14.3	14.3
14.2	13.4	12.3	11.4	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

QE7052 microphone using remote preamp (Figures/Tables "D")

Tolerance: IEC 61672 class 2

Directional frequency response using remote preamp with z-weighting

Figure D.1 - 0-30 degree incidence angles

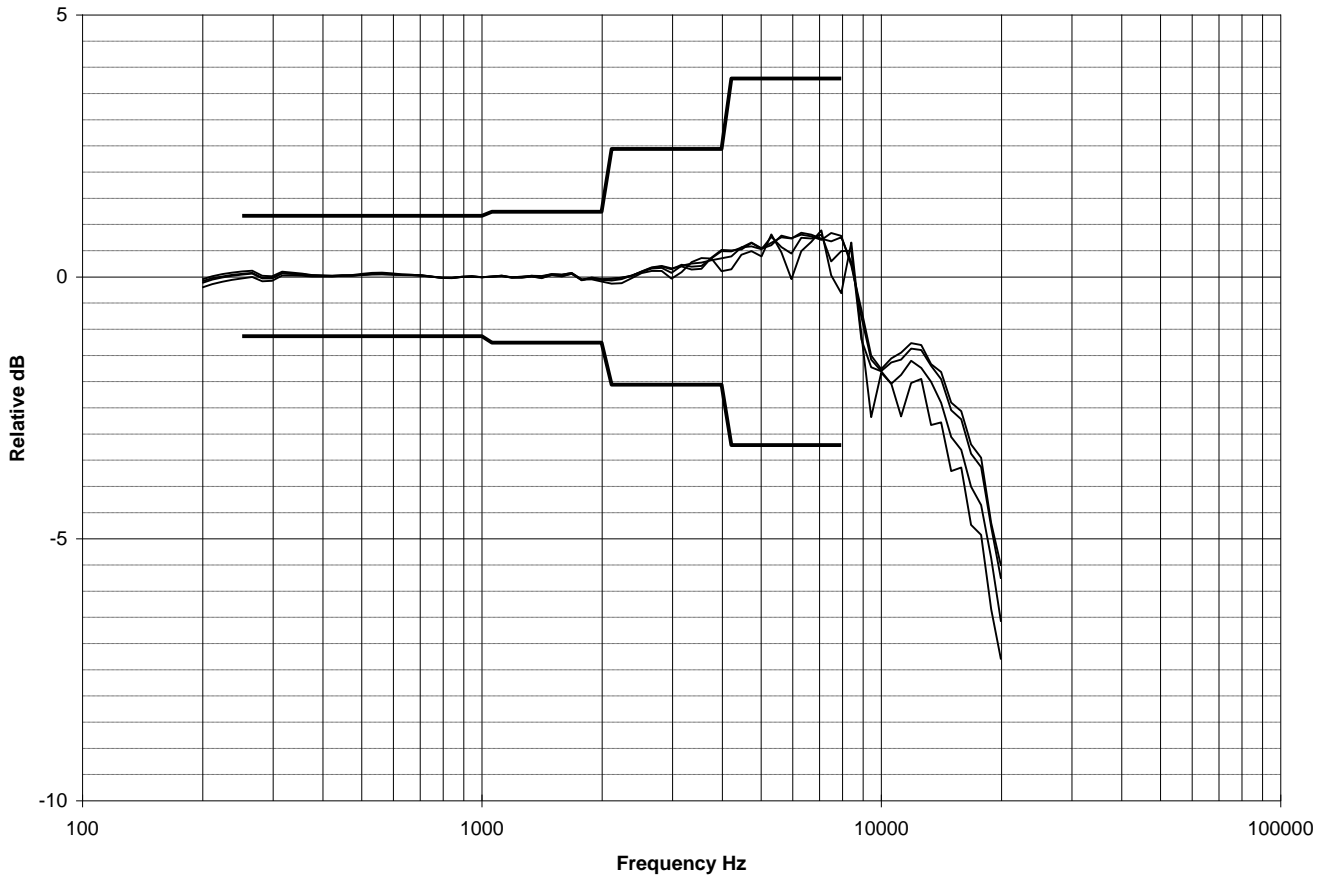


Figure D.2 - 0-90 degree incidence angles



Figure D.3 - 0-150 degree incidence angles

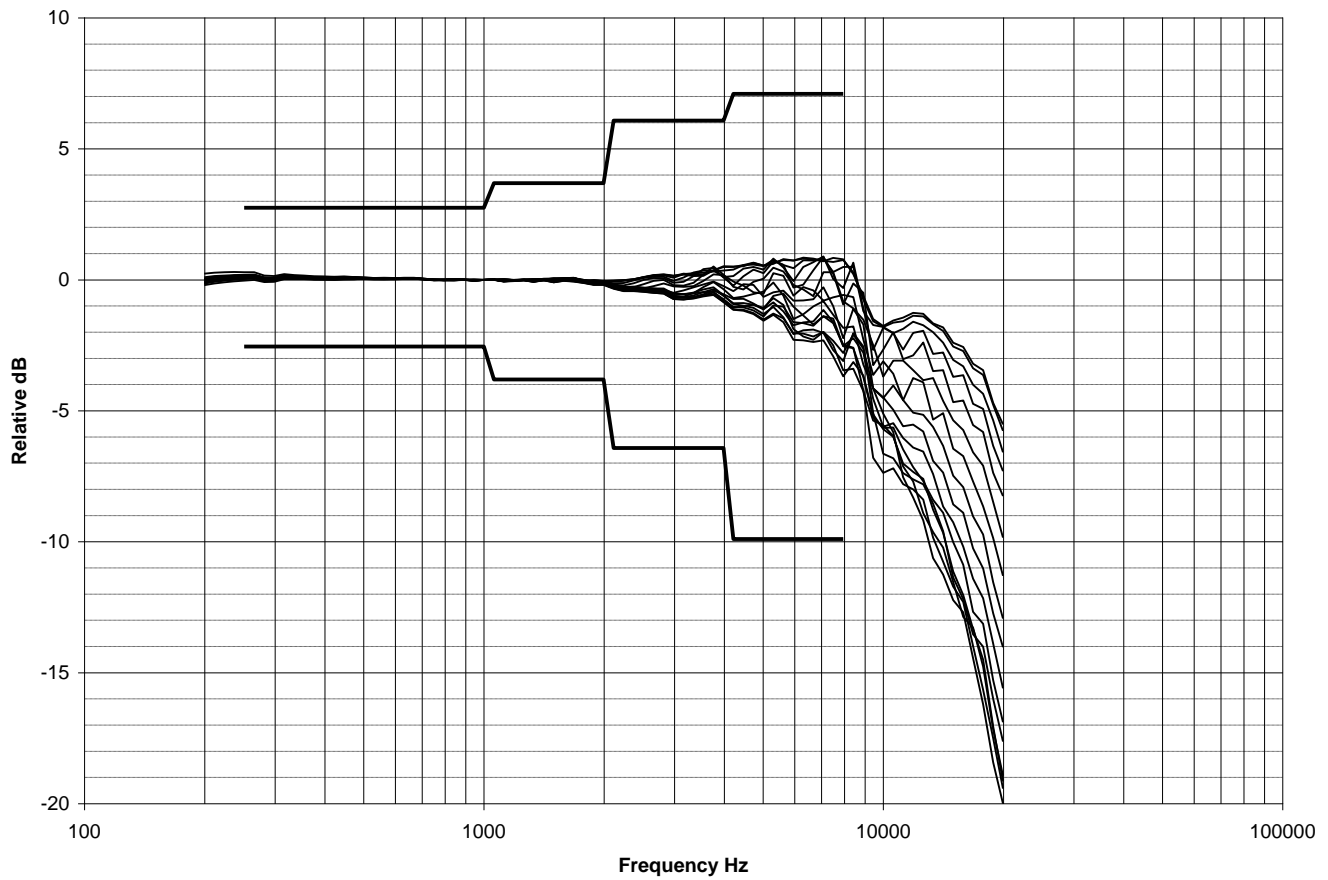
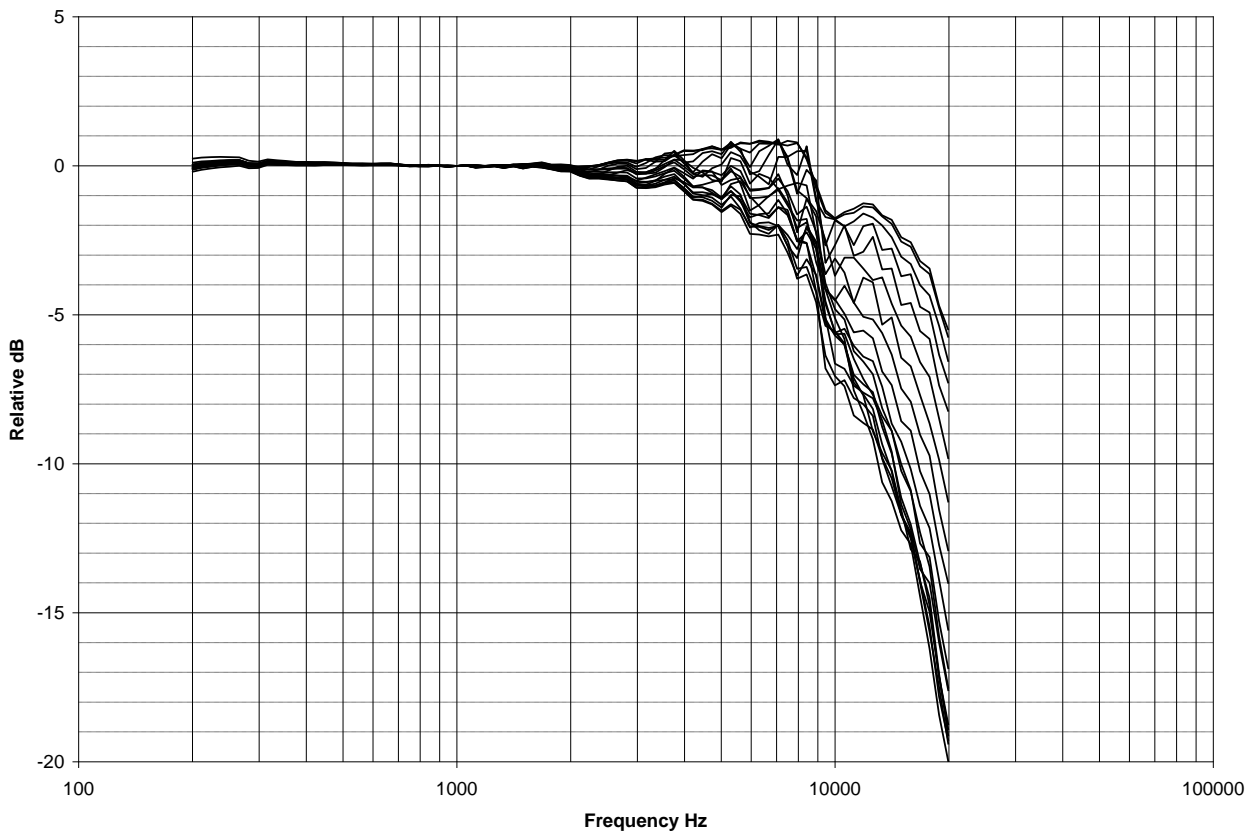
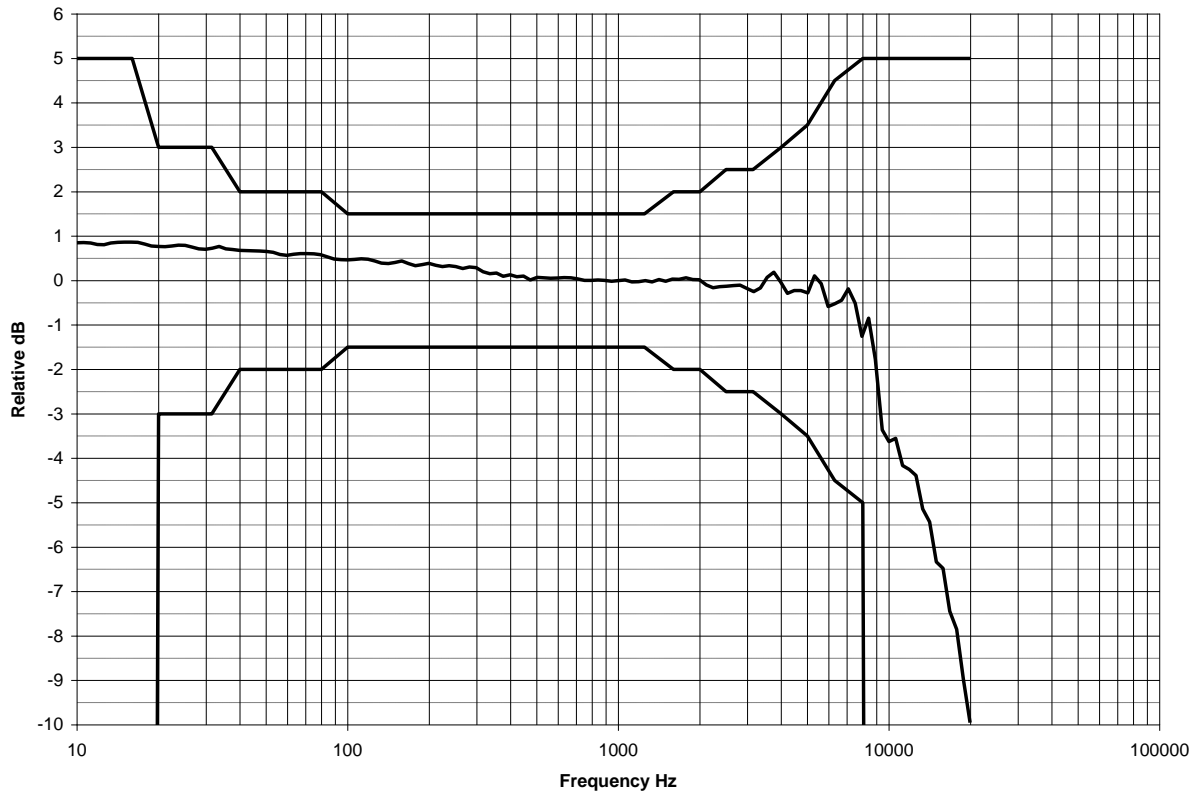


Figure D.4 - 0-180 degree incidence angles



Random Incidence

Figure D.5 - Frequency Response



Corrections

Table D.6 - Reflection, Diffraction, Microphone Frequency Response, and Windscreen Corrections

1/12 OCTAVE FREQUENCY in Hz	Remote Microphone Acoustic Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Remote Microphone Acoustic Corrections in dB
199.53	0.1	2113.49	0.0
211.35	0.1	2238.72	0.0
223.87	0.1	2371.37	0.0
237.14	0.0	2511.89	-0.1
251.19	0.0	2660.73	-0.2
266.07	0.0	2818.38	-0.2
281.84	0.0	2985.38	-0.3
298.54	0.0	3162.28	-0.2
316.23	0.0	3349.65	-0.1
334.97	0.0	3548.13	-0.2
354.81	0.0	3758.37	-0.5
375.84	0.1	3981.07	-0.6
398.11	0.1	4216.97	-0.6
421.70	0.1	4466.84	-0.6
446.68	0.1	4731.51	-0.7
473.15	0.1	5011.87	-0.7
501.19	0.0	5308.84	-0.8
530.88	0.0	5623.41	-1.0
562.34	0.0	5956.62	-1.0
595.66	0.0	6309.57	-1.1
630.96	0.1	6683.44	-1.2
668.34	0.1	7079.46	-1.1
707.95	0.1	7498.94	-1.3
749.89	0.1	7943.28	-1.3
794.33	0.1	8413.95	-0.8
841.40	0.1	8912.51	-0.1
891.25	0.1	9440.61	0.7
944.06	0.1	10000.00	0.9
1000.00	0.1	10592.54	0.6
1059.25	0.1	11220.19	0.3
1122.02	0.1	11885.02	0.1
1188.50	0.1	12589.25	-0.1
1258.93	0.1	13335.21	0.2
1333.52	0.1	14125.38	0.1
1412.54	0.1	14962.36	0.5
1496.24	0.1	15848.93	0.5
1584.89	0.1	16788.04	0.9
1678.80	0.0	17782.79	1.0
1778.28	0.1	18836.49	1.8
1883.65	0.0	19952.62	2.3
1995.26	0.1		

Table D.7- Pressure to Free Field Corrections

Frequency in Hz	QE-7052 Correction in dB
125	0.06
250	0.00
1000	-0.18
2000	0.07
4000	0.69

Table D.8 - Pressure Field to Random Incidence Corrections

Frequency in Hz	QE-7052 Correction in dB
125	0.06
250	0.00
1000	-0.16
2000	0.05
4000	-0.05

Self Generated Noise

Table D.9- Broadband

		SPL			LEQ		
Fast Response							
Range (dB)	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting	
-20 to 70	22.4	30.8	37.8	22.4	30.8	37.9	
-10 to 80	22.4	30.6	37.8	22.3	30.7	38.4	
0 to 90	22.3	30.2	37.3	22.3	30.5	38.3	
10 to 100	22.4	30.5	37.9	22.4	30.6	37.9	
20 to 110	23.0	30.5	38.3	23.0	30.7	37.9	
30 to 120	26.7	31.3	39.0	26.6	31.4	38.3	
40 to 130	34.2	35.3	39.8	34.2	35.3	39.4	
50 to 140	43.0	43.0	43.6	43.1	43.0	43.6	
Slow Response							
Range(dB)	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting	
-20 to 70	22.4	30.7	38.7	22.4	30.7	38.6	
-10 to 80	22.3	30.5	38.3	22.3	30.5	38.5	
0 to 90	22.3	30.7	38.6	22.3	30.6	38.3	
10 to 100	22.4	30.7	38.3	22.4	30.6	38.5	
20 to 110	23.0	30.6	38.3	23.0	30.7	38.4	
30 to 120	26.7	31.5	38.4	26.7	31.5	38.5	
40 to 130	34.2	35.3	39.6	34.2	35.3	39.6	
50 to 140	43.1	43.0	43.5	43.1	43.0	43.5	

Table D.10 - Octave Band

A Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.7	-7.3	3.6	10.0	14.6	17.6	18.9	18.6	18.4	17.3	14.0
0 to 80	-16.9	-6.2	3.4	10.4	14.6	17.5	18.8	18.8	18.3	17.1	13.8
10 to 90	-13.3	-7.3	3.7	10.7	14.8	17.4	18.7	18.7	18.2	17.1	13.8
20 to 100	-5.9	-4.2	3.3	10.4	14.9	17.8	18.7	18.6	18.2	17.0	14.0
30 to 110	4.2	1.3	4.5	9.9	14.8	17.3	18.6	18.2	18.7	19.3	19.3
40 to 120	13.0	9.1	9.2	11.3	14.5	17.2	20.2	23.3	26.3	29.3	29.3
50 to 130	24.6	20.5	18.3	21.2	24.2	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	34.8	30.2	28.2	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3
A Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.9	3.3	10.1	14.9	17.7	18.8	18.8	18.4	17.3	14.0
0 to 80	-16.7	-6.1	3.6	10.2	14.8	17.5	18.7	18.6	18.3	17.1	13.9
10 to 90	-14.1	-6.4	3.5	10.2	14.7	17.5	18.7	18.6	18.2	17.1	13.8
20 to 100	-6.0	-4.9	3.4	10.3	14.8	17.5	18.7	18.6	18.2	17.0	14.0
30 to 110	3.6	0.4	4.7	10.5	14.6	17.3	18.6	18.2	18.9	19.3	19.3
40 to 120	14.3	10.3	8.8	11.6	14.7	17.3	20.2	23.3	26.3	29.3	29.3
50 to 130	24.4	20.2	18.3	21.2	24.2	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	33.9	30.1	28.3	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3

Table D.10– (Continued)

A Weighting, Slow Response, SPL											
Range (dB)	16	31.5	63	125	250	500	1000	2000	4000	8000	16
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz
-10 to 70	-16.9	-6.3	3.4	10.2	14.8	17.7	18.8	18.7	18.4	17.3	13.9
0 to 80	-16.8	-6.2	3.5	10.2	14.6	17.5	18.7	18.6	18.3	17.1	13.8
10 to 90	-14.7	-6.7	3.5	10.0	14.7	17.5	18.7	18.6	18.1	16.8	13.1
20 to 100	-6.4	-5.4	3.3	10.0	14.6	17.4	18.5	18.3	18.3	18.3	18.3
30 to 110	3.9	4.2	7.2	10.2	13.3	16.3	19.3	22.3	25.3	28.3	28.3
40 to 120	13.5	14.2	17.2	20.2	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	23.7	24.2	27.2	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.1	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3

A Weighting, Slow Response, LEQ											
Range (dB)	16	31.5	63	125	250	500	1000	2000	4000	8000	16
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz
-10 to 70	-16.9	-6.4	3.4	10.4	14.8	17.6	18.7	18.7	18.4	17.2	13.9
0 to 80	-16.9	-6.3	3.2	10.2	14.7	17.5	18.7	18.6	18.3	17.1	13.8
10 to 90	-14.4	-6.4	3.4	10.1	14.7	17.5	18.7	18.6	18.1	16.8	13.1
20 to 100	-6.0	-5.5	3.3	10.1	14.5	17.5	18.5	18.3	18.3	18.3	18.3
30 to 110	3.9	4.2	7.2	10.3	13.3	16.3	19.3	22.3	25.3	28.3	28.3
40 to 120	13.8	14.2	17.2	20.2	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	23.9	24.2	27.2	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.1	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3

C Weighting, Fast Response, SPL											
Range (dB)	16	31.5	63	125	250	500	1000	2000	4000	8000	16
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz
-10 to 70	25.2	28.2	28.2	25.9	23.6	21.2	18.9	17.2	16.3	15.1	11.8
0 to 80	26.0	29.1	27.5	25.6	23.2	20.5	18.6	17.1	16.3	15.0	11.8
10 to 90	24.3	29.1	27.3	25.6	23.3	20.8	18.5	17.1	16.1	14.9	11.7
20 to 100	25.9	28.4	28.2	25.8	23.9	20.7	18.6	17.2	16.2	15.1	12.3
30 to 110	24.7	28.6	28.1	25.7	23.1	20.4	18.4	16.4	16.3	19.3	19.3
40 to 120	27.4	28.6	28.3	26.3	23.4	20.4	20.2	23.3	26.3	29.3	29.3
50 to 130	28.6	29.6	28.7	26.6	24.3	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	34.9	32.0	30.2	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3

C Weighting, Fast Response, LEQ											
Range (dB)	16	31.5	63	125	250	500	1000	2000	4000	8000	16
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz
-10 to 70	25.6	28.6	27.9	25.8	23.4	21.0	18.7	17.2	16.4	15.2	11.8
0 to 80	25.7	28.5	27.8	26.0	23.5	20.7	18.7	17.1	16.3	15.1	11.8
10 to 90	25.5	28.4	28.2	25.8	23.4	20.8	18.6	17.2	16.2	15.0	11.7
20 to 100	25.9	28.4	27.9	25.8	23.2	20.9	18.6	17.1	16.1	15.2	12.3
30 to 110	25.7	28.2	27.9	25.8	23.4	20.7	18.5	16.4	16.3	19.3	19.3
40 to 120	26.4	28.6	28.0	25.7	23.3	20.4	20.2	23.3	26.3	29.3	29.3
50 to 130	28.3	29.6	28.5	26.1	24.3	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	35.1	32.3	30.5	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3

Table D.10 - (Continued)

C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.8	28.2	28.0	25.9	23.4	20.8	18.8	17.3	16.4	15.2	11.8
0 to 80	25.9	28.8	28.0	26.0	23.4	20.9	18.7	17.2	16.3	15.0	11.7
10 to 90	26.6	28.7	27.9	26.0	23.6	20.8	18.7	17.1	16.1	14.3	11.3
20 to 100	26.5	28.6	28.0	26.1	24.7	22.4	19.8	17.4	15.3	18.3	18.3
30 to 110	25.7	28.3	27.7	25.8	23.1	20.9	19.3	22.3	25.3	28.3	28.3
40 to 120	26.5	28.9	28.1	25.9	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	27.9	29.4	27.6	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.6	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3

C Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	26.0	28.4	28.1	25.9	23.5	21.0	18.8	17.3	16.4	15.2	11.8
0 to 80	25.9	28.4	27.9	25.8	23.5	20.8	18.7	17.1	16.3	15.0	11.7
10 to 90	26.0	28.8	28.6	26.5	24.3	21.5	19.1	17.3	16.2	14.4	11.3
20 to 100	26.6	29.8	29.0	27.4	24.3	21.5	19.0	17.1	15.3	18.3	18.3
30 to 110	25.7	28.6	27.9	25.8	23.1	20.9	19.3	22.3	25.3	28.3	28.3
40 to 120	26.7	28.8	27.9	25.9	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	28.5	29.2	27.4	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.6	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3

Table D.10- (Continued)

Z Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	32.0	30.8	28.5	26.1	23.3	20.8	18.8	17.5	17.3	18.2	19.9
0 to 80	32.1	29.7	27.8	25.9	23.3	20.8	18.9	17.4	17.2	18.0	19.8
10 to 90	34.5	30.9	28.3	26.1	23.3	20.9	18.7	17.3	17.1	18.1	19.9
20 to 100	33.9	30.9	29.6	25.8	23.4	20.9	18.7	17.2	17.1	17.8	19.7
30 to 110	34.8	30.7	28.6	26.0	23.3	20.9	18.5	16.6	16.3	19.3	19.3
40 to 120	34.2	31.7	28.4	25.6	23.7	20.7	20.2	23.3	26.3	29.3	29.3
50 to 130	34.7	31.1	27.9	25.9	24.4	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	36.4	34.6	30.9	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3

Z Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.3	31.3	29.2	26.2	23.7	20.9	18.8	17.5	17.3	18.2	19.9
0 to 80	33.6	30.8	28.9	26.0	23.4	20.9	18.7	17.3	17.2	18.1	19.8
10 to 90	34.4	31.1	28.6	26.1	23.2	20.8	18.7	17.4	17.1	18.0	19.8
20 to 100	33.6	31.5	28.8	26.1	23.3	20.9	18.7	17.3	17.0	17.8	19.7
30 to 110	34.2	31.3	28.9	25.9	23.4	20.8	18.5	16.6	16.3	19.3	19.3
40 to 120	33.7	31.4	28.9	25.9	23.2	20.5	20.2	23.3	26.3	29.3	29.3
50 to 130	33.9	31.6	28.5	26.0	24.2	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	37.1	33.2	30.7	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3

Z Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	34.3	31.7	28.7	26.3	23.6	21.0	18.9	17.4	17.3	18.2	19.9
0 to 80	34.3	31.5	28.9	26.2	23.4	20.9	18.7	17.4	17.2	18.1	19.8
10 to 90	34.3	31.3	28.8	26.0	23.5	20.8	18.8	17.3	17.1	17.8	19.8
20 to 100	34.3	31.6	28.7	26.1	23.3	20.8	18.7	17.0	15.3	18.3	18.3
30 to 110	34.2	31.8	28.9	26.1	23.3	21.0	19.3	22.3	25.3	28.3	28.3
40 to 120	34.0	31.7	28.4	26.0	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	34.7	31.6	27.9	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	37.3	34.4	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3
Z Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	34.3	31.8	28.8	26.2	23.5	21.0	18.9	17.5	17.3	18.2	19.9
0 to 80	34.0	31.6	28.8	26.0	23.4	20.9	18.8	17.3	17.1	18.1	19.8
10 to 90	34.2	31.3	28.9	26.0	23.5	20.8	18.7	17.3	17.1	17.8	19.8
20 to 100	34.3	31.4	28.8	26.2	23.3	20.9	18.5	17.0	15.3	18.3	18.3
30 to 110	34.4	31.9	29.4	26.4	23.7	21.3	19.4	22.3	25.3	28.3	28.3
40 to 120	34.3	31.6	28.8	26.2	23.6	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	34.9	31.4	27.8	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	37.2	34.3	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3

Table D.11- 1/3 Octave Band

A Weighting, Fast Response, SPL																
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.5	-13.7	-11.3	-7.5	-2.4	-0.2	1.6	4.6	5.5	8.1	8.5	9.6	10.5
0 to 80	-16.9	-16.9	-16.9	-16.0	-13.7	-9.2	-5.5	-2.8	-0.4	1.9	3.6	5.4	7.3	8.5	9.7	10.1
10 to 90	-16.9	-16.8	-16.1	-15.1	-13.7	-10.7	-6.3	-5.3	-1.1	3.4	3.4	5.2	7.3	8.7	9.7	10.5
20 to 100	-16.2	-8.4	-13.9	-10.0	-10.6	-6.8	-5.6	-3.0	0.0	1.6	4.3	5.4	7.7	8.6	9.7	10.1
30 to 110	-6.2	3.7	-4.9	-0.5	-4.0	-4.1	-3.0	-1.5	0.1	3.4	4.9	5.8	7.6	8.4	9.7	9.9
40 to 120	3.9	13.3	5.2	8.8	4.2	5.4	5.5	5.5	5.5	8.3	8.3	8.4	11.2	11.3	11.3	14.2
50 to 130	12.4	22.0	14.9	19.3	15.4	14.3	15.2	15.8	15.2	18.2	18.2	18.2	21.2	21.2	21.2	24.2
60 to 140	23.0	33.0	24.3	29.8	25.7	24.3	25.2	25.3	25.2	28.2	28.2	28.2	31.2	31.2	31.2	34.2

A Weighting, Fast Response, SPL																
500 Hz	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.9	12.0	11.7	12.2	12.2	12.2	11.6	11.8	11.7	11.6	11.4	11.2	11.2	10.5	9.4	8.0	6.1
11.0	11.5	11.7	12.2	12.1	11.8	11.7	11.5	11.5	11.4	11.5	11.3	11.1	10.3	9.2	7.9	6.1
11.1	11.7	11.7	12.0	12.2	11.9	11.8	11.6	11.6	11.5	11.5	11.0	11.0	10.3	9.3	7.8	6.2
10.9	11.4	11.4	11.8	11.7	12.1	11.7	11.4	11.5	11.1	11.4	11.1	11.0	9.8	9.3	9.3	9.3
10.6	11.3	11.3	11.8	12.1	11.0	10.9	10.5	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

A Weighting, Fast Response, LEQ																
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz
-10 to 70	-16.9	-16.9	-16.9	-15.4	-12.8	-8.7	-5.5	-2.7	0.0	2.0	4.0	5.8	7.3	8.9	9.8	10.4
0 to 80	-16.9	-16.9	-16.9	-16.2	-13.7	-9.0	-6.0	-3.2	-0.6	3.2	3.9	5.9	7.7	9.0	9.8	10.8
10 to 90	-16.9	-16.3	-16.6	-15.4	-12.7	-9.3	-6.2	-2.8	-0.1	3.8	4.1	5.6	7.5	8.8	9.9	10.8
20 to 100	-14.9	-7.3	-13.2	-10.5	-9.7	-8.1	-5.9	-2.7	-0.1	3.7	4.1	6.0	7.4	8.9	9.6	10.4
30 to 110	-6.5	3.0	-4.4	-1.4	-3.4	-3.8	-2.7	-0.7	0.9	3.1	4.4	5.9	7.4	8.9	9.7	10.3
40 to 120	4.5	12.8	5.1	9.3	6.2	5.1	5.4	6.1	5.7	8.3	8.3	8.5	11.2	11.3	11.3	14.2
50 to 130	14.7	22.7	15.1	19.4	16.7	14.6	15.3	15.5	15.2	2	18.2	18.2	21.2	21.2	21.2	24.2
60 to 140	23.8	33.1	24.5	29.6	27.1	24.4	25.3	25.4	25.2	2	28.2	28.2	31.2	31.2	31.2	34.2

Table D.11- (Continued)

A Weighting, Fast Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.1	11.9	11.7	12.1	12.2	12.1	11.7	11.7	11.7	11.6	11.6	11.3	11.1	10.5	9.4	8.0	6.1
11.3	11.7	11.9	12.0	12.2	11.9	11.7	11.7	11.7	11.5	11.5	11.2	11.0	10.4	9.3	7.9	6.1
11.4	11.8	11.8	12.0	12.1	11.9	11.8	11.8	11.6	11.5	11.4	11.1	11.0	10.3	9.2	7.7	6.2
11.2	11.8	11.8	12.0	12.1	11.8	11.6	11.7	11.5	11.4	11.3	11.0	11.0	9.8	9.3	9.3	9.3
11.0	11.7	11.4	11.8	12.1	11.0	10.7	10.6	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

A Weighting, Slow Response, SPL																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	-16.9	-16.9	-16.9	-16.7	-13.5	-9.1	-6.4	-2.7	-0.2	3.0	4.2	5.9	7.5	8.7	10.0	10.4	
0 to 80	-16.9	-16.9	-16.9	-16.4	-13.7	-9.9	-6.1	-3.1	-0.4	3.6	3.8	5.9	7.6	8.7	9.7	10.5	
10 to 90	-16.9	-15.8	-16.8	-15.8	-12.8	-9.2	-6.1	-2.5	-0.1	3.4	4.2	5.7	7.3	8.7	9.8	10.5	
20 to 100	-11.7	-6.0	-11.6	-8.6	-8.7	-8.2	-5.7	-2.6	0.0	3.5	3.7	5.8	7.3	8.5	9.6	10.4	
30 to 110	-1.7	4.3	-1.5	1.3	1.3	1.3	4.2	4.2	4.2	7.2	7.2	7.2	10.2	10.2	10.2	13.3	
40 to 120	8.2	14.6	8.3	11.3	11.2	11.2	14.2	14.2	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.3	
50 to 130	18.2	24.9	18.3	21.2	21.2	21.2	24.2	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	
60 to 140	28.3	34.5	28.3	31.3	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	

A Weighting, Slow Response, SPL																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.3	11.9	11.8	12.1	12.1	12.0	11.8	11.8	11.7	11.6	11.6	11.3	11.1	10.5	9.4	8.0	6.2
11.3	11.8	11.8	12.1	12.1	12.0	11.7	11.7	11.7	11.5	11.5	11.2	11.0	10.4	9.3	7.8	6.1
11.1	11.7	11.7	11.9	12.0	11.8	11.6	11.6	11.4	11.3	11.3	11.3	10.8	10.0	8.3	8.3	8.3
11.2	11.5	11.2	11.6	11.9	12.3	12.2	12.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

A Weighting, Slow Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	-16.9	-16.9	-16.9	-16.6	-13.4	-9.0	-6.0	-2.8	-0.5	3.4	4.1	5.8	7.5	8.8	9.8	10.6	
0 to 80	-16.9	-16.9	-16.9	-16.6	-13.4	-9.9	-5.9	-3.1	0.1	3.3	4.2	5.8	7.7	8.9	9.9	10.6	
10 to 90	-16.9	-15.4	-16.9	-15.2	-12.3	-9.3	-5.8	-2.7	-0.1	3.0	4.2	5.9	7.4	8.6	9.8	10.5	
20 to 100	-11.7	-5.8	-11.7	-8.6	-8.7	-8.2	-5.5	-2.8	-0.3	3.5	3.9	6.0	7.6	8.7	9.6	10.4	
30 to 110	-1.7	4.3	-1.7	1.3	1.3	1.3	4.2	4.2	4.2	7.2	7.2	7.2	10.2	10.2	10.3	13.3	
40 to 120	8.2	14.5	8.3	11.2	11.2	11.2	14.2	14.2	14.2	17.2	17.2	17.2	20.2	17.2	20.2	23.3	
50 to 130	18.2	24.7	18.2	21.3	21.2	21.2	24.2	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	
60 to 140	28.3	34.8	28.2	31.3	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	

Table D.11- (Continued)

A Weighting, Slow Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.2	11.9	12.0	12.1	12.1	12.0	11.8	11.8	11.7	11.6	11.6	11.2	11.1	10.5	9.4	8.0	6.2
11.2	11.8	11.8	12.0	12.1	11.9	11.7	11.6	11.6	11.4	11.5	11.1	11.0	10.4	9.2	7.8	6.1
11.2	11.8	11.8	12.1	12.0	11.8	11.6	11.6	11.3	11.3	11.3	11.3	10.9	10.0	8.3	8.3	8.3
11.0	11.6	11.2	11.7	11.9	12.3	12.3	12.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

C Weighting, Fast Response, SPL																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	19.3	19.4	19.7	22.1	22.3	22.3	22.6	21.4	21.4	20.1	19.6	18.0	18.1	17.1	16.0	15.4	
0 to 80	16.1	18.0	20.0	21.2	21.7	22.3	21.5	22.0	20.6	20.7	20.2	18.6	18.5	16.8	16.5	15.1	
10 to 90	15.8	19.6	19.2	20.9	23.0	22.5	22.2	22.2	21.2	20.5	19.7	18.0	17.9	17.4	16.3	14.9	
20 to 100	17.2	18.1	21.1	21.6	23.0	22.3	22.6	21.8	19.6	20.9	20.1	19.2	18.1	16.7	16.1	14.7	
30 to 110	15.2	18.6	20.5	22.6	22.8	23.8	23.4	21.8	21.6	19.7	19.3	19.1	17.7	17.0	15.9	15.6	
40 to 120	16.0	20.7	21.3	21.4	22.6	22.6	22.7	21.4	21.8	21.2	20.0	18.9	17.3	16.7	15.9	14.7	
50 to 130	21.6	24.2	22.7	24.8	23.0	23.0	23.3	22.4	23.0	21.5	20.8	19.5	21.3	21.2	21.2	24.2	
60 to 140	25.4	35.7	27.8	31.6	26.9	28.2	25.9	27.2	25.4	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

C Weighting, Fast Response, SPL																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
14.0	13.2	12.4	11.7	11.3	10.8	10.1	10.0	9.8	9.7	9.6	9.2	8.9	8.5	7.3	5.9	4.1
14.3	13.4	12.6	12.1	11.2	10.3	10.1	9.9	9.8	9.7	9.4	9.2	9.0	8.4	7.3	5.8	4.0
14.5	13.8	12.6	11.8	11.0	10.8	10.0	9.8	9.6	9.4	9.4	9.1	8.9	8.3	7.0	5.4	4.0
14.1	13.5	12.6	11.9	11.1	10.5	9.8	9.9	9.5	9.4	9.3	9.2	9.3	9.1	9.3	9.3	9.3
14.2	13.0	11.8	11.7	10.9	10.3	10.3	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.3	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

C Weighting, Fast Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	17.7	20.6	22.5	22.9	22.7	23.1	22.4	22.1	21.1	20.2	20.1	19.2	17.7	17.0	16.0	15.1	
0 to 80	19.1	19.6	22.2	22.0	22.7	22.4	22.3	22.3	21.1	20.7	19.8	18.9	18.0	17.0	16.3	15.4	
10 to 90	17.9	19.3	21.2	22.3	22.9	23.2	22.6	21.9	21.1	20.2	19.7	18.9	18.2	17.1	16.0	15.0	
20 to 100	17.9	20.1	22.4	22.9	23.6	22.6	22.6	22.3	21.2	20.6	19.5	19.0	18.1	17.4	16.2	15.0	
30 to 110	17.9	20.2	21.6	22.8	22.3	22.9	22.6	22.3	21.4	20.4	19.5	19.0	18.1	17.2	16.1	15.0	
40 to 120	17.4	20.5	21.4	23.2	22.6	22.0	23.1	22.6	21.6	20.5	19.8	19.3	18.1	17.3	16.2	14.6	
50 to 130	21.2	25.8	22.3	25.6	24.1	23.9	23.7	22.3	22.4	21.8	20.3	19.7	21.2	21.2	21.2	24.2	
60 to 140	26.8	34.7	26.8	32.1	30.0	26.3	26.7	26.7	25.9	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

Table D.11- (Continued)

C Weighting, Fast Response ,LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.6	12.4	11.9	11.4	10.7	10.2	10.0	9.8	9.7	9.6	9.3	9.1	8.4	7.3	5.9	4.1
14.3	13.6	12.6	12.0	11.3	10.7	10.3	9.9	9.7	9.6	9.5	9.2	9.0	8.4	7.3	5.9	4.1
14.3	13.6	12.4	11.9	11.3	10.7	10.2	9.9	9.7	9.5	9.5	9.1	8.8	8.3	7.1	5.4	4.0
14.2	13.5	12.3	11.7	11.3	10.5	10.1	9.8	9.5	9.4	9.3	9.3	9.3	9.1	9.3	9.3	9.3
14.1	13.1	12.1	11.7	10.9	10.3	10.3	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.4	14.3	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

C Weighting, Slow Response, SPL																
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz
-10 to 70	17.7	20.7	22.1	22.7	23.1	23.2	22.4	22.7	22.1	20.9	19.9	19.0	18.1	17.0	16.3	15.1
0 to 80	18.1	20.5	21.9	22.5	22.3	22.7	22.6	21.7	21.2	20.8	19.7	19.0	18.4	17.4	16.4	15.1
10 to 90	19.7	20.4	21.3	22.7	23.6	22.7	22.6	22.5	21.5	20.5	19.7	18.9	18.1	17.2	16.2	15.4
20 to 100	18.1	21.1	22.1	23.1	23.0	22.5	22.8	22.2	21.0	20.8	19.7	18.8	18.2	17.2	16.3	15.3
30 to 110	18.0	20.5	21.8	22.8	22.4	22.9	22.3	22.4	21.0	20.3	19.7	19.1	18.0	17.2	16.1	14.0
40 to 120	18.1	21.5	22.5	22.8	23.2	23.0	22.9	22.5	21.0	20.5	20.3	19.0	20.2	20.2	20.2	23.3
50 to 130	20.1	25.6	22.9	24.8	23.9	23.7	24.3	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3
60 to 140	28.3	34.7	28.4	31.5	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3

C Weighting, Slow Response, SPL																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.6	12.5	11.9	11.4	10.9	10.3	10.0	9.8	9.7	9.6	9.3	9.1	8.5	7.3	5.9	4.0
14.3	13.6	12.5	12.0	11.3	10.7	10.3	9.9	9.7	9.5	9.4	9.1	8.9	8.3	7.2	5.3	4.3
14.3	13.5	12.5	11.8	11.2	10.5	10.0	9.8	9.3	9.3	9.3	8.3	8.3	8.3	8.3	8.3	8.3
14.3	13.4	12.4	11.3	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.4	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

C Weighting, Slow Response, LEQ																
Range(dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz
-10 to 70	18.6	20.3	21.9	23.2	23.3	22.8	22.4	22.5	21.6	21.0	20.0	19.1	18.2	17.1	16.1	15.2
0 to 80	18.8	20.7	21.6	23.0	22.3	23.0	22.8	22.2	21.7	20.8	19.9	19.1	18.1	17.2	16.3	15.2
10 to 90	18.8	20.1	20.8	22.1	23.1	22.7	22.8	22.2	21.5	20.8	20.0	19.0	18.0	17.3	16.0	15.1
20 to 100	17.6	20.8	22.4	22.6	22.9	22.8	22.6	22.1	21.4	21.0	19.8	19.1	18.3	17.3	16.2	15.1
30 to 110	18.5	20.5	22.6	22.7	23.1	23.0	22.5	22.6	21.7	20.3	19.9	19.0	18.1	17.3	16.2	13.9
40 to 120	18.8	21.0	22.4	22.5	23.3	23.6	22.7	22.1	21.3	20.7	20.2	19.1	20.2	20.2	20.2	23.3
50 to 130	20.1	25.8	23.1	24.3	24.4	24.2	24.2	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3
60 to 140	28.4	34.6	28.5	31.4	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3

Table D.11- (Continued)

C Weighting, Slow Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.7	12.6	12.0	11.3	10.8	10.2	10.0	9.8	9.6	9.6	9.2	9.1	8.4	7.3	5.9	4.0
14.4	13.5	12.6	11.9	11.3	10.7	10.3	9.9	9.7	9.5	9.5	9.1	8.9	8.3	7.2	5.4	4.3
14.4	13.6	12.5	11.8	11.3	10.5	10.1	9.8	9.3	9.3	9.3	8.3	8.3	8.3	8.3	8.3	8.3
14.2	13.4	12.3	11.4	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

Z Weighting, Fast Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	28.3	26.5	26.1	27.5	24.3	24.3	24.0	22.5	21.3	20.4	20.1	19.7	18.1	17.6	16.1	14.9	
0 to 80	28.5	27.1	27.8	25.4	25.8	24.4	23.9	22.6	21.4	20.1	19.8	19.7	18.1	17.1	16.5	14.9	
10 to 90	27.4	27.0	29.4	26.3	23.9	23.7	24.5	22.5	21.9	20.9	20.4	18.7	18.5	16.8	16.3	15.0	
20 to 100	28.8	27.8	26.5	25.8	25.4	25.5	23.3	22.8	20.1	20.7	20.4	18.6	19.0	17.1	16.8	15.3	
30 to 110	28.7	28.1	28.3	24.7	26.0	23.7	23.3	22.9	21.4	20.7	19.8	18.9	18.1	16.3	16.3	15.2	
40 to 120	25.3	26.7	27.3	26.8	24.3	24.9	23.0	22.1	21.2	20.6	19.8	18.0	17.9	17.3	16.4	14.5	
50 to 130	29.1	28.8	28.8	26.3	25.2	25.2	23.3	24.1	21.5	19.6	19.8	19.2	21.3	21.3	21.2	24.2	
60 to 140	28.0	27.2	27.5	27.9	27.9	26.9	25.9	26.9	25.2	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

Z Weighting, Slow Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.5	13.5	12.7	11.7	11.4	11.1	10.4	10.3	10.3	10.4	10.8	11.2	11.8	12.7	13.3	14.2	15.0
14.4	13.6	12.4	11.8	11.2	10.8	10.5	10.2	10.5	10.3	10.7	11.3	12.0	12.6	13.4	14.1	15.0
14.7	13.7	12.4	12.0	11.4	10.9	10.2	10.4	10.1	10.3	10.6	11.1	11.9	12.6	13.2	14.2	15.0
14.4	13.1	12.7	11.8	11.5	10.8	10.1	10.0	10.2	10.0	10.6	11.0	11.3	12.3	12.4	14.0	15.2
14.4	13.2	12.2	11.9	10.6	10.3	10.2	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.4	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	29.3	28.0	26.8	26.0	25.0	24.3	23.6	22.4	21.6	24.5
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	40.5	39.6	38.4	37.2	36.9	36.1	35.1	34.2	37.5

Z Weighting, Fast Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	28.8	28.5	27.1	26.8	25.0	24.3	24.4	23.4	22.5	21.3	19.8	19.0	17.9	17.4	16.2	15.1	
0 to 80	29.9	28.8	27.2	26.1	25.8	24.8	23.6	23.4	22.2	20.8	20.1	19.1	17.6	17.0	16.1	15.3	
10 to 90	28.9	28.3	28.3	26.0	25.9	25.1	24.1	22.3	22.1	20.9	20.3	18.7	18.3	17.0	16.3	15.1	
20 to 100	29.2	28.5	27.1	26.5	25.2	25.3	23.5	23.1	22.1	21.2	19.7	18.7	18.1	17.3	16.1	15.0	
30 to 110	28.6	29.7	26.8	27.3	24.8	24.0	23.6	23.3	21.8	21.1	19.8	19.1	18.0	17.2	16.4	15.1	
40 to 120	29.2	28.0	27.4	27.1	25.6	24.7	23.9	22.4	21.5	20.6	19.7	19.0	18.2	16.9	16.1	14.8	
50 to 130	28.6	27.9	27.4	27.7	26.5	24.9	23.7	23.4	21.9	21.0	20.0	19.3	21.2	21.2	21.2	24.2	
60 to 140	30.8	28.3	28.1	27.8	26.9	26.8	26.4	27.1	25.4	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

Table D.11- (Continued)

Z Weighting, Fast Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.6	12.6	12.1	11.4	10.9	10.4	10.3	10.3	10.4	10.8	11.2	12.0	12.7	13.4	14.2	15.0
14.3	13.6	12.5	11.9	11.3	10.7	10.4	10.3	10.3	10.4	10.8	11.0	11.8	12.6	13.4	14.1	15.0
14.4	13.5	12.6	11.9	11.4	10.9	10.6	10.1	10.2	10.4	10.8	11.0	11.8	12.6	13.2	14.1	14.9
14.6	13.6	12.5	11.9	11.2	10.8	10.2	10.1	10.0	10.2	10.6	11.0	11.4	12.3	12.4	14.0	15.2
14.2	13.5	12.2	11.6	10.9	10.3	10.3	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.4	14.3	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	29.3	28.0	26.8	26.0	25.0	24.3	23.6	22.4	21.6	24.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	40.5	39.6	38.4	37.2	36.9	36.1	35.1	34.2	37.4

Z Weighting, Slow Response, SPL																
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz
-10 to 70	29.8	28.6	28.1	26.5	25.2	24.7	23.7	23.3	21.8	20.8	20.0	18.9	18.3	17.3	16.2	15.5
0 to 80	29.8	29.3	27.9	26.1	25.2	24.3	23.8	23.1	22.2	21.1	20.3	18.9	18.1	17.3	16.1	15.4
10 to 90	28.5	27.6	26.5	26.8	25.8	24.8	24.1	23.0	22.0	20.8	20.1	19.0	18.0	17.1	16.0	15.3
20 to 100	30.1	28.2	27.2	26.3	26.1	24.8	23.4	23.0	21.8	20.9	19.9	18.9	18.1	17.1	16.3	15.2
30 to 110	28.8	29.2	27.3	27.1	25.6	24.7	23.6	23.0	21.7	21.2	19.9	19.0	18.1	16.9	16.0	14.8
40 to 120	29.5	28.5	27.5	27.0	25.3	25.0	23.9	22.8	22.2	20.5	20.0	18.1	20.2	20.2	20.2	23.3
50 to 130	29.1	27.8	28.2	27.2	24.9	24.4	24.4	24.3	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3
60 to 140	28.8	29.7	29.1	31.2	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3

Z Weighting, Slow Response, SPL																
500	630	800	100	1250	160	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	0 Hz	Hz	0 Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.3	13.7	12.6	11.9	11.4	10.8	10.4	10.4	10.2	10.5	10.9	11.1	11.9	12.	13.3	14.2	15.
14.2	13.5	12.5	11.8	11.3	10.9	10.4	10.2	10.2	10.4	10.7	11.0	11.8	12.	13.2	14.1	14.
14.3	13.5	12.5	11.9	11.3	10.7	10.2	10.2	10.0	10.1	10.7	11.2	11.3	12.	13.1	14.3	14.
14.3	13.5	12.3	11.6	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.	18.3	18.3	18.
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.	28.3	28.3	28.
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.	38.3	38.3	38.
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.	48.3	48.3	48.
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.	58.3	58.3	58.
													3	3	3	3

Z Weighting, Slow Response, LEQ																
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz
-10 to 70	29.6	28.0	27.5	26.7	25.4	24.8	24.3	23.0	21.8	20.8	19.8	19.0	18.0	17.2	16.2	15.4
0 to 80	29.4	28.7	28.2	26.4	25.7	25.0	24.3	22.9	22.2	21.0	20.0	19.0	18.0	17.4	16.4	15.2
10 to 90	28.9	28.2	26.9	26.8	25.4	25.1	24.1	23.0	21.7	21.0	20.0	18.8	18.2	17.4	16.3	15.3
20 to 100	29.2	28.7	27.6	26.5	25.6	24.6	23.9	22.9	21.8	20.8	20.0	19.2	18.2	17.1	16.1	15.2
30 to 110	28.4	28.2	27.3	26.8	25.3	25.1	23.9	22.6	21.8	21.0	19.8	18.9	18.0	16.9	16.1	14.7
40 to 120	29.2	28.5	28.0	26.8	25.5	24.6	23.6	22.6	21.4	20.5	20.0	17.8	20.2	20.2	20.2	23.3
50 to 130	29.8	28.7	27.9	26.5	25.0	24.4	24.4	24.3	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3
60 to 140	29.0	29.6	29.1	31.2	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3

Z Weighting, Slow Response, LEQ																	
	500 Hz	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.5	13.5	12.6	12.1	11.4	10.9	10.4	10.3	10.3	10.4	10.8	11.2	12.0	12.7	13.3	14.1	15.0	
14.3	13.4	12.5	11.9	11.3	10.8	10.4	10.3	10.2	10.4	10.7	11.0	11.8	12.6	13.2	14.1	14.9	
14.5	13.6	12.5	11.9	11.3	10.7	10.2	10.1	10.0	10.1	10.7	11.1	11.3	12.3	13.1	14.3	14.3	
14.2	13.4	12.3	11.4	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3	
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3	
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3	
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3	
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3	

QE7052 microphone using windscreen & remote preamp (Figures/Tables "E")

Tolerance: IEC 61672 class 2

Directional Frequency Response with Z weighting

Figure E.1 - 0-30 degree incidence angles

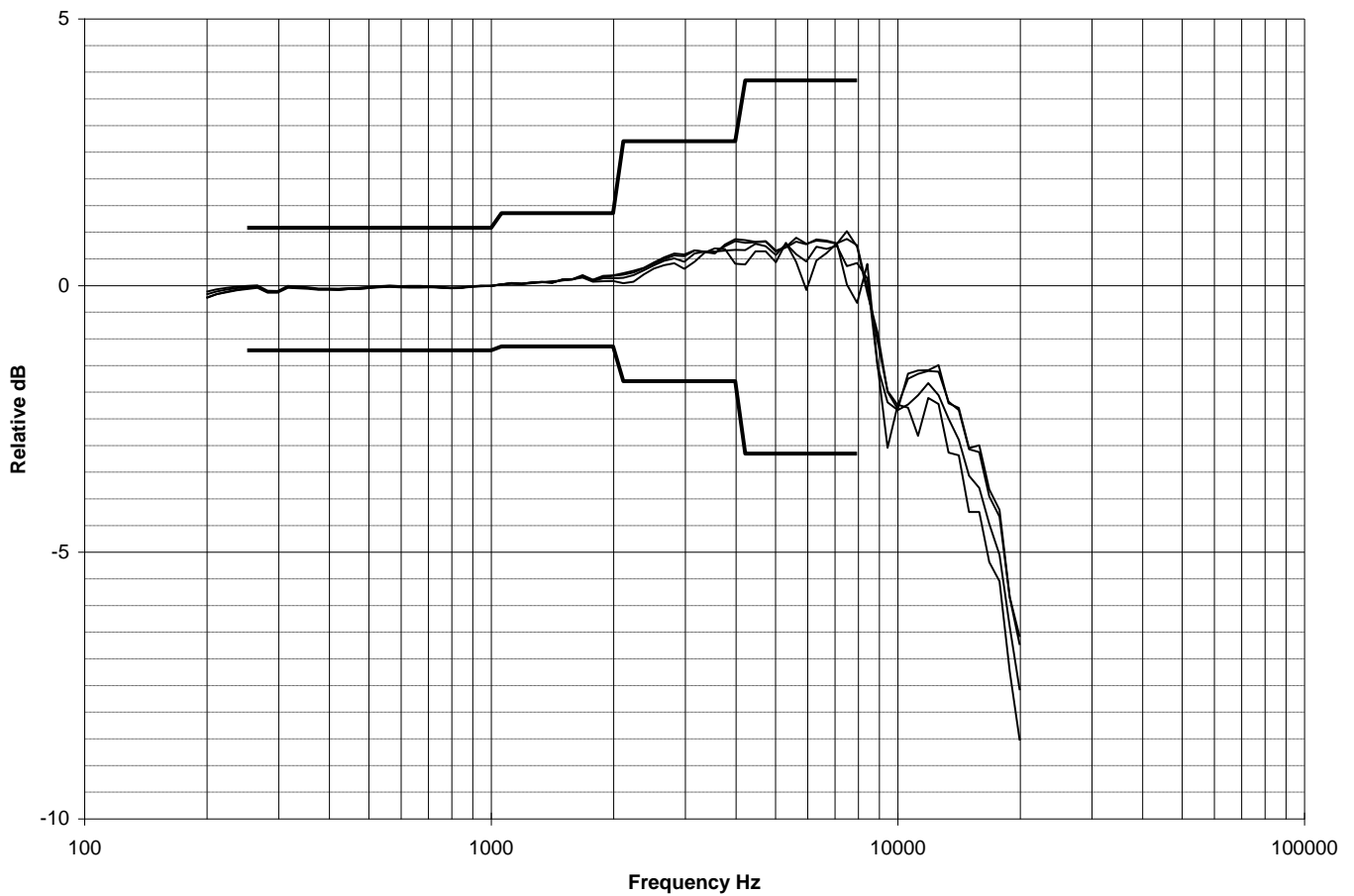


Figure E.2 - 0-90 degree incidence angles

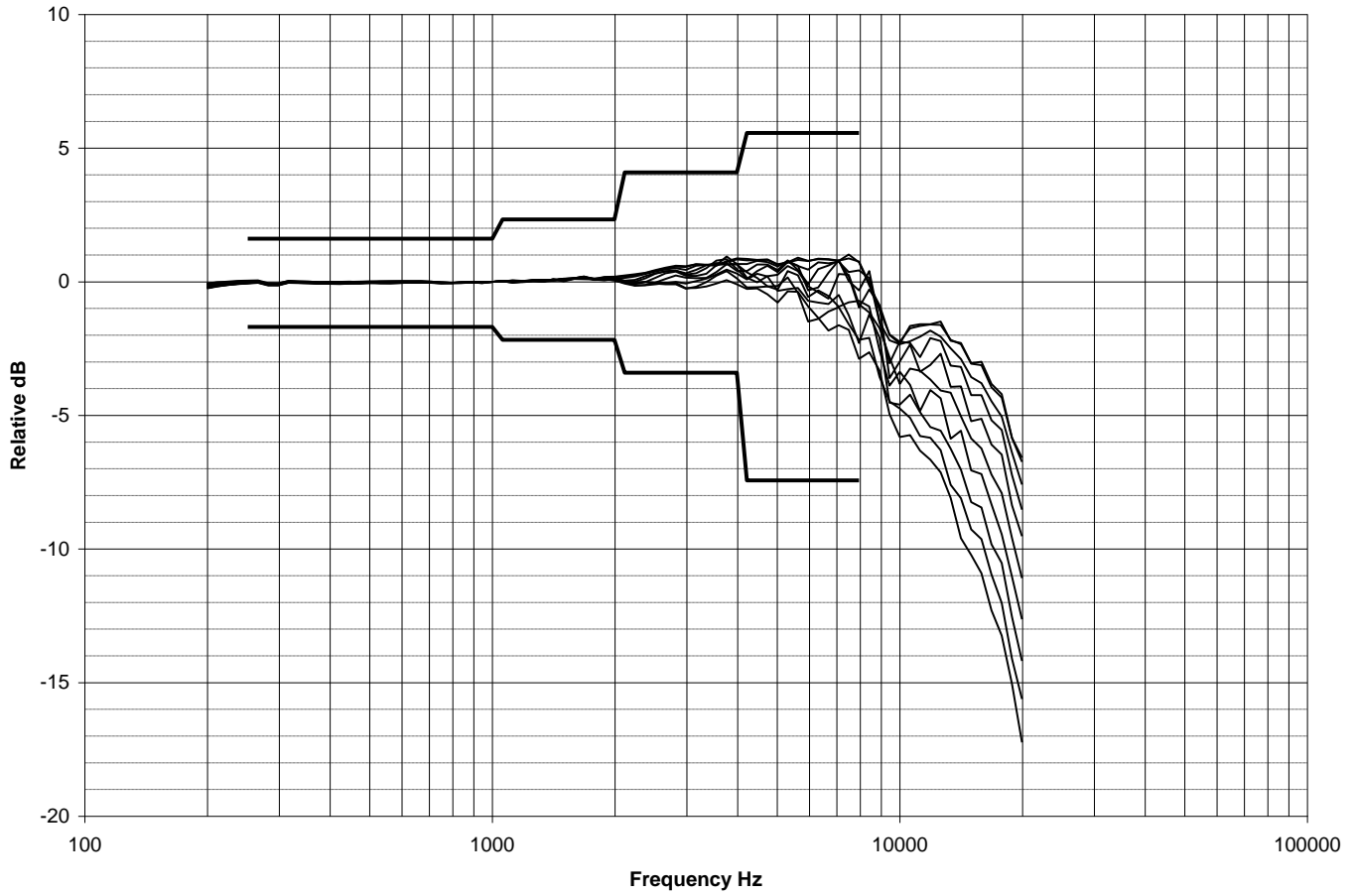


Figure E.3 - 0-150 degree incidence angles

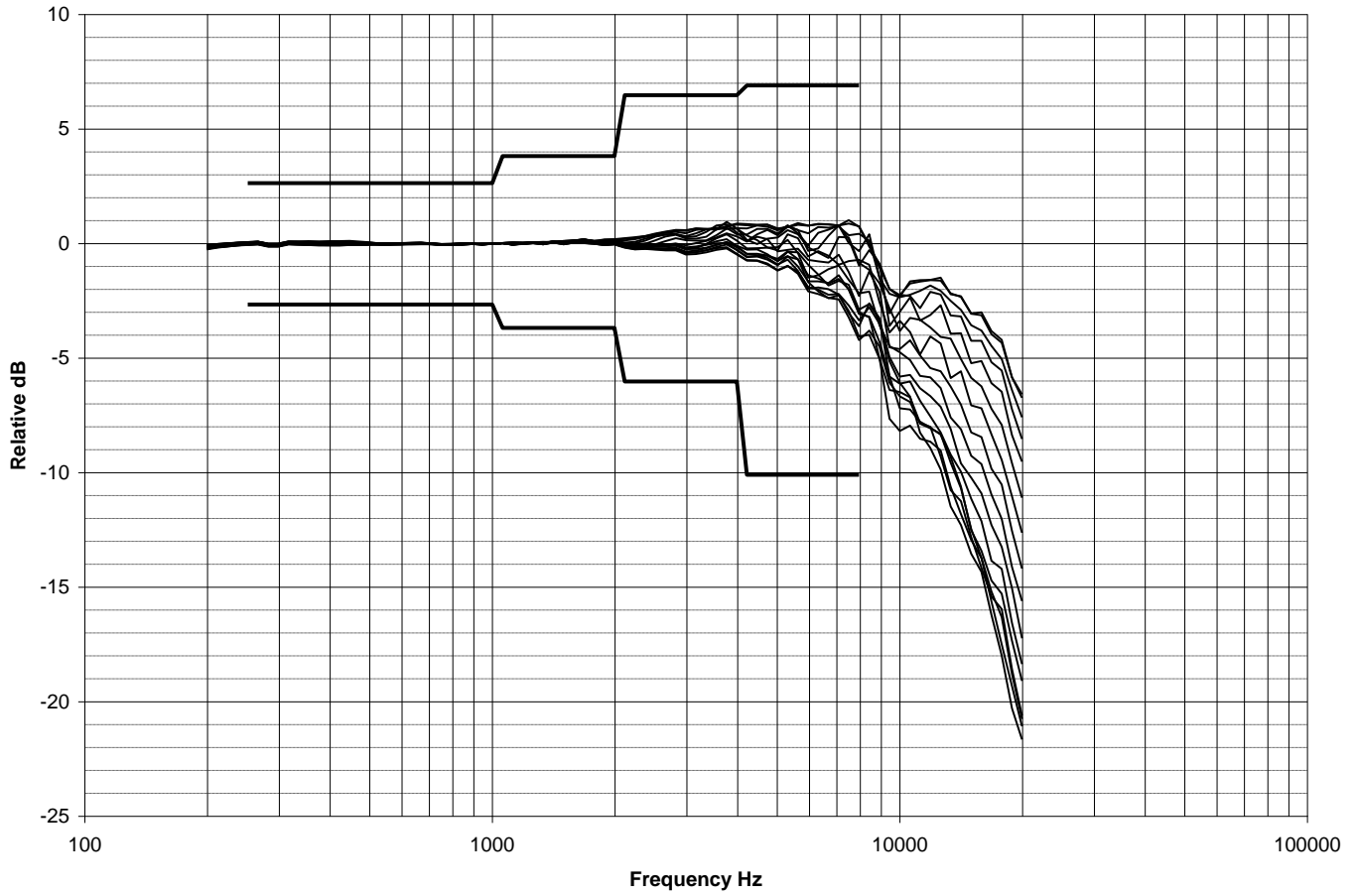
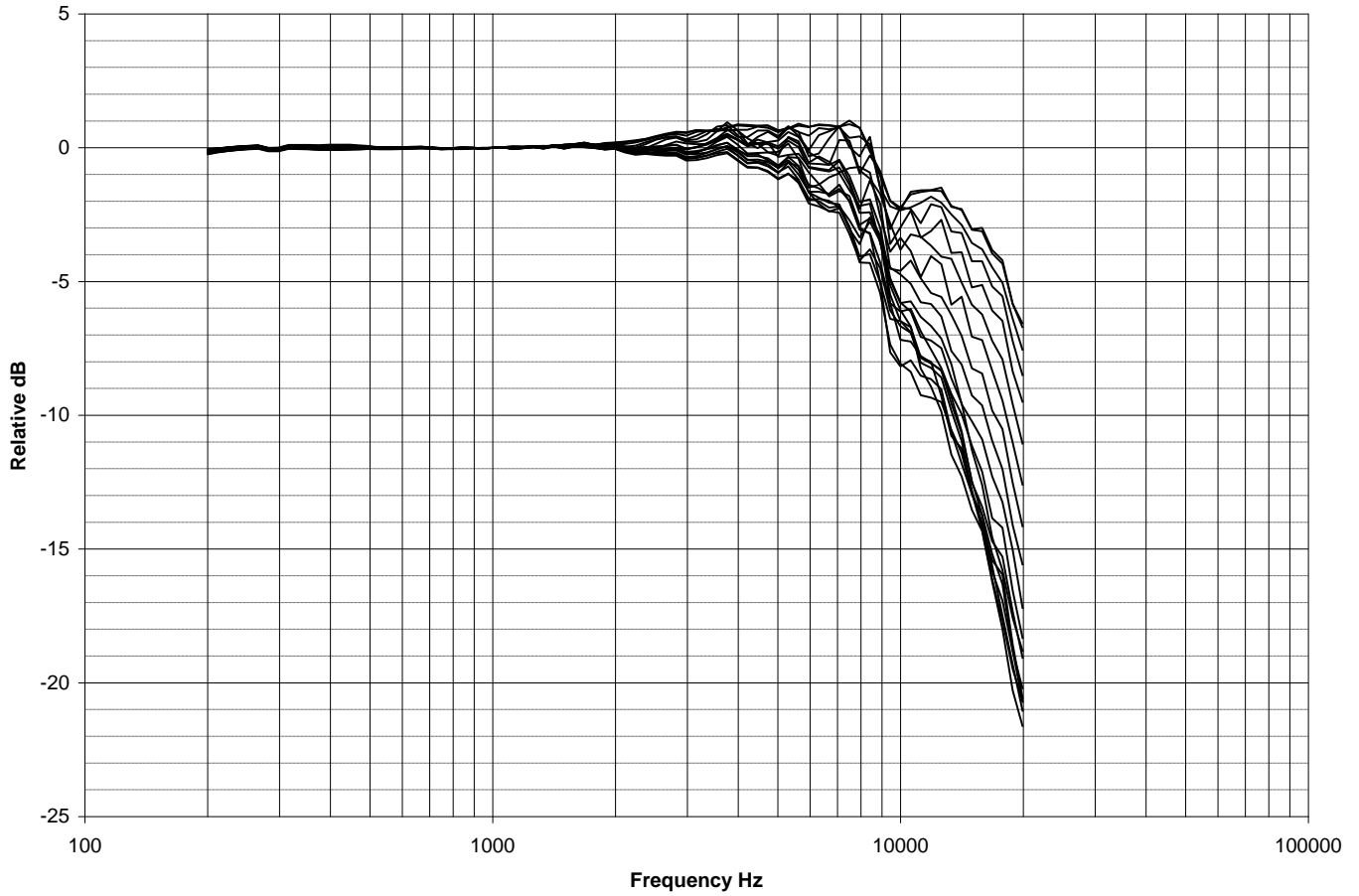
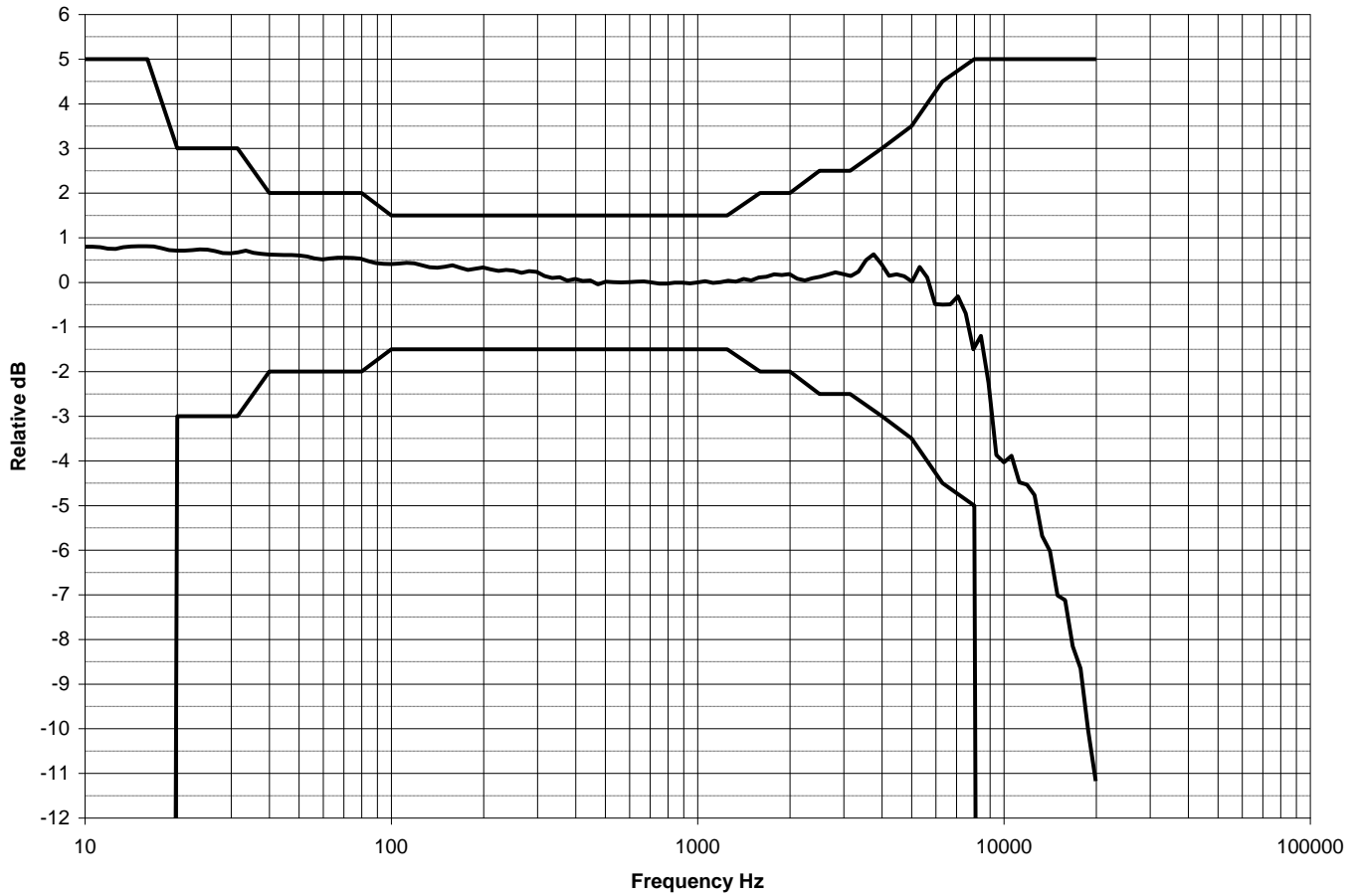


Figure E.4 - 0-180 degree incidence angles



Random Incidence

Figure E.5- Frequency Response



Corrections

Table E.6- Reflection, Diffraction, Microphone Frequency Response, and Windscreen

1/12 OCTAVE FREQUENCY in Hz	Remote Microphone Acoustic Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Remote Microphone Acoustic Corrections in dB
199.53	0.1	2371.37	0.0
211.35	0.1	2511.89	-0.1
223.87	0.1	2660.73	-0.2
237.14	0.0	2818.38	-0.2
251.19	0.0	2985.38	-0.3
266.07	0.0	3162.28	-0.2
281.84	0.0	3349.65	-0.1
298.54	0.0	3548.13	-0.2
316.23	0.0	3758.37	-0.5
334.97	0.0	3981.07	-0.6
354.81	0.0	4216.97	-0.6
375.84	0.1	4466.84	-0.6
398.11	0.1	4731.51	-0.7
421.70	0.1	5011.87	-0.7
446.68	0.1	5308.84	-0.8
473.15	0.1	5623.41	-1.0
501.19	0.0	5956.62	-1.0
530.88	0.0	6309.57	-1.1
562.34	0.0	6683.44	-1.2
595.66	0.0	7079.46	-1.1
630.96	0.1	7498.94	-1.3
668.34	0.1	7943.28	-1.3
707.95	0.1	8413.95	-0.8
749.89	0.1	8912.51	-0.1
794.33	0.1	9440.61	0.7
841.40	0.1	10000.00	0.9
891.25	0.1	10592.54	0.6
944.06	0.1	11220.19	0.3
1000.00	0.1	11885.02	0.1
1059.25	0.1	12589.25	-0.1
1122.02	0.1	13335.21	0.2
1188.50	0.1	14125.38	0.1
1258.93	0.1	14962.36	0.5
1333.52	0.1	15848.93	0.5
1412.54	0.1	16788.04	0.9
1496.24	0.1	17782.79	1.0
1584.89	0.1	18836.49	1.8
1678.80	0.0	19952.62	2.3
1778.28	0.1	2113.49	0.0
1883.65	0.0	2238.72	0.0
1995.26	0.1		

Table E.7- Reflection, Diffraction, Microphone Frequency Response, and Windscreen

1/12 OCTAVE FREQUENCY in Hz	Microphone Windscreen Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Microphone Windscreen Corrections in dB
199.53	0.1	2371.37	0.5
211.35	0.0	2511.89	0.5
223.87	0.0	2660.73	0.5
237.14	0.0	2818.38	0.6
251.19	0.0	2985.38	0.6
266.07	0.0	3162.28	0.6
281.84	0.0	3349.65	0.7
298.54	0.0	3548.13	0.6
316.23	0.0	3758.37	0.6
334.97	0.1	3981.07	0.5
354.81	0.1	4216.97	0.5
375.84	0.1	4466.84	0.5
398.11	0.1	4731.51	0.4
421.70	0.1	5011.87	0.3
446.68	0.1	5308.84	0.3
473.15	0.1	5623.41	0.3
501.19	0.1	5956.62	0.2
530.88	0.1	6309.57	0.2
562.34	0.1	6683.44	0.2
595.66	0.1	7079.46	0.2
630.96	0.1	7498.94	0.4
668.34	0.1	7943.28	0.1
707.95	0.1	8413.95	-0.2
749.89	0.1	8912.51	-0.1
794.33	0.1	9440.61	-0.3
841.40	0.1	10000.00	-0.4
891.25	0.1	10592.54	0.1
944.06	0.2	11220.19	0.0
1000.00	0.2	11885.02	-0.1
1059.25	0.2	12589.25	0.0
1122.02	0.2	13335.21	-0.4
1188.50	0.2	14125.38	-0.3
1258.93	0.2	14962.36	-0.5
1333.52	0.2	15848.93	-0.3
1412.54	0.2	16788.04	-0.5
1496.24	0.2	17782.79	-0.6
1584.89	0.3	18836.49	-1.0
1678.80	0.3	19952.62	-0.9
1778.28	0.3		
1883.65	0.4		
1995.26	0.4		
2113.49	0.4		
2238.72	0.5		

Table E.8 - Pressure Field to Free Field Corrections

Frequency in Hz	QE-7052 Correction in dB
125	0.06
250	0.00
1000	-0.07
2000	0.41
4000	1.15

Table E.9-Pressure Field to Random Incidence Corrections

Frequency in Hz	QE-7052 Correction in dB
125	0.06
250	0.00
1000	-0.20
2000	0.17
4000	0.35

Self Generated Noise

Table E.10- Broadband

SPL				LEQ		
Fast Response						
Range (dB)	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting
-20 to 70	22.4	30.8	37.8	22.4	30.8	37.9
-10 to 80	22.4	30.6	37.8	22.3	30.7	38.4
0 to 90	22.3	30.2	37.3	22.3	30.5	38.3
10 to 100	22.4	30.5	37.9	22.4	30.6	37.9
20 to 110	23.0	30.5	38.3	23.0	30.7	37.9
30 to 120	26.7	31.3	39.0	26.6	31.4	38.3
40 to 130	34.2	35.3	39.8	34.2	35.3	39.4
50 to 140	43.0	43.0	43.6	43.1	43.0	43.6
Slow Response						
Range(dB)	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting
-20 to 70	22.4	30.7	38.7	22.4	30.7	38.6
-10 to 80	22.3	30.5	38.3	22.3	30.5	38.5
0 to 90	22.3	30.7	38.6	22.3	30.6	38.3
10 to 100	22.4	30.7	38.3	22.4	30.6	38.5
20 to 110	23.0	30.6	38.3	23.0	30.7	38.4
30 to 120	26.7	31.5	38.4	26.7	31.5	38.5
40 to 130	34.2	35.3	39.6	34.2	35.3	39.6
50 to 140	43.1	43.0	43.5	43.1	43.0	43.5

Table E.11 - Octave Band

A Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.7	-7.3	3.6	10.0	14.6	17.6	18.9	18.6	18.4	17.3	14.0
0 to 80	-16.9	-6.2	3.4	10.4	14.6	17.5	18.8	18.8	18.3	17.1	13.8
10 to 90	-13.3	-7.3	3.7	10.7	14.8	17.4	18.7	18.7	18.2	17.1	13.8
20 to 100	-5.9	-4.2	3.3	10.4	14.9	17.8	18.7	18.6	18.2	17.0	14.0
30 to 110	4.2	1.3	4.5	9.9	14.8	17.3	18.6	18.2	18.7	19.3	19.3
40 to 120	13.0	9.1	9.2	11.3	14.5	17.2	20.2	23.3	26.3	29.3	29.3
50 to 130	24.6	20.5	18.3	21.2	24.2	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	34.8	30.2	28.2	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3
A Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.9	3.3	10.1	14.9	17.7	18.8	18.8	18.4	17.3	14.0
0 to 80	-16.7	-6.1	3.6	10.2	14.8	17.5	18.7	18.6	18.3	17.1	13.9
10 to 90	-14.1	-6.4	3.5	10.2	14.7	17.5	18.7	18.6	18.2	17.1	13.8
20 to 100	-6.0	-4.9	3.4	10.3	14.8	17.5	18.7	18.6	18.2	17.0	14.0
30 to 110	3.6	0.4	4.7	10.5	14.6	17.3	18.6	18.2	18.9	19.3	19.3
40 to 120	14.3	10.3	8.8	11.6	14.7	17.3	20.2	23.3	26.3	29.3	29.3
50 to 130	24.4	20.2	18.3	21.2	24.2	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	33.9	30.1	28.3	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3

Table E.11– (Continued)

A Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.3	3.4	10.2	14.8	17.7	18.8	18.7	18.4	17.3	13.9
0 to 80	-16.8	-6.2	3.5	10.2	14.6	17.5	18.7	18.6	18.3	17.1	13.8
10 to 90	-14.7	-6.7	3.5	10.0	14.7	17.5	18.7	18.6	18.1	16.8	13.1
20 to 100	-6.4	-5.4	3.3	10.0	14.6	17.4	18.5	18.3	18.3	18.3	18.3
30 to 110	3.9	4.2	7.2	10.2	13.3	16.3	19.3	22.3	25.3	28.3	28.3
40 to 120	13.5	14.2	17.2	20.2	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	23.7	24.2	27.2	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.1	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3
A Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.4	3.4	10.4	14.8	17.6	18.7	18.7	18.4	17.2	13.9
0 to 80	-16.9	-6.3	3.2	10.2	14.7	17.5	18.7	18.6	18.3	17.1	13.8
10 to 90	-14.4	-6.4	3.4	10.1	14.7	17.5	18.7	18.6	18.1	16.8	13.1
20 to 100	-6.0	-5.5	3.3	10.1	14.5	17.5	18.5	18.3	18.3	18.3	18.3
30 to 110	3.9	4.2	7.2	10.3	13.3	16.3	19.3	22.3	25.3	28.3	28.3
40 to 120	13.8	14.2	17.2	20.2	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	23.9	24.2	27.2	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.1	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3
C Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.2	28.2	28.2	25.9	23.6	21.2	18.9	17.2	16.3	15.1	11.8
0 to 80	26.0	29.1	27.5	25.6	23.2	20.5	18.6	17.1	16.3	15.0	11.8
10 to 90	24.3	29.1	27.3	25.6	23.3	20.8	18.5	17.1	16.1	14.9	11.7
20 to 100	25.9	28.4	28.2	25.8	23.9	20.7	18.6	17.2	16.2	15.1	12.3
30 to 110	24.7	28.6	28.1	25.7	23.1	20.4	18.4	16.4	16.3	19.3	19.3
40 to 120	27.4	28.6	28.3	26.3	23.4	20.4	20.2	23.3	26.3	29.3	29.3
50 to 130	28.6	29.6	28.7	26.6	24.3	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	34.9	32.0	30.2	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3
C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.6	28.6	27.9	25.8	23.4	21.0	18.7	17.2	16.4	15.2	11.8
0 to 80	25.7	28.5	27.8	26.0	23.5	20.7	18.7	17.1	16.3	15.1	11.8
10 to 90	25.5	28.4	28.2	25.8	23.4	20.8	18.6	17.2	16.2	15.0	11.7
20 to 100	25.9	28.4	27.9	25.8	23.2	20.9	18.6	17.1	16.1	15.2	12.3
30 to 110	25.7	28.2	27.9	25.8	23.4	20.7	18.5	16.4	16.3	19.3	19.3
40 to 120	26.4	28.6	28.0	25.7	23.3	20.4	20.2	23.3	26.3	29.3	29.3
50 to 130	28.3	29.6	28.5	26.1	24.3	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	35.1	32.3	30.5	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3

Table E.11 - (Continued)

C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.8	28.2	28.0	25.9	23.4	20.8	18.8	17.3	16.4	15.2	11.8
0 to 80	25.9	28.8	28.0	26.0	23.4	20.9	18.7	17.2	16.3	15.0	11.7
10 to 90	26.6	28.7	27.9	26.0	23.6	20.8	18.7	17.1	16.1	14.3	11.3
20 to 100	26.5	28.6	28.0	26.1	24.7	22.4	19.8	17.4	15.3	18.3	18.3
30 to 110	25.7	28.3	27.7	25.8	23.1	20.9	19.3	22.3	25.3	28.3	28.3
40 to 120	26.5	28.9	28.1	25.9	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	27.9	29.4	27.6	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.6	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3
C Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	26.0	28.4	28.1	25.9	23.5	21.0	18.8	17.3	16.4	15.2	11.8
0 to 80	25.9	28.4	27.9	25.8	23.5	20.8	18.7	17.1	16.3	15.0	11.7
10 to 90	26.0	28.8	28.6	26.5	24.3	21.5	19.1	17.3	16.2	14.4	11.3
20 to 100	26.6	29.8	29.0	27.4	24.3	21.5	19.0	17.1	15.3	18.3	18.3
30 to 110	25.7	28.6	27.9	25.8	23.1	20.9	19.3	22.3	25.3	28.3	28.3
40 to 120	26.7	28.8	27.9	25.9	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	28.5	29.2	27.4	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	34.6	34.2	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3
Z Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	32.0	30.8	28.5	26.1	23.3	20.8	18.8	17.5	17.3	18.2	19.9
0 to 80	32.1	29.7	27.8	25.9	23.3	20.8	18.9	17.4	17.2	18.0	19.8
10 to 90	34.5	30.9	28.3	26.1	23.3	20.9	18.7	17.3	17.1	18.1	19.9
20 to 100	33.9	30.9	29.6	25.8	23.4	20.9	18.7	17.2	17.1	17.8	19.7
30 to 110	34.8	30.7	28.6	26.0	23.3	20.9	18.5	16.6	16.3	19.3	19.3
40 to 120	34.2	31.7	28.4	25.6	23.7	20.7	20.2	23.3	26.3	29.3	29.3
50 to 130	34.7	31.1	27.9	25.9	24.4	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	36.4	34.6	30.9	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3
Z Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.3	31.3	29.2	26.2	23.7	20.9	18.8	17.5	17.3	18.2	19.9
0 to 80	33.6	30.8	28.9	26.0	23.4	20.9	18.7	17.3	17.2	18.1	19.8
10 to 90	34.4	31.1	28.6	26.1	23.2	20.8	18.7	17.4	17.1	18.0	19.8
20 to 100	33.6	31.5	28.8	26.1	23.3	20.9	18.7	17.3	17.0	17.8	19.7
30 to 110	34.2	31.3	28.9	25.9	23.4	20.8	18.5	16.6	16.3	19.3	19.3
40 to 120	33.7	31.4	28.9	25.9	23.2	20.5	20.2	23.3	26.3	29.3	29.3
50 to 130	33.9	31.6	28.5	26.0	24.2	27.2	30.2	33.3	36.3	39.3	39.3
60 to 140	37.1	33.2	30.7	31.2	34.2	37.2	40.2	43.3	46.3	49.3	49.3

Z Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	34.3	31.7	28.7	26.3	23.6	21.0	18.9	17.4	17.3	18.2	19.9
0 to 80	34.3	31.5	28.9	26.2	23.4	20.9	18.7	17.4	17.2	18.1	19.8
10 to 90	34.3	31.3	28.8	26.0	23.5	20.8	18.8	17.3	17.1	17.8	19.8
20 to 100	34.3	31.6	28.7	26.1	23.3	20.8	18.7	17.0	15.3	18.3	18.3
30 to 110	34.2	31.8	28.9	26.1	23.3	21.0	19.3	22.3	25.3	28.3	28.3
40 to 120	34.0	31.7	28.4	26.0	23.3	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	34.7	31.6	27.9	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	37.3	34.4	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3
Z Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	34.3	31.8	28.8	26.2	23.5	21.0	18.9	17.5	17.3	18.2	19.9
0 to 80	34.0	31.6	28.8	26.0	23.4	20.9	18.8	17.3	17.1	18.1	19.8
10 to 90	34.2	31.3	28.9	26.0	23.5	20.8	18.7	17.3	17.1	17.8	19.8
20 to 100	34.3	31.4	28.8	26.2	23.3	20.9	18.5	17.0	15.3	18.3	18.3
30 to 110	34.4	31.9	29.4	26.4	23.7	21.3	19.4	22.3	25.3	28.3	28.3
40 to 120	34.3	31.6	28.8	26.2	23.6	26.3	29.3	32.3	35.3	38.3	38.3
50 to 130	34.9	31.4	27.8	30.2	33.3	36.3	39.3	42.3	45.3	48.3	48.3
60 to 140	37.2	34.3	37.2	40.2	43.3	46.3	49.3	52.3	55.3	58.3	58.3

Table E.12- 1/3 Octave Band

A Weighting, Fast Response, SPL																
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.5	-13.7	-11.3	-7.5	-2.4	-0.2	1.6	4.6	5.5	8.1	8.5	9.6	10.5
0 to 80	-16.9	-16.9	-16.9	-16.0	-13.7	-9.2	-5.5	-2.8	-0.4	1.9	3.6	5.4	7.3	8.5	9.7	10.1
10 to 90	-16.9	-16.8	-16.1	-15.1	-13.7	-10.7	-6.3	-5.3	-1.1	3.4	3.4	5.2	7.3	8.7	9.7	10.5
20 to 100	-16.2	-8.4	-13.9	-10.0	-10.6	-6.8	-5.6	-3.0	0.0	1.6	4.3	5.4	7.7	8.6	9.7	10.1
30 to 110	-6.2	3.7	-4.9	-0.5	-4.0	-4.1	-3.0	-1.5	0.1	3.4	4.9	5.8	7.6	8.4	9.7	9.9
40 to 120	3.9	13.3	5.2	8.8	4.2	5.4	5.5	5.5	5.5	8.3	8.3	8.4	11.2	11.3	11.3	14.2
50 to 130	12.4	22.0	14.9	19.3	15.4	14.3	15.2	15.8	15.2	18.2	18.2	18.2	21.2	21.2	21.2	24.2
60 to 140	23.0	33.0	24.3	29.8	25.7	24.3	25.2	25.3	25.2	28.2	28.2	28.2	31.2	31.2	31.2	34.2

A Weighting, Fast Response, SPL																
500 Hz	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.9	12.0	11.7	12.2	12.2	12.2	11.6	11.8	11.7	11.6	11.4	11.2	11.2	10.5	9.4	8.0	6.1
11.0	11.5	11.7	12.2	12.1	11.8	11.7	11.5	11.5	11.4	11.5	11.3	11.1	10.3	9.2	7.9	6.1
11.1	11.7	11.7	12.0	12.2	11.9	11.8	11.6	11.6	11.5	11.5	11.0	11.0	10.3	9.3	7.8	6.2
10.9	11.4	11.4	11.8	11.7	12.1	11.7	11.4	11.5	11.1	11.4	11.1	11.0	9.8	9.3	9.3	9.3
10.6	11.3	11.3	11.8	12.1	11.0	10.9	10.5	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

A Weighting, Fast Response, LEQ																
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz
-10 to 70	-16.9	-16.9	-16.9	-15.4	-12.8	-8.7	-5.5	-2.7	0.0	2.0	4.0	5.8	7.3	8.9	9.8	10.4
0 to 80	-16.9	-16.9	-16.9	-16.2	-13.7	-9.0	-6.0	-3.2	-0.6	3.2	3.9	5.9	7.7	9.0	9.8	10.8
10 to 90	-16.9	-16.3	-16.6	-15.4	-12.7	-9.3	-6.2	-2.8	-0.1	3.8	4.1	5.6	7.5	8.8	9.9	10.8
20 to 100	-14.9	-7.3	-13.2	-10.5	-9.7	-8.1	-5.9	-2.7	-0.1	3.7	4.1	6.0	7.4	8.9	9.6	10.4
30 to 110	-6.5	3.0	-4.4	-1.4	-3.4	-3.8	-2.7	-0.7	0.9	3.1	4.4	5.9	7.4	8.9	9.7	10.3
40 to 120	4.5	12.8	5.1	9.3	6.2	5.1	5.4	6.1	5.7	8.3	8.3	8.5	11.2	11.3	11.3	14.2
50 to 130	14.7	22.7	15.1	19.4	16.7	14.6	15.3	15.5	15.2	2	18.2	18.2	21.2	21.2	21.2	24.2
60 to 140	23.8	33.1	24.5	29.6	27.1	24.4	25.3	25.4	25.2	2	28.2	28.2	31.2	31.2	31.2	34.2

Table E.12- (Continued)

A Weighting, Fast Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.1	11.9	11.7	12.1	12.2	12.1	11.7	11.7	11.7	11.6	11.6	11.3	11.1	10.5	9.4	8.0	6.1
11.3	11.7	11.9	12.0	12.2	11.9	11.7	11.7	11.7	11.5	11.5	11.2	11.0	10.4	9.3	7.9	6.1
11.4	11.8	11.8	12.0	12.1	11.9	11.8	11.8	11.6	11.5	11.4	11.1	11.0	10.3	9.2	7.7	6.2
11.2	11.8	11.8	12.0	12.1	11.8	11.6	11.7	11.5	11.4	11.3	11.0	11.0	9.8	9.3	9.3	9.3
11.0	11.7	11.4	11.8	12.1	11.0	10.7	10.6	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

A Weighting, Slow Response, SPL																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	-16.9	-16.9	-16.9	-16.7	-13.5	-9.1	-6.4	-2.7	-0.2	3.0	4.2	5.9	7.5	8.7	10.0	10.4	
0 to 80	-16.9	-16.9	-16.9	-16.4	-13.7	-9.9	-6.1	-3.1	-0.4	3.6	3.8	5.9	7.6	8.7	9.7	10.5	
10 to 90	-16.9	-15.8	-16.8	-15.8	-12.8	-9.2	-6.1	-2.5	-0.1	3.4	4.2	5.7	7.3	8.7	9.8	10.5	
20 to 100	-11.7	-6.0	-11.6	-8.6	-8.7	-8.2	-5.7	-2.6	0.0	3.5	3.7	5.8	7.3	8.5	9.6	10.4	
30 to 110	-1.7	4.3	-1.5	1.3	1.3	1.3	4.2	4.2	4.2	7.2	7.2	7.2	10.2	10.2	10.2	13.3	
40 to 120	8.2	14.6	8.3	11.3	11.2	11.2	14.2	14.2	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.3	
50 to 130	18.2	24.9	18.3	21.2	21.2	21.2	24.2	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	
60 to 140	28.3	34.5	28.3	31.3	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	

A Weighting, Slow Response, SPL																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.3	11.9	11.8	12.1	12.1	12.0	11.8	11.8	11.7	11.6	11.6	11.3	11.1	10.5	9.4	8.0	6.2
11.3	11.8	11.8	12.1	12.1	12.0	11.7	11.7	11.7	11.5	11.5	11.2	11.0	10.4	9.3	7.8	6.1
11.1	11.7	11.7	11.9	12.0	11.8	11.6	11.6	11.4	11.3	11.3	11.3	10.8	10.0	8.3	8.3	8.3
11.2	11.5	11.2	11.6	11.9	12.3	12.2	12.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

A Weighting, Slow Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	-16.9	-16.9	-16.9	-16.6	-13.4	-9.0	-6.0	-2.8	-0.5	3.4	4.1	5.8	7.5	8.8	9.8	10.6	
0 to 80	-16.9	-16.9	-16.9	-16.6	-13.4	-9.9	-5.9	-3.1	0.1	3.3	4.2	5.8	7.7	8.9	9.9	10.6	
10 to 90	-16.9	-15.4	-16.9	-15.2	-12.3	-9.3	-5.8	-2.7	-0.1	3.0	4.2	5.9	7.4	8.6	9.8	10.5	
20 to 100	-11.7	-5.8	-11.7	-8.6	-8.7	-8.2	-5.5	-2.8	-0.3	3.5	3.9	6.0	7.6	8.7	9.6	10.4	
30 to 110	-1.7	4.3	-1.7	1.3	1.3	1.3	4.2	4.2	4.2	7.2	7.2	7.2	10.2	10.2	10.3	13.3	
40 to 120	8.2	14.5	8.3	11.2	11.2	11.2	14.2	14.2	14.2	17.2	17.2	17.2	20.2	17.2	20.2	23.3	
50 to 130	18.2	24.7	18.2	21.3	21.2	21.2	24.2	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	
60 to 140	28.3	34.8	28.2	31.3	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	

Table E.12 - (Continued)

A Weighting, Slow Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
11.2	11.9	12.0	12.1	12.1	12.0	11.8	11.8	11.7	11.6	11.6	11.2	11.1	10.5	9.4	8.0	6.2
11.2	11.8	11.8	12.0	12.1	11.9	11.7	11.6	11.6	11.4	11.5	11.1	11.0	10.4	9.2	7.8	6.1
11.2	11.8	11.8	12.1	12.0	11.8	11.6	11.6	11.3	11.3	11.3	11.3	10.9	10.0	8.3	8.3	8.3
11.0	11.6	11.2	11.7	11.9	12.3	12.3	12.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

C Weighting, Fast Response, SPL																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	19.3	19.4	19.7	22.1	22.3	22.3	22.6	21.4	21.4	20.1	19.6	18.0	18.1	17.1	16.0	15.4	
0 to 80	16.1	18.0	20.0	21.2	21.7	22.3	21.5	22.0	20.6	20.7	20.2	18.6	18.5	16.8	16.5	15.1	
10 to 90	15.8	19.6	19.2	20.9	23.0	22.5	22.2	22.2	21.2	20.5	19.7	18.0	17.9	17.4	16.3	14.9	
20 to 100	17.2	18.1	21.1	21.6	23.0	22.3	22.6	21.8	19.6	20.9	20.1	19.2	18.1	16.7	16.1	14.7	
30 to 110	15.2	18.6	20.5	22.6	22.8	23.8	23.4	21.8	21.6	19.7	19.3	19.1	17.7	17.0	15.9	15.6	
40 to 120	16.0	20.7	21.3	21.4	22.6	22.6	22.7	21.4	21.8	21.2	20.0	18.9	17.3	16.7	15.9	14.7	
50 to 130	21.6	24.2	22.7	24.8	23.0	23.0	23.3	22.4	23.0	21.5	20.8	19.5	21.3	21.2	21.2	24.2	
60 to 140	25.4	35.7	27.8	31.6	26.9	28.2	25.9	27.2	25.4	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

C Weighting, Fast Response, SPL																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
14.0	13.2	12.4	11.7	11.3	10.8	10.1	10.0	9.8	9.7	9.6	9.2	8.9	8.5	7.3	5.9	4.1
14.3	13.4	12.6	12.1	11.2	10.3	10.1	9.9	9.8	9.7	9.4	9.2	9.0	8.4	7.3	5.8	4.0
14.5	13.8	12.6	11.8	11.0	10.8	10.0	9.8	9.6	9.4	9.4	9.1	8.9	8.3	7.0	5.4	4.0
14.1	13.5	12.6	11.9	11.1	10.5	9.8	9.9	9.5	9.4	9.3	9.2	9.3	9.1	9.3	9.3	9.3
14.2	13.0	11.8	11.7	10.9	10.3	10.3	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.2	14.3	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

C Weighting, Fast Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	17.7	20.6	22.5	22.9	22.7	23.1	22.4	22.1	21.1	20.2	20.1	19.2	17.7	17.0	16.0	15.1	
0 to 80	19.1	19.6	22.2	22.0	22.7	22.4	22.3	22.3	21.1	20.7	19.8	18.9	18.0	17.0	16.3	15.4	
10 to 90	17.9	19.3	21.2	22.3	22.9	23.2	22.6	21.9	21.1	20.2	19.7	18.9	18.2	17.1	16.0	15.0	
20 to 100	17.9	20.1	22.4	22.9	23.6	22.6	22.6	22.3	21.2	20.6	19.5	19.0	18.1	17.4	16.2	15.0	
30 to 110	17.9	20.2	21.6	22.8	22.3	22.9	22.6	22.3	21.4	20.4	19.5	19.0	18.1	17.2	16.1	15.0	
40 to 120	17.4	20.5	21.4	23.2	22.6	22.0	23.1	22.6	21.6	20.5	19.8	19.3	18.1	17.3	16.2	14.6	
50 to 130	21.2	25.8	22.3	25.6	24.1	23.9	23.7	22.3	22.4	21.8	20.3	19.7	21.2	21.2	21.2	24.2	
60 to 140	26.8	34.7	26.8	32.1	30.0	26.3	26.7	26.7	25.9	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

Table E.12- (Continued)

C Weighting, Fast Response ,LEQ																
500 Hz	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.6	12.4	11.9	11.4	10.7	10.2	10.0	9.8	9.7	9.6	9.3	9.1	8.4	7.3	5.9	4.1
14.3	13.6	12.6	12.0	11.3	10.7	10.3	9.9	9.7	9.6	9.5	9.2	9.0	8.4	7.3	5.9	4.1
14.3	13.6	12.4	11.9	11.3	10.7	10.2	9.9	9.7	9.5	9.5	9.1	8.8	8.3	7.1	5.4	4.0
14.2	13.5	12.3	11.7	11.3	10.5	10.1	9.8	9.5	9.4	9.3	9.3	9.3	9.1	9.3	9.3	9.3
14.1	13.1	12.1	11.7	10.9	10.3	10.3	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.4	14.3	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3	33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3	43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3

C Weighting, Slow Response, SPL																
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz
-10 to 70	17.7	20.7	22.1	22.7	23.1	23.2	22.4	22.7	22.1	20.9	19.9	19.0	18.1	17.0	16.3	15.1
0 to 80	18.1	20.5	21.9	22.5	22.3	22.7	22.6	21.7	21.2	20.8	19.7	19.0	18.4	17.4	16.4	15.1
10 to 90	19.7	20.4	21.3	22.7	23.6	22.7	22.6	22.5	21.5	20.5	19.7	18.9	18.1	17.2	16.2	15.4
20 to 100	18.1	21.1	22.1	23.1	23.0	22.5	22.8	22.2	21.0	20.8	19.7	18.8	18.2	17.2	16.3	15.3
30 to 110	18.0	20.5	21.8	22.8	22.4	22.9	22.3	22.4	21.0	20.3	19.7	19.1	18.0	17.2	16.1	14.0
40 to 120	18.1	21.5	22.5	22.8	23.2	23.0	22.9	22.5	21.0	20.5	20.3	19.0	20.2	20.2	20.2	23.3
50 to 130	20.1	25.6	22.9	24.8	23.9	23.7	24.3	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3
60 to 140	28.3	34.7	28.4	31.5	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3

C Weighting, Slow Response, SPL																
500 Hz	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.6	12.5	11.9	11.4	10.9	10.3	10.0	9.8	9.7	9.6	9.3	9.1	8.5	7.3	5.9	4.0
14.3	13.6	12.5	12.0	11.3	10.7	10.3	9.9	9.7	9.5	9.4	9.1	8.9	8.3	7.2	5.3	4.3
14.3	13.5	12.5	11.8	11.2	10.5	10.0	9.8	9.3	9.3	9.3	8.3	8.3	8.3	8.3	8.3	8.3
14.3	13.4	12.4	11.3	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.4	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

C Weighting, Slow Response, LEQ																
Range(dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz
-10 to 70	18.6	20.3	21.9	23.2	23.3	22.8	22.4	22.5	21.6	21.0	20.0	19.1	18.2	17.1	16.1	15.2
0 to 80	18.8	20.7	21.6	23.0	22.3	23.0	22.8	22.2	21.7	20.8	19.9	19.1	18.1	17.2	16.3	15.2
10 to 90	18.8	20.1	20.8	22.1	23.1	22.7	22.8	22.2	21.5	20.8	20.0	19.0	18.0	17.3	16.0	15.1
20 to 100	17.6	20.8	22.4	22.6	22.9	22.8	22.6	22.1	21.4	21.0	19.8	19.1	18.3	17.3	16.2	15.1
30 to 110	18.5	20.5	22.6	22.7	23.1	23.0	22.5	22.6	21.7	20.3	19.9	19.0	18.1	17.3	16.2	13.9
40 to 120	18.8	21.0	22.4	22.5	23.3	23.6	22.7	22.1	21.3	20.7	20.2	19.1	20.2	20.2	20.2	23.3
50 to 130	20.1	25.8	23.1	24.3	24.4	24.2	24.2	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3
60 to 140	28.4	34.6	28.5	31.4	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3

Table E.12- (Continued)

C Weighting, Slow Response, LEQ																	
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20	
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	
14.4	13.7	12.6	12.0	11.3	10.8	10.2	10.0	9.8	9.6	9.6	9.2	9.1	8.4	7.3	5.9	4.0	
14.4	13.5	12.6	11.9	11.3	10.7	10.3	9.9	9.7	9.5	9.5	9.1	8.9	8.3	7.2	5.4	4.3	
14.4	13.6	12.5	11.8	11.3	10.5	10.1	9.8	9.3	9.3	9.3	8.3	8.3	8.3	8.3	8.3	8.3	
14.2	13.4	12.3	11.4	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3	
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3	
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3	
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3	
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3	

Z Weighting, Fast Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	28.3	26.5	26.1	27.5	24.3	24.3	24.0	22.5	21.3	20.4	20.1	19.7	18.1	17.6	16.1	14.9	
0 to 80	28.5	27.1	27.8	25.4	25.8	24.4	23.9	22.6	21.4	20.1	19.8	19.7	18.1	17.1	16.5	14.9	
10 to 90	27.4	27.0	29.4	26.3	23.9	23.7	24.5	22.5	21.9	20.9	20.4	18.7	18.5	16.8	16.3	15.0	
20 to 100	28.8	27.8	26.5	25.8	25.4	25.5	23.3	22.8	20.1	20.7	20.4	18.6	19.0	17.1	16.8	15.3	
30 to 110	28.7	28.1	28.3	24.7	26.0	23.7	23.3	22.9	21.4	20.7	19.8	18.9	18.1	16.3	16.3	15.2	
40 to 120	25.3	26.7	27.3	26.8	24.3	24.9	23.0	22.1	21.2	20.6	19.8	18.0	17.9	17.3	16.4	14.5	
50 to 130	29.1	28.8	28.8	26.3	25.2	25.2	23.3	24.1	21.5	19.6	19.8	19.2	21.3	21.3	21.2	24.2	
60 to 140	28.0	27.2	27.5	27.9	27.9	26.9	25.9	26.9	25.2	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

Z Weighting, Slow Response, LEQ																	
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20	
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz	
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	
14.5	13.5	12.7	11.7	11.4	11.1	10.4	10.3	10.3	10.4	10.8	11.2	11.8	12.7	13.3	14.2	15.0	
14.4	13.6	12.4	11.8	11.2	10.8	10.5	10.2	10.5	10.3	10.7	11.3	12.0	12.6	13.4	14.1	15.0	
14.7	13.7	12.4	12.0	11.4	10.9	10.2	10.4	10.1	10.3	10.6	11.1	11.9	12.6	13.2	14.2	15.0	
14.4	13.1	12.7	11.8	11.5	10.8	10.1	10.0	10.2	10.0	10.6	11.0	11.3	12.3	12.4	14.0	15.2	
14.4	13.2	12.2	11.9	10.6	10.3	10.2	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	
14.2	14.4	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	
24.2	24.2	27.2	27.2	27.2	30.2	30.2	29.3	28.0	26.8	26.0	25.0	24.3	23.6	22.4	21.6	24.5	
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	40.5	39.6	38.4	37.2	36.9	36.1	35.1	34.2	37.5	

Z Weighting, Fast Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	
-10 to 70	28.8	28.5	27.1	26.8	25.0	24.3	24.4	23.4	22.5	21.3	19.8	19.0	17.9	17.4	16.2	15.1	
0 to 80	29.9	28.8	27.2	26.1	25.8	24.8	23.6	23.4	22.2	20.8	20.1	19.1	17.6	17.0	16.1	15.3	
10 to 90	28.9	28.3	28.3	26.0	25.9	25.1	24.1	22.3	22.1	20.9	20.3	18.7	18.3	17.0	16.3	15.1	
20 to 100	29.2	28.5	27.1	26.5	25.2	25.3	23.5	23.1	22.1	21.2	19.7	18.7	18.1	17.3	16.1	15.0	
30 to 110	28.6	29.7	26.8	27.3	24.8	24.0	23.6	23.3	21.8	21.1	19.8	19.1	18.0	17.2	16.4	15.1	
40 to 120	29.2	28.0	27.4	27.1	25.6	24.7	23.9	22.4	21.5	20.6	19.7	19.0	18.2	16.9	16.1	14.8	
50 to 130	28.6	27.9	27.4	27.7	26.5	24.9	23.7	23.4	21.9	21.0	20.0	19.3	21.2	21.2	21.2	24.2	
60 to 140	30.8	28.3	28.1	27.8	26.9	26.8	26.4	27.1	25.4	28.2	28.2	28.2	31.2	31.2	31.2	34.2	

Table E.12- (Continued)

Z Weighting, Fast Response, LEQ																
500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.6	12.6	12.1	11.4	10.9	10.4	10.3	10.3	10.4	10.8	11.2	12.0	12.7	13.4	14.2	15.0
14.3	13.6	12.5	11.9	11.3	10.7	10.4	10.3	10.3	10.4	10.8	11.0	11.8	12.6	13.4	14.1	15.0
14.4	13.5	12.6	11.9	11.4	10.9	10.6	10.1	10.2	10.4	10.8	11.0	11.8	12.6	13.2	14.1	14.9
14.6	13.6	12.5	11.9	11.2	10.8	10.2	10.1	10.0	10.2	10.6	11.0	11.4	12.3	12.4	14.0	15.2
14.2	13.5	12.2	11.6	10.9	10.3	10.3	10.3	13.3	13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3
14.4	14.3	17.2	17.2	17.2	20.2	20.2	20.2	23.3	23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3
24.2	24.2	27.2	27.2	27.2	30.2	30.2	29.3	28.0	26.8	26.0	25.0	24.3	23.6	22.4	21.6	24.3
34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	40.5	39.6	38.4	37.2	36.9	36.1	35.1	34.2	37.4

Z Weighting, Slow Response, SPL																
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz
-10 to 70	29.8	28.6	28.1	26.5	25.2	24.7	23.7	23.3	21.8	20.8	20.0	18.9	18.3	17.3	16.2	15.5
0 to 80	29.8	29.3	27.9	26.1	25.2	24.3	23.8	23.1	22.2	21.1	20.3	18.9	18.1	17.3	16.1	15.4
10 to 90	28.5	27.6	26.5	26.8	25.8	24.8	24.1	23.0	22.0	20.8	20.1	19.0	18.0	17.1	16.0	15.3
20 to 100	30.1	28.2	27.2	26.3	26.1	24.8	23.4	23.0	21.8	20.9	19.9	18.9	18.1	17.1	16.3	15.2
30 to 110	28.8	29.2	27.3	27.1	25.6	24.7	23.6	23.0	21.7	21.2	19.9	19.0	18.1	16.9	16.0	14.8
40 to 120	29.5	28.5	27.5	27.0	25.3	25.0	23.9	22.8	22.2	20.5	20.0	18.1	20.2	20.2	20.2	23.3
50 to 130	29.1	27.8	28.2	27.2	24.9	24.4	24.4	24.3	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3
60 to 140	28.8	29.7	29.1	31.2	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3

Z Weighting, Slow Response, SPL																
500	630	800	100	1250	160	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	0 Hz	Hz	0 Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.3	13.7	12.6	11.9	11.4	10.8	10.4	10.4	10.2	10.5	10.9	11.1	11.9	12.	13.3	14.2	15.
14.2	13.5	12.5	11.8	11.3	10.9	10.4	10.2	10.2	10.4	10.7	11.0	11.8	12.	13.2	14.1	14.
14.3	13.5	12.5	11.9	11.3	10.7	10.2	10.2	10.0	10.1	10.7	11.2	11.3	12.	13.1	14.3	14.
14.3	13.5	12.3	11.6	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.	18.3	18.3	18.
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.	28.3	28.3	28.
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.	38.3	38.3	38.
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.	48.3	48.3	48.
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.	58.3	58.3	58.
													3	3	3	3

Table E.12- (Continued)

Z Weighting, Slow Response, LEQ																
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz
-10 to 70	29.6	28.0	27.5	26.7	25.4	24.8	24.3	23.0	21.8	20.8	19.8	19.0	18.0	17.2	16.2	15.4
0 to 80	29.4	28.7	28.2	26.4	25.7	25.0	24.3	22.9	22.2	21.0	20.0	19.0	18.0	17.4	16.4	15.2
10 to 90	28.9	28.2	26.9	26.8	25.4	25.1	24.1	23.0	21.7	21.0	20.0	18.8	18.2	17.4	16.3	15.3
20 to 100	29.2	28.7	27.6	26.5	25.6	24.6	23.9	22.9	21.8	20.8	20.0	19.2	18.2	17.1	16.1	15.2
30 to 110	28.4	28.2	27.3	26.8	25.3	25.1	23.9	22.6	21.8	21.0	19.8	18.9	18.0	16.9	16.1	14.7
40 to 120	29.2	28.5	28.0	26.8	25.5	24.6	23.6	22.6	21.4	20.5	20.0	17.8	20.2	20.2	20.2	23.3
50 to 130	29.8	28.7	27.9	26.5	25.0	24.4	24.4	24.3	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.3
60 to 140	29.0	29.6	29.1	31.2	31.2	31.2	34.2	34.2	34.2	37.2	37.2	37.2	40.2	40.2	40.2	43.3

Z Weighting, Slow Response, LEQ																
500 Hz	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.5	13.5	12.6	12.1	11.4	10.9	10.4	10.3	10.3	10.4	10.8	11.2	12.0	12.7	13.3	14.1	15.0
14.3	13.4	12.5	11.9	11.3	10.8	10.4	10.3	10.2	10.4	10.7	11.0	11.8	12.6	13.2	14.1	14.9
14.5	13.6	12.5	11.9	11.3	10.7	10.2	10.1	10.0	10.1	10.7	11.1	11.3	12.3	13.1	14.3	14.3
14.2	13.4	12.3	11.4	11.0	9.3	9.3	9.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.3	13.3	16.3	16.3	16.3	19.3	19.3	19.3	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.3	23.3	26.3	26.3	26.3	29.3	29.3	29.3	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.3	33.3	36.3	36.3	36.3	39.3	39.3	39.3	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3
43.3	43.3	46.3	46.3	46.3	49.3	49.3	49.3	52.3	52.3	52.3	55.3	55.3	55.3	58.3	58.3	58.3

BK4936 microphone (Figures/Tables "F")

Directional frequency response using side toward speaker

Figure F. 1- 0-30 degree incidence angles

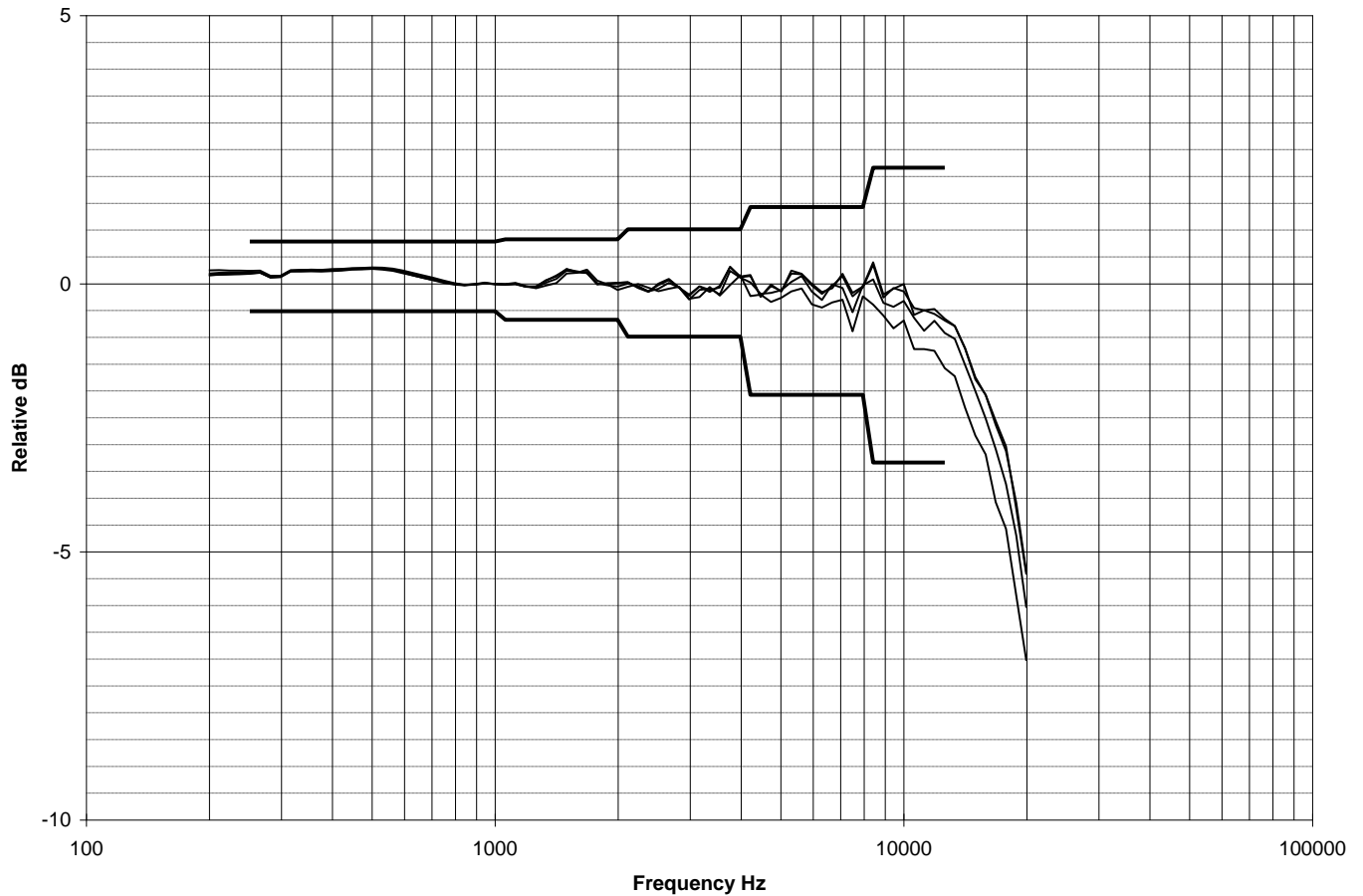


Figure F. 2- 0-90 degree incidence angles

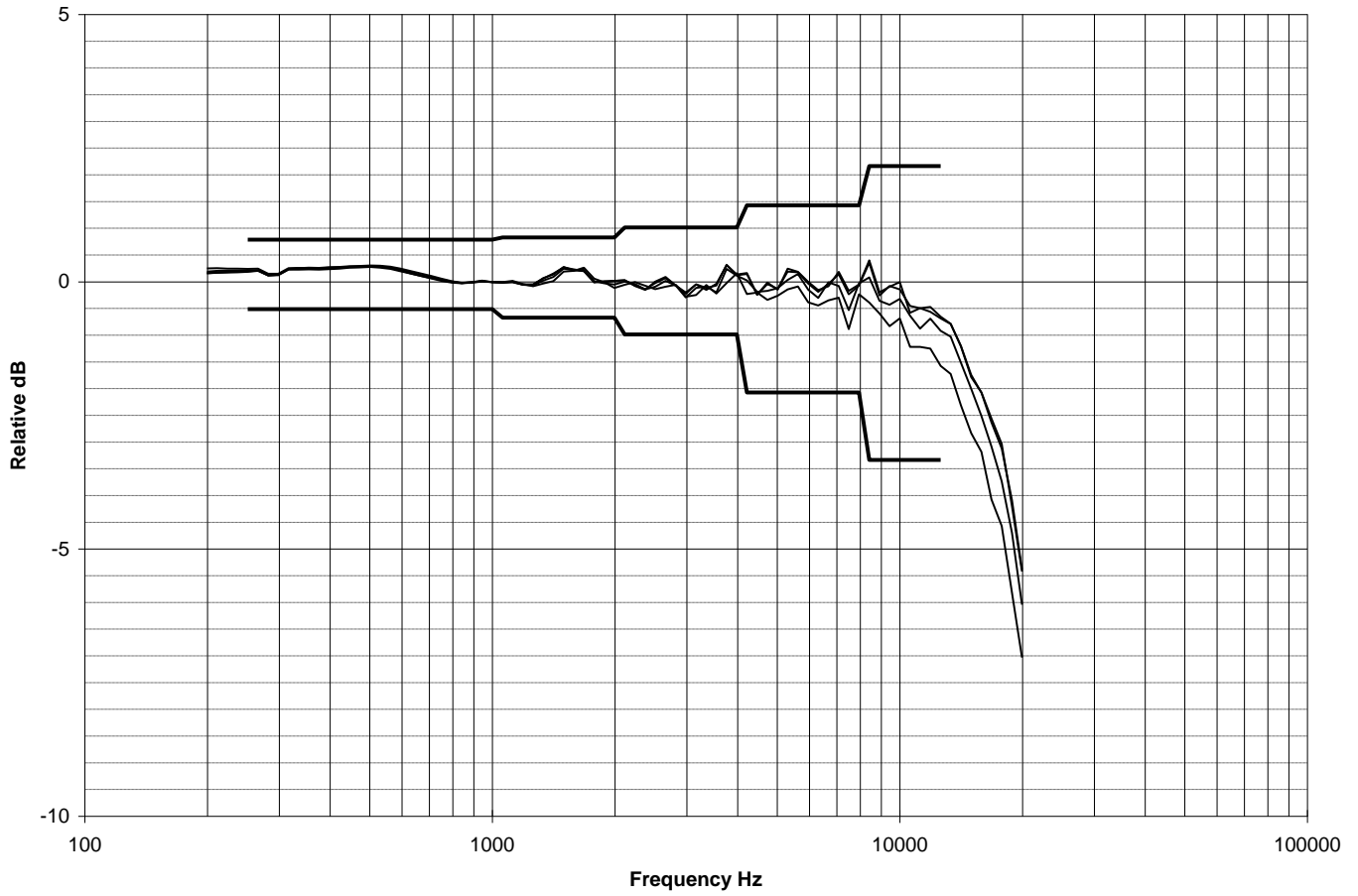


Figure F. 3 - 0-150 degree incidence angles

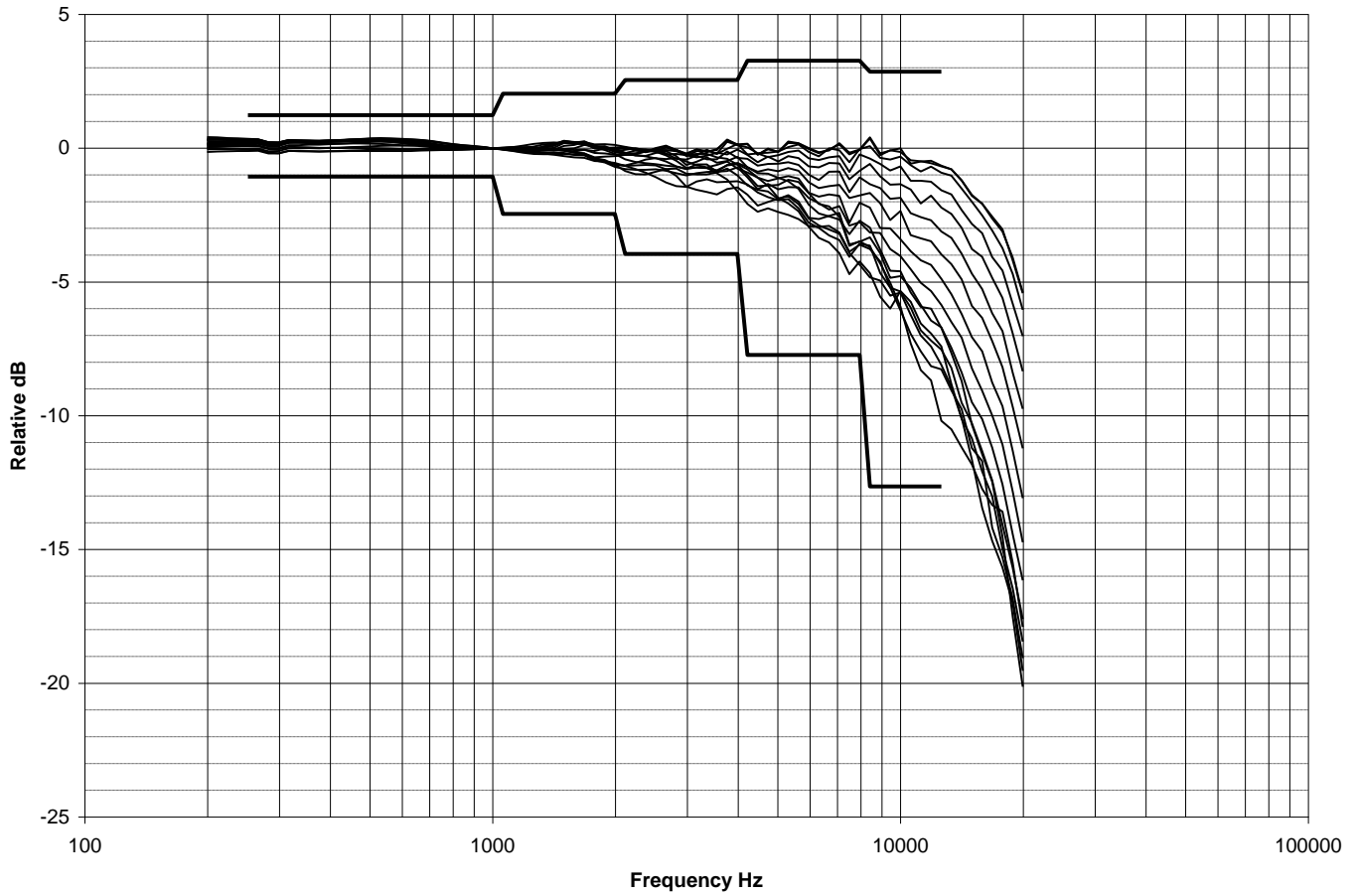
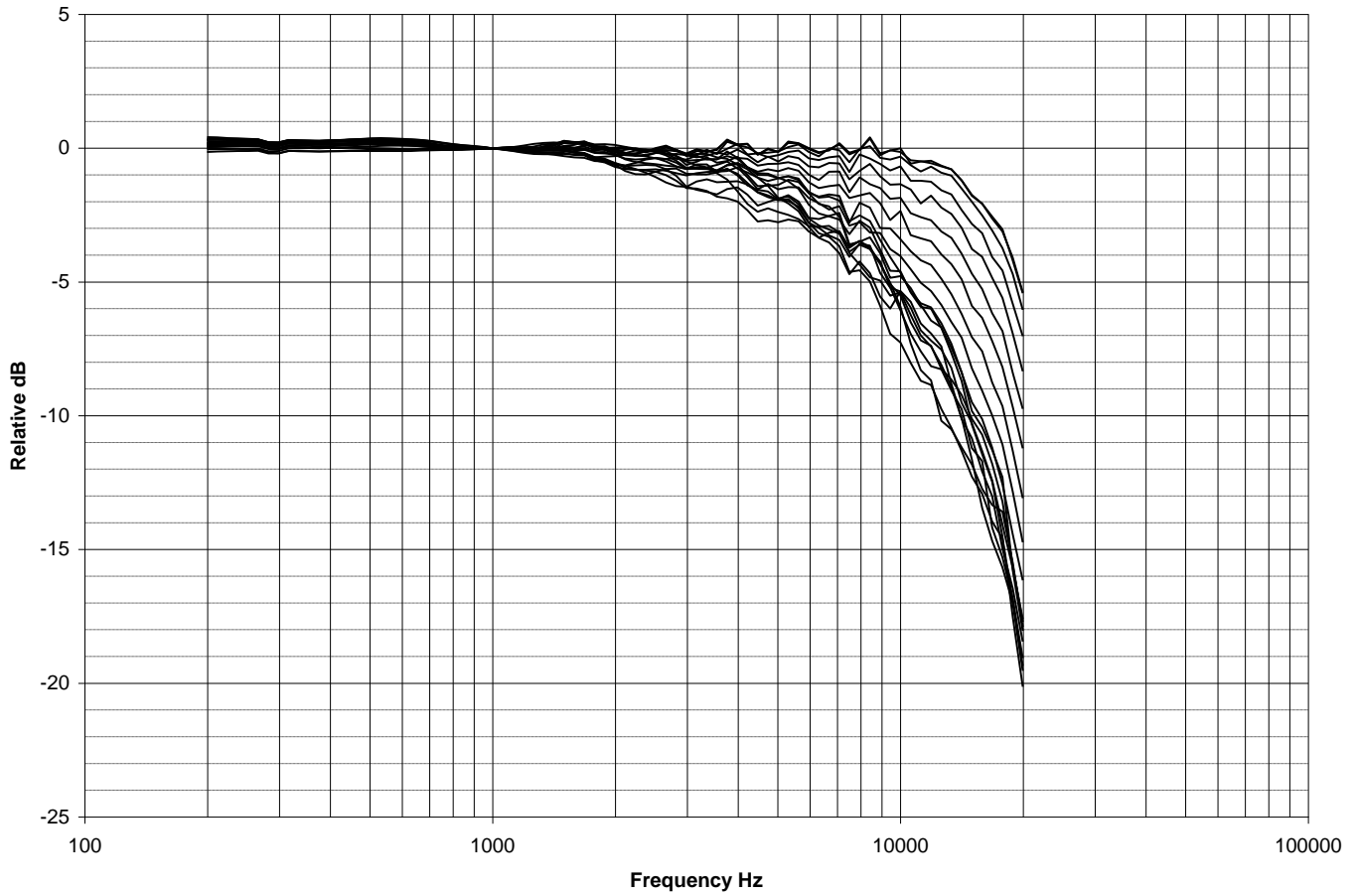


Figure F. 4 - 0-180 degree incidence angles (IEC 61672 class 1)



Directional frequency response using face toward speaker

Figure F.5 - 0-30 degree incidence angles

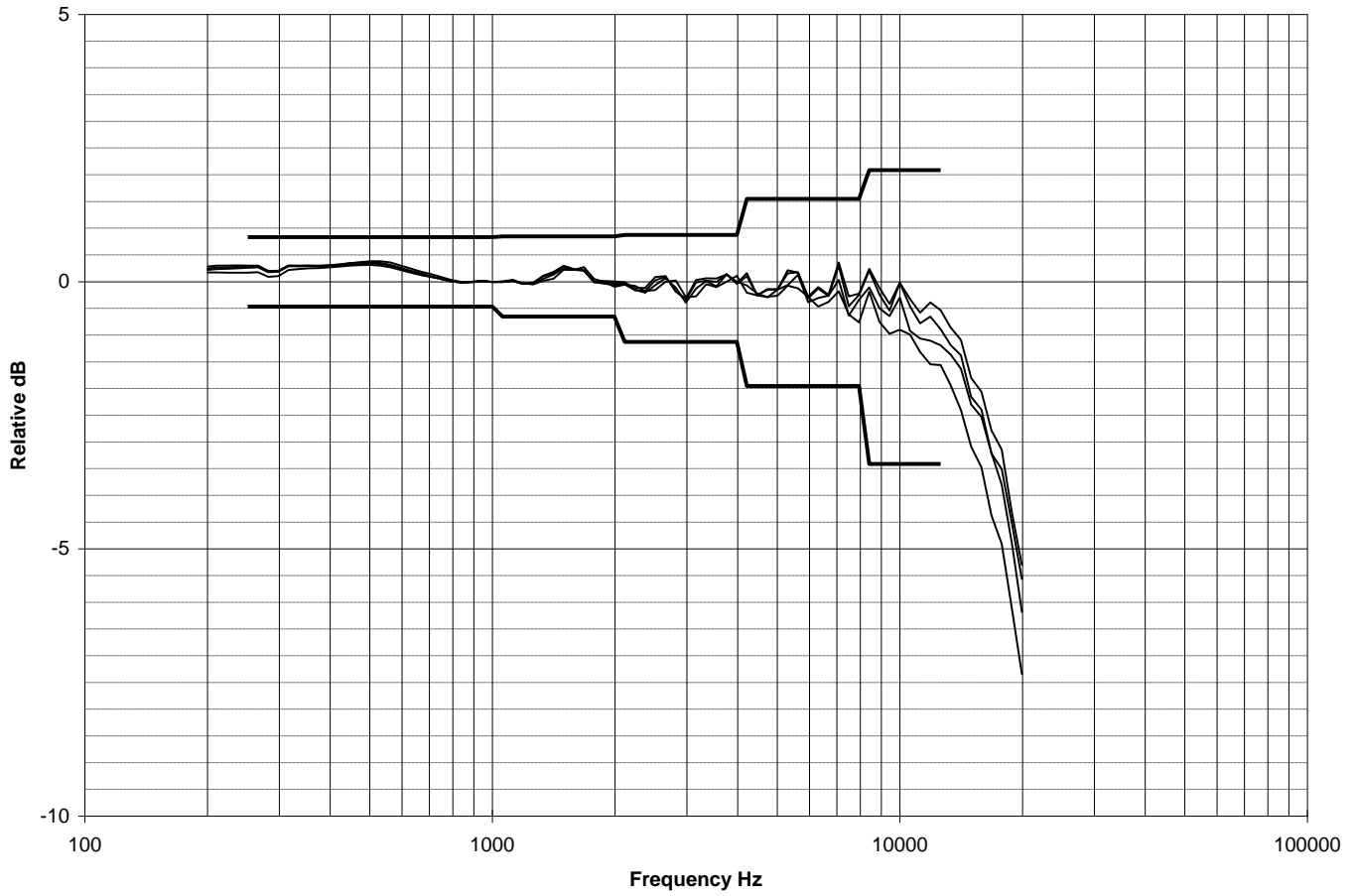


Figure F. 6 - 0-90 degree incidence angles

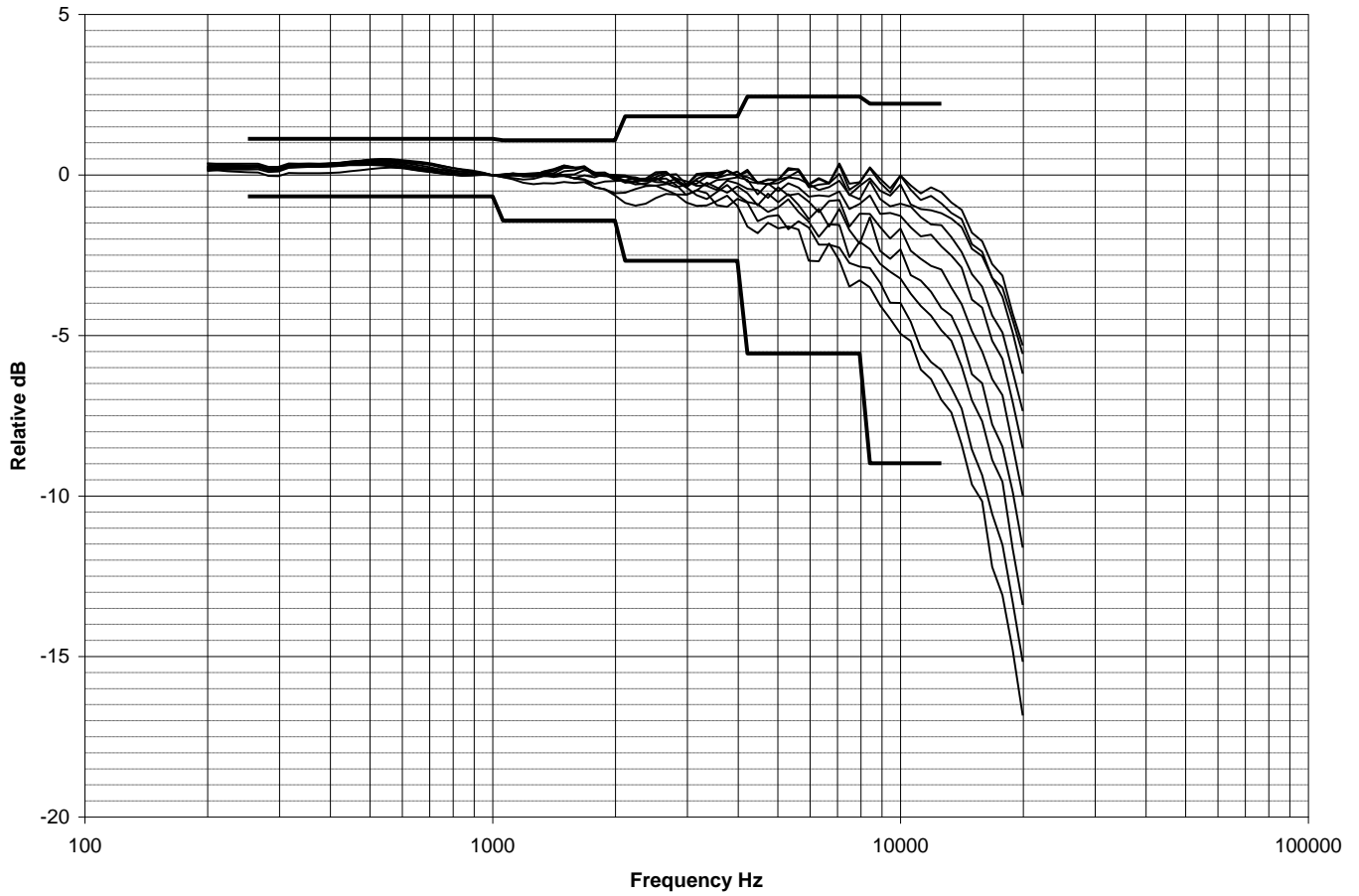


Figure F.7 - 0-150 degree incidence angles

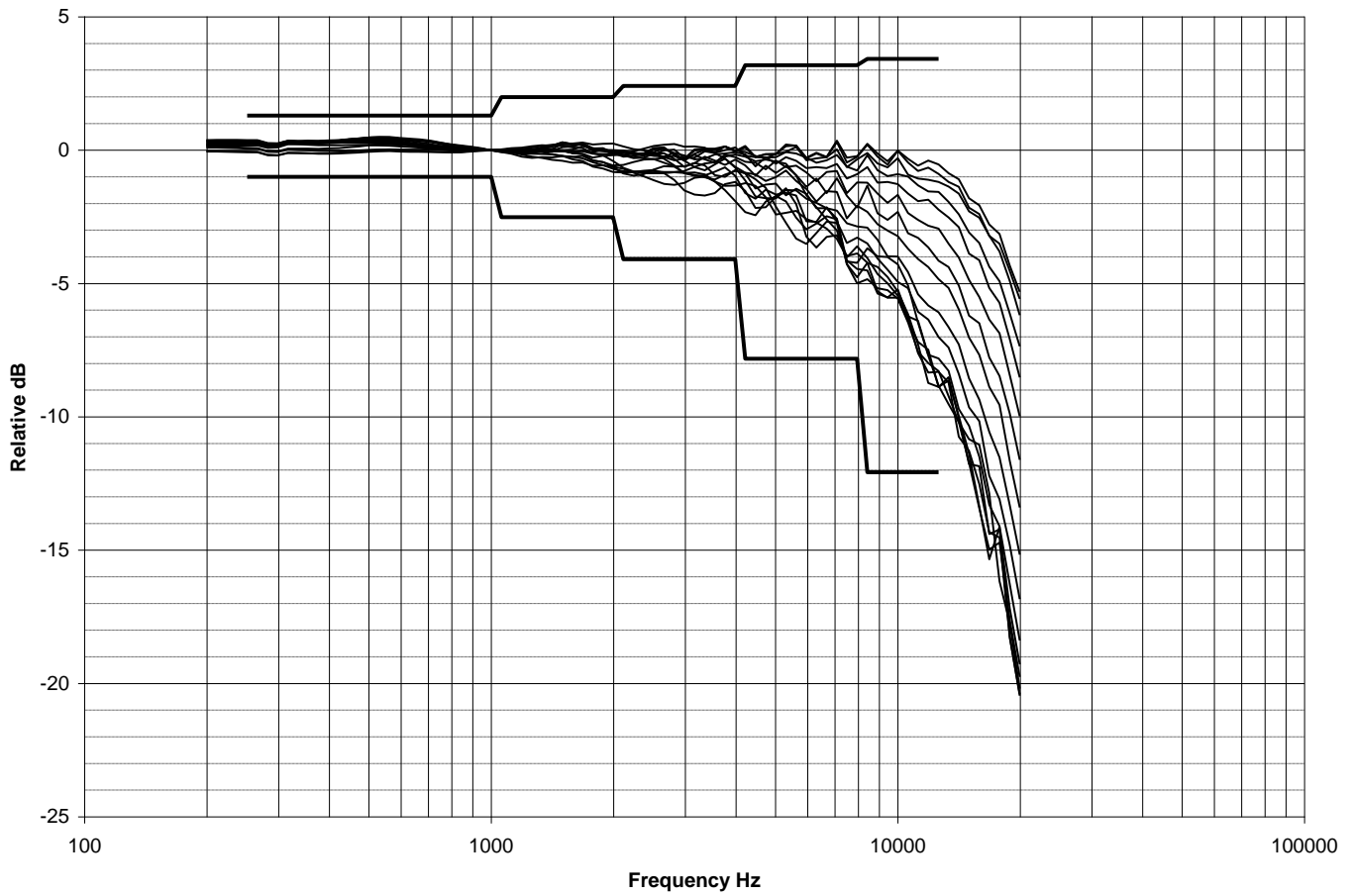
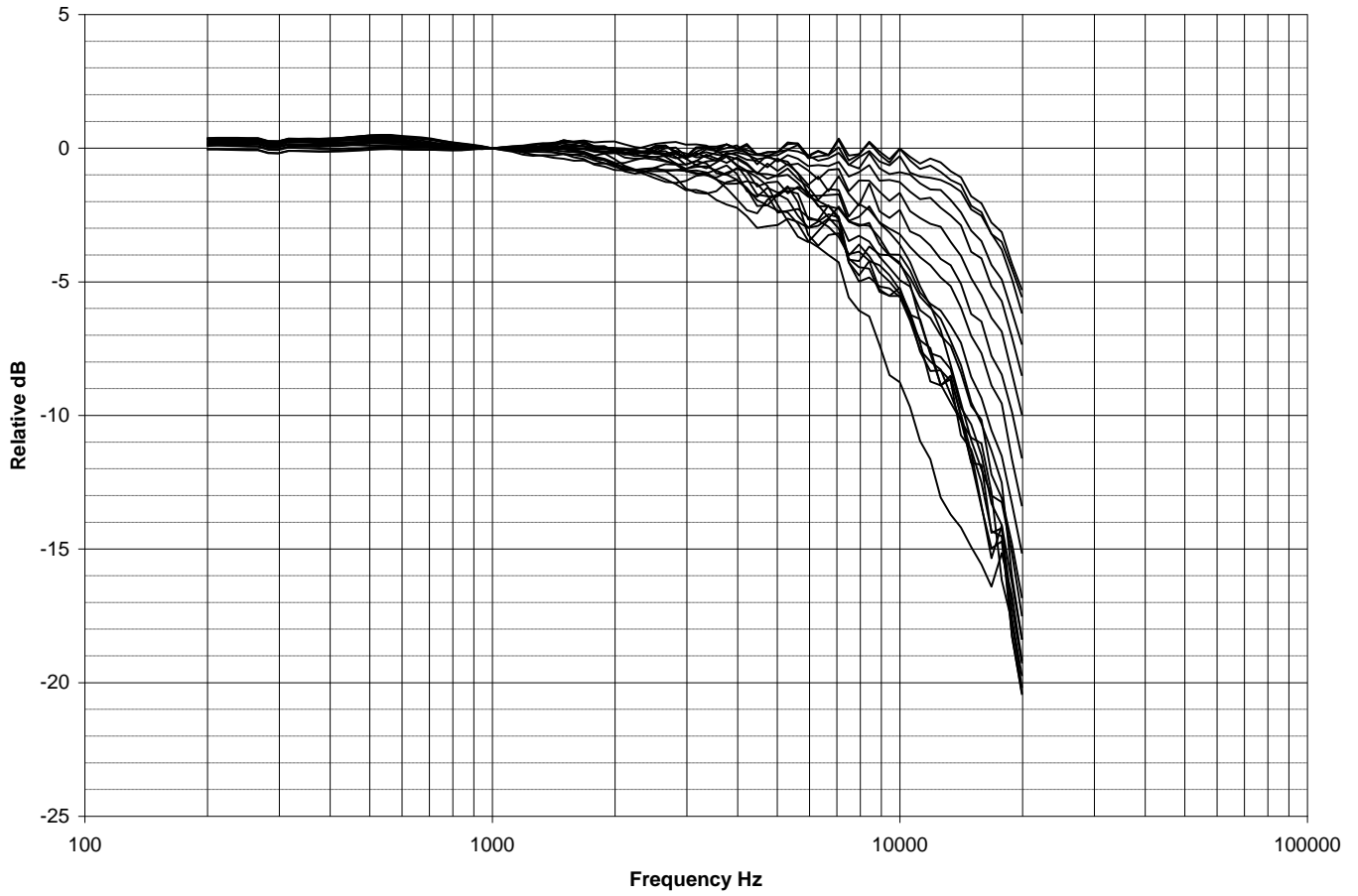
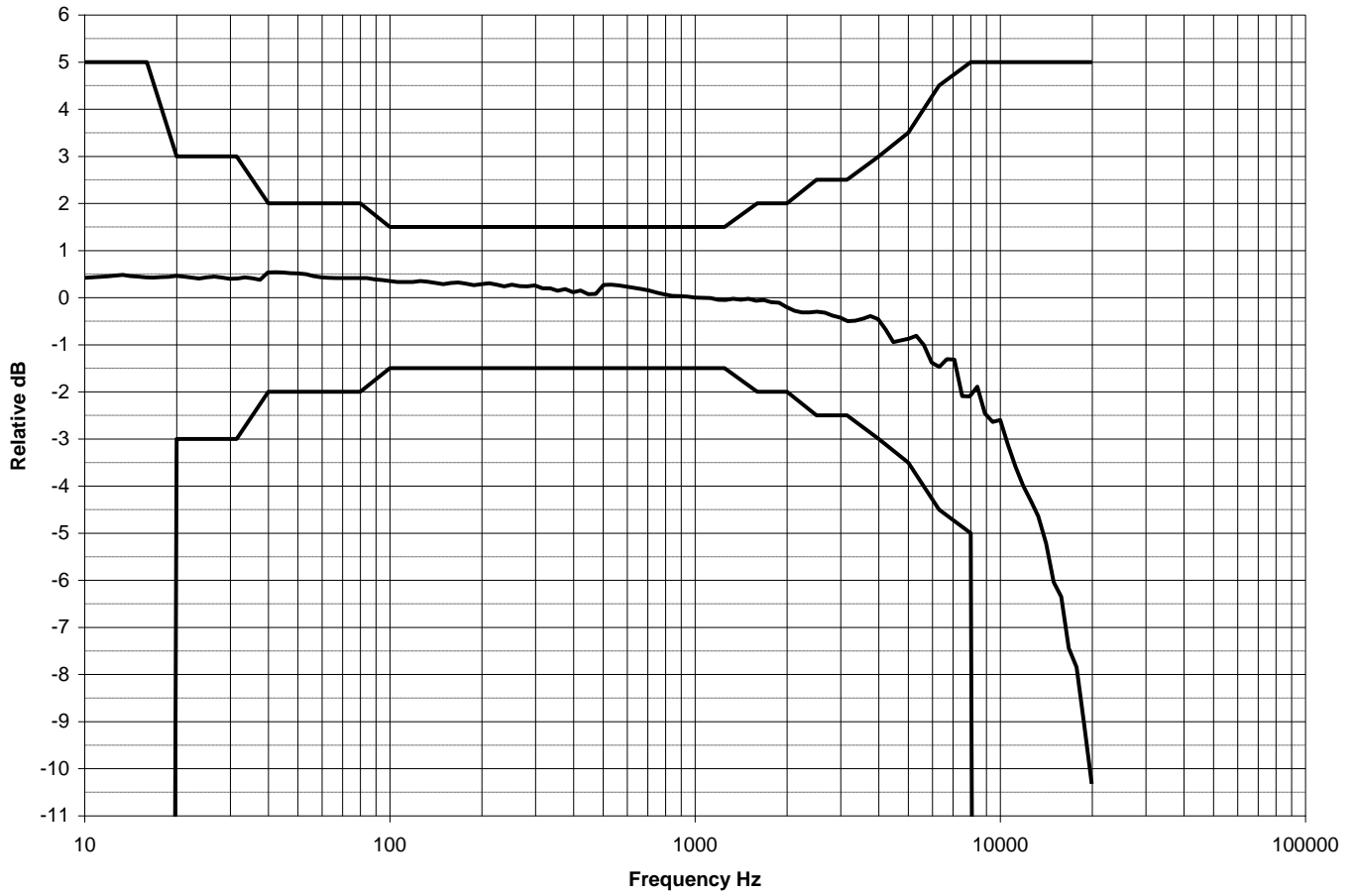


Figure F.8 - 0-180 degree incidence angles



Random Incidence

Figure F.9 - Frequency Response



Corrections

Table F.10 - Reflection, Diffraction, Microphone Frequency Response, and Windscreen

1/12 OCTAVE FREQUENCY in Hz	Local Microphone Acoustic Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Local Microphone Acoustic Corrections in dB
199.53	0.1	2371.37	0.3
211.35	0.1	2511.89	0.2
223.87	0.1	2660.73	0.1
237.14	0.1	2818.38	0.2
251.19	0.1	2985.38	0.3
266.07	0.1	3162.28	0.2
281.84	0.0	3349.65	0.3
298.54	0.0	3548.13	0.1
316.23	0.0	3758.37	-0.2
334.97	0.0	3981.07	-0.1
354.81	0.0	4216.97	-0.1
375.84	0.0	4466.84	0.3
398.11	0.0	4731.51	0.1
421.70	0.0	5011.87	0.1
446.68	0.0	5308.84	-0.3
473.15	0.0	5623.41	-0.2
501.19	0.0	5956.62	-0.1
530.88	0.0	6309.57	0.0
562.34	0.0	6683.44	-0.2
595.66	0.1	7079.46	-0.4
630.96	0.1	7498.94	-0.2
668.34	0.2	7943.28	-0.3
707.95	0.2	8413.95	-0.8
749.89	0.2	8912.51	-0.3
794.33	0.3	9440.61	-0.5
841.40	0.3	10000.00	-0.7
891.25	0.3	10592.54	-0.3
944.06	0.2	11220.19	-0.4
1000.00	0.3	11885.02	-0.6
1059.25	0.3	12589.25	-0.6
1122.02	0.3	13335.21	-0.5
1188.50	0.3	14125.38	-0.3
1258.93	0.3	14962.36	0.1
1333.52	0.2	15848.93	0.1
1412.54	0.1	16788.04	0.4
1496.24	0.0	17782.79	0.7
1584.89	0.1	18836.49	1.5
1678.80	0.1	19952.62	2.4
1778.28	0.2	2113.49	0.1
1883.65	0.2	2238.72	0.2
1995.26	0.1		

Figure F.11 - Pressure Field to Free Field

Frequency in Hz	QE-4150 Correction in dB
125	-0.03
250	0.00
1000	-0.22
2000	0.17
4000	0.71

Figure F.12 - Pressure Field to Random Incidence

Frequency in Hz	QE-4150 Correction in dB
125	-0.02
250	0.00
1000	-0.04
2000	0.18
4000	-0.07

Self Generated Noise

Table F.13 - Broadband

Range (dB)	SPL			LEQ		
	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting
Fast Response						
-20 to 70	22.9	30.1	37.4	22.8	30.1	37.0
-10 to 80	22.8	29.8	37.1	22.8	30.3	37.2
0 to 90	22.8	30.2	36.6	22.8	30.2	37.3
10 to 100	22.8	30.0	36.6	22.8	30.2	37.6
20 to 110	23.3	30.3	36.5	23.3	30.5	37.5
30 to 120	26.2	31.4	36.8	26.2	31.1	37.1
40 to 130	33.3	34.4	38.2	33.4	34.6	38.9
50 to 140	42.1	42.1	43.1	42.1	42.2	42.8
Slow Response						
-20 to 70	22.8	30.3	37.4	22.8	30.3	37.7
-10 to 80	22.8	30.3	37.4	22.7	30.3	37.7
0 to 90	22.8	30.2	37.5	22.8	30.2	37.5
10 to 100	22.8	30.2	37.9	22.7	30.2	37.6
20 to 110	23.3	30.2	37.5	23.3	30.3	37.3
30 to 120	26.2	31.0	37.6	26.2	31.0	37.9
40 to 130	33.4	34.6	38.6	33.4	34.6	38.5
50 to 140	42.2	42.1	43.0	42.2	42.1	42.9

Table F.14 – Octave Band

A Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.8	3.5	10.1	14.6	17.7	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.7	3.6	9.7	15.0	17.9	19.4	19.5	18.9	17.5	13.8
10 to 90	-15.1	-7.7	3.7	10.2	14.9	18.0	19.3	19.4	18.9	17.5	13.7
20 to 100	-6.6	-4.5	3.1	10.4	15.0	17.7	19.3	19.3	18.8	17.3	14.2
30 to 110	3.6	-0.1	3.5	10.0	15.1	17.8	19.1	19.1	18.3	18.3	18.3
40 to 120	12.8	10.7	7.5	10.7	14.9	16.8	19.3	22.3	25.3	28.3	28.3
50 to 130	23.6	19.3	17.2	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.4	28.8	27.6	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
A Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.1	3.2	9.9	15.1	18.0	19.4	19.5	19.1	17.6	13.9
0 to 80	-16.8	-7.0	3.4	10.0	14.9	18.0	19.4	19.5	18.9	17.6	13.8
10 to 90	-15.0	-6.6	3.0	9.8	14.8	17.8	19.3	19.4	18.9	17.5	13.8
20 to 100	-6.9	-5.9	3.0	9.8	14.8	17.8	19.2	19.3	18.9	17.3	14.2
30 to 110	3.1	0.0	4.1	10.1	14.8	17.7	19.2	19.2	18.3	18.3	18.3
40 to 120	12.6	9.3	8.0	11.1	15.3	16.9	19.3	22.3	25.3	28.3	28.3
50 to 130	22.9	18.5	17.4	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.5	28.7	27.3	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
A Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.2	3.4	9.8	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-7.3	3.2	9.9	14.8	17.9	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.6	-6.8	3.2	10.1	14.8	17.8	19.3	19.4	18.9	17.3	13.3
20 to 100	-7.0	-6.2	3.4	9.8	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.3	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	12.8	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	22.9	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	32.9	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
A Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.3	3.3	10.1	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.6	3.4	10.1	14.8	17.8	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.7	-7.1	3.4	10.0	14.8	17.8	19.2	19.4	18.8	17.3	13.3
20 to 100	-6.9	-6.3	3.5	9.9	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.2	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	13.0	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	23.2	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.2	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table F.14 - (Continued)

C Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.6	28.1	25.7	23.4	21.3	19.2	18.1	17.1	15.6	11.8
0 to 80	24.9	28.0	27.6	24.9	23.0	21.0	19.3	18.0	16.9	15.4	11.8
10 to 90	24.3	27.7	27.1	25.9	23.3	21.0	19.3	18.0	17.0	15.4	11.6
20 to 100	22.6	27.4	27.9	25.3	23.1	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	25.6	27.5	26.5	25.8	23.5	21.2	19.2	17.8	15.4	18.3	18.3
40 to 120	26.8	28.1	27.8	26.1	23.4	20.9	19.2	22.3	25.3	28.3	28.3
50 to 130	26.8	28.0	28.0	26.3	23.3	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	34.0	31.9	29.1	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.9	27.5	25.6	23.6	21.2	19.4	18.0	17.1	15.6	11.8
0 to 80	24.6	28.0	27.4	25.6	23.4	21.1	19.2	18.0	16.9	15.4	11.7
10 to 90	24.9	27.9	27.3	25.5	23.4	21.2	19.3	17.9	16.9	15.4	11.7
20 to 100	25.4	28.2	27.2	25.7	23.4	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	24.7	28.3	27.6	26.1	23.6	21.0	19.0	17.6	15.4	18.3	18.3
40 to 120	25.5	28.2	27.9	25.8	23.2	20.9	19.3	22.3	25.3	28.3	28.3
50 to 130	27.8	28.4	27.9	26.2	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.7	31.8	29.8	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
C Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.2	27.9	27.8	25.8	23.6	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	24.9	27.8	27.5	25.6	23.4	21.1	19.3	17.9	17.0	15.4	11.6
10 to 90	25.0	27.9	27.7	25.5	23.4	21.1	19.3	17.9	16.8	15.1	12.0
20 to 100	25.4	27.9	27.7	25.8	23.3	21.0	19.2	17.3	17.3	17.3	17.3
30 to 110	25.4	27.6	27.6	25.5	23.1	20.9	18.3	21.3	24.3	27.3	27.3
40 to 120	25.4	28.4	27.6	25.6	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	27.0	28.6	28.0	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.9	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
C Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.0	27.9	27.6	25.8	23.5	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	25.1	28.1	27.5	25.9	23.4	21.2	19.2	18.0	17.0	15.4	11.6
10 to 90	25.2	27.9	27.6	25.7	23.4	21.1	19.3	17.9	16.8	15.1	12.1
20 to 100	25.2	27.8	27.4	25.6	23.3	21.1	19.2	17.3	17.3	17.3	17.3
30 to 110	25.3	27.3	27.4	25.7	23.2	21.1	18.3	21.3	24.3	27.3	27.3
40 to 120	25.2	27.8	27.7	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	26.9	28.8	28.1	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.3	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table F.14- (Continued)

Z Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	32.9	30.0	27.5	26.0	23.4	21.2	19.4	18.2	18.0	18.6	19.8
0 to 80	32.9	31.2	28.8	25.9	23.5	21.3	19.5	18.1	17.9	18.4	19.7
10 to 90	33.2	30.5	27.8	25.4	23.5	21.4	19.3	18.3	17.9	18.4	19.7
20 to 100	31.7	30.2	28.2	25.9	23.2	21.4	19.4	18.0	17.8	18.3	19.7
30 to 110	32.9	30.9	27.9	25.9	23.3	21.1	19.1	18.2	18.3	18.3	18.3
40 to 120	31.9	31.6	27.9	25.6	23.1	21.3	19.2	22.3	25.3	28.3	28.3
50 to 130	33.8	30.5	28.1	26.0	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.7	32.5	30.3	30.3	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Fast Response, LEQ											
Range in dB	16 Hz in dB	31.5 Hz in dB	63 Hz in dB	125 Hz in dB	250 Hz in dB	500 Hz in dB	1000 Hz in dB	2000 Hz in dB	4000 Hz in dB	8000 Hz in dB	16 kHz in dB
-10 to 70	32.9	31.0	28.4	26.0	23.6	21.4	19.4	18.2	18.0	18.6	19.8
0 to 80	34.0	30.9	28.4	26.0	23.5	21.2	19.3	18.2	17.9	18.5	19.7
10 to 90	33.1	30.9	28.3	26.0	23.4	21.2	19.3	18.1	17.9	18.5	19.7
20 to 100	33.4	30.5	28.4	26.1	23.4	21.2	19.4	18.1	17.8	18.3	19.7
30 to 110	33.0	30.9	28.2	25.8	23.5	21.1	19.2	18.1	18.3	18.3	18.3
40 to 120	33.3	31.3	28.5	25.7	23.3	21.1	19.3	22.3	25.3	28.3	28.3
50 to 130	33.3	31.0	28.6	25.7	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.8	33.3	29.9	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.6	31.0	28.6	26.0	23.6	21.2	19.4	18.2	18.0	18.5	19.8
0 to 80	33.1	30.8	28.5	25.8	23.2	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.6	31.0	28.4	26.0	23.5	21.2	19.4	18.1	17.8	18.3	19.6
20 to 100	33.6	30.7	28.5	25.9	23.6	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.8	30.9	28.3	25.8	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	34.0	30.7	28.4	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.7	30.7	28.7	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
Z Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.3	31.2	28.6	26.0	23.5	21.3	19.5	18.2	18.0	18.5	19.8
0 to 80	33.1	30.9	28.3	25.9	23.4	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.8	30.9	28.5	25.8	23.3	21.2	19.3	18.1	17.7	18.3	19.6
20 to 100	33.3	30.8	28.3	25.9	23.5	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.6	30.9	28.5	25.9	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	33.5	31.3	28.3	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.6	31.0	28.9	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table F.15- 1/3 Octave Band

A Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	16.9	-16.9	-16.9	-13.7	-10.5	-6.0	-3.4	-1.6	1.6	3.9	6.5	7.3	9.4	9.8	10.8	11.8
0 to 80	-16.9	16.9	-16.9	-15.6	-13.3	-10.1	-6.7	-2.9	-0.9	3.4	4.0	6.0	7.5	8.1	9.8	10.8	11.8
10 to 90	-16.9	15.5	-16.8	-15.4	-13.7	-10.4	-6.3	-3.4	-1.2	3.7	3.6	5.9	6.7	9.3	10.3	10.7	11.6
20 to 100	-15.9	-6.2	-13.5	-9.2	-10.8	-9.1	-7.1	-3.7	-0.1	1.6	4.3	5.8	7.9	8.7	10.2	11.0	11.9
30 to 110	-6.4	4.2	-4.8	0.8	-3.8	-4.9	-3.8	-1.9	0.1	3.1	4.4	5.6	7.0	8.4	10.2	10.6	11.6
40 to 120	3.4	13.8	6.1	9.5	4.7	3.8	4.4	4.8	4.8	7.5	7.6	7.4	10.2	10.4	10.4	13.3	13.2
50 to 130	12.9	23.2	15.4	19.7	14.8	13.9	14.4	14.7	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	21.8	32.4	25.8	29.9	25.2	22.8	24.6	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	Db	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
12.2	12.9	13.1	13.3	12.9	12.8	12.9	12.8	12.6	12.4	11.8	11.5	10.8	9.4	7.9	5.8		
12.6	12.7	12.9	13.1	13.0	12.8	12.7	12.6	12.2	12.1	11.8	11.5	10.6	9.4	7.8	5.9		
12.4	12.8	12.8	13.1	13.2	12.8	12.9	12.8	12.5	12.4	11.8	11.3	10.6	9.2	7.7	5.9		
12.5	12.6	12.7	12.8	12.6	12.7	12.8	12.6	12.3	12.2	11.4	11.3	10.1	8.3	8.3	8.3		
12.1	12.0	12.8	12.9	12.6	12.3	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

A Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.3	-13.9	-9.9	-6.6	-2.4	-0.4	3.7	3.9	5.9	7.6	9.4	10.2	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.4	-13.8	10.2	-6.5	-3.2	-0.5	3.7	4.0	6.0	7.5	8.8	10.2	11.2	11.8
10 to 90	-16.9	-15.9	-16.8	-15.3	-13.1	10.5	-6.8	-2.6	0.0	3.6	3.9	5.8	7.5	8.7	10.0	11.1	11.8
20 to 100	-15.8	-7.1	-13.6	-8.7	-10.3	-8.0	-6.2	-3.1	0.0	1.8	4.2	6.1	7.8	8.8	9.9	10.8	11.8
30 to 110	-5.5	3.6	-4.8	-0.8	-2.7	-4.4	-3.6	-1.9	0.6	3.6	4.2	6.2	7.6	9.1	10.0	11.0	11.6
40 to 120	3.2	13.3	4.4	9.7	6.7	3.7	4.7	5.1	4.7	7.2	7.4	7.6	10.3	10.4	10.4	13.2	13.2
50 to 130	12.6	23.5	14.5	19.5	16.8	14.1	14.4	14.6	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	24.4	33.8	25.1	30.1	27.0	23.5	24.2	24.5	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, LEQ																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
12.4	12.6	12.9	13.1	13.1	13.0	12.9	12.8	12.5	12.4	11.8	11.5	10.6	9.4	7.8	5.9		
12.5	12.7	13.0	13.1	13.0	12.8	12.9	12.6	12.4	12.3	11.8	11.4	10.6	9.4	7.8	5.8		
12.4	12.6	13.1	13.2	13.1	13.0	12.9	12.6	12.4	12.3	11.7	11.4	10.5	9.2	7.7	5.9		
12.4	12.6	12.9	13.0	13.0	12.9	12.7	12.5	12.3	12.1	11.4	11.3	10.1	8.3	8.3	8.3		
12.2	12.2	12.8	13.1	12.6	12.5	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

Table F.15 (Continued)

A Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-10.4	-6.1	-3.1	-0.7	3.6	3.8	5.7	7.6	8.9	10.2	11.2	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-14.1	-9.5	-6.3	-2.8	-0.6	3.7	4.0	6.0	7.2	8.8	10.0	11.1	11.9
10 to 90	-16.9	-16.9	-16.9	-16.6	-13.5	-9.6	-6.3	-3.0	-0.5	3.4	3.9	5.8	7.6	9.0	9.8	11.1	11.8
20 to 100	-12.7	-12.6	-12.6	-9.7	-9.6	-9.1	-6.2	-2.9	0.0	3.8	4.0	5.8	7.7	9.0	9.9	10.3	11.5
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.3	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	13.2	13.2	13.2	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, SPL																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.5	13.0	13.1	13.1	12.9	12.9	12.8	12.5	12.3	11.8	11.5	10.7	9.3	7.8	5.8	
12.6	12.6	12.9	13.0	13.0	12.8	12.8	12.6	12.4	12.2	11.8	11.4	10.6	9.3	7.7	5.7	
12.4	12.5	12.9	13.0	13.0	12.8	12.7	12.5	12.3	12.1	11.3	11.3	10.3	7.5	7.3	7.3	
12.2	12.4	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

A Weighting, Slow Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-9.9	-6.6	-3.0	-0.6	3.8	3.7	5.8	7.7	8.9	10.0	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-13.8	-9.2	-5.9	-3.1	-0.6	3.8	3.9	6.0	7.5	8.9	10.1	10.9	11.8
10 to 90	-16.9	-16.9	-16.9	-16.6	-14.0	-9.5	-6.4	-3.2	-0.5	3.8	3.9	5.8	7.5	8.7	10.1	10.9	11.8
20 to 100	-12.7	-12.7	-12.7	-9.7	-9.7	-9.2	-6.1	-2.9	-0.3	3.6	4.2	5.6	7.4	8.8	10.0	10.8	11.6
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.2	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	2	2	13.2	2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.	23.	23.2	2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.	33.	33.2	2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, LEQ																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.7	13.0	13.1	13.0	13.0	12.9	12.7	12.5	12.3	11.9	11.5	10.7	9.4	7.8	5.8	
12.4	12.6	12.9	13.0	13.1	12.9	12.8	12.6	12.4	12.2	11.7	11.4	10.6	9.3	7.7	5.7	
12.5	12.6	12.9	13.1	13.0	12.8	12.8	12.5	12.3	12.1	11.3	11.3	10.3	7.6	7.3	7.3	
12.2	12.3	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

Table F.15 (Continued)

C Weighting, Fast Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	14.3	17.2	20.5	21.8	21.2	21.6	22.2	22.0	20.9	20.3	20.1	19.4	18.2	17.8	16.8	15.7	14.6
0 to 80	13.7	18.4	21.9	21.2	22.4	22.8	21.0	21.7	20.7	20.1	20.1	19.4	17.9	17.9	16.6	15.8	15.1
10 to 90	15.2	16.8	21.2	21.8	20.9	21.7	21.5	21.6	21.2	20.7	19.2	19.0	18.2	17.4	16.3	15.7	14.6
20 to 100	17.1	17.5	19.9	22.0	20.7	22.9	21.9	21.3	21.3	20.5	19.2	19.0	18.2	17.1	16.3	15.4	15.0
30 to 110	18.2	19.5	19.1	20.0	18.8	22.2	22.0	22.5	20.4	20.1	19.4	18.2	17.8	16.8	16.4	15.4	14.8
40 to 120	18.4	18.0	19.9	22.4	22.9	22.8	22.7	22.3	20.5	19.6	19.7	19.2	18.2	17.3	16.2	15.3	13.9
50 to 130	15.0	19.0	20.2	21.6	23.9	22.9	22.5	22.2	21.1	20.3	19.9	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.0	22.6	24.7	25.6	26.2	24.6	24.6	26.0	24.7	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

C Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
14.4	13.2	12.5	12.3	11.7	11.2	11.2	10.8	10.6	10.4	9.9	9.5	8.6	7.3	5.7	3.9		
13.9	13.4	12.5	12.3	11.7	11.4	11.2	10.7	10.4	10.1	9.7	9.3	8.5	7.2	5.7	3.7		
14.0	13.2	12.8	12.3	11.8	11.2	11.2	10.7	10.5	10.2	9.6	9.2	8.5	7.2	5.4	3.2		
14.5	12.9	12.7	12.1	11.6	11.3	11.0	10.7	10.4	10.1	9.8	8.4	8.3	8.3	8.3	8.3		
13.8	13.0	13.0	12.4	12.0	10.8	10.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

C Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	16.7	18.3	20.3	20.9	22.4	22.4	22.3	21.8	21.2	19.5	19.4	19.0	18.0	17.6	16.4	15.8	15.0
0 to 80	16.5	18.8	20.7	22.0	22.3	23.1	22.3	21.5	21.3	20.1	19.4	18.9	18.4	17.7	16.5	15.6	14.8
10 to 90	18.0	19.4	20.3	22.1	22.9	22.4	22.4	21.5	21.0	20.0	19.6	18.9	18.1	17.2	16.3	15.6	14.8
20 to 100	17.6	18.9	22.1	20.9	21.3	22.5	22.2	21.1	21.1	20.4	19.6	19.2	17.9	17.3	16.6	15.6	14.9
30 to 110	17.1	18.8	21.0	22.3	21.2	22.0	22.0	22.2	20.9	20.7	19.5	18.9	18.1	17.6	16.5	15.5	14.7
40 to 120	18.2	18.6	20.8	22.7	22.9	22.1	22.1	22.3	22.1	20.6	20.0	19.1	18.1	17.6	16.4	15.1	14.2
50 to 130	18.9	20.6	23.1	22.3	22.9	24.0	23.2	23.6	22.0	21.0	20.3	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.6	23.9	24.7	25.8	25.9	24.5	25.7	26.1	24.9	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Table F.15 (Continued)

C Weighting, Fast Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.1	13.2	12.7	12.4	11.9	11.4	11.1	10.9	10.6	10.3	9.8	9.3	8.6	7.3	5.7	3.8
14.1	13.3	12.8	12.3	11.8	11.2	11.1	10.8	10.6	10.3	9.7	9.4	8.5	7.2	5.7	3.7
14.1	13.2	12.8	12.2	11.9	11.3	11.0	10.7	10.5	10.1	9.7	9.3	8.5	7.1	5.3	3.1
14.0	13.2	12.7	12.2	11.7	11.2	11.0	10.6	10.3	10.1	9.9	8.5	8.3	8.3	8.3	8.3
14.1	13.0	12.5	12.1	12.0	11.4	10.0	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

C Weighting, Slow Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.7	19.2	20.9	21.3	22.4	22.5	22.7	22.5	21.5	20.8	20.0	19.1	18.3	17.4	16.5	15.8	14.9
0 to 80	17.8	19.1	20.6	21.6	22.2	22.7	22.2	21.5	21.2	20.5	19.7	19.1	18.3	17.3	16.4	15.7	15.0
10 to 90	17.1	19.9	20.6	22.5	22.4	22.6	21.9	22.0	21.3	20.4	19.7	18.8	18.1	17.3	16.6	15.6	14.7
20 to 100	17.0	18.8	21.9	21.6	22.4	22.2	22.4	22.0	21.1	20.7	19.6	19.1	18.3	17.5	16.5	15.6	14.8
30 to 110	17.4	19.5	21.3	22.3	22.6	22.4	22.1	22.2	21.0	20.2	19.6	19.1	18.2	17.5	16.7	15.3	15.1
40 to 120	18.1	19.5	21.2	22.3	22.5	22.9	22.4	22.5	21.6	20.5	19.6	19.2	19.3	19.2	19.2	22.3	22.3
50 to 130	17.9	20.2	21.8	23.1	22.5	23.8	23.3	23.5	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.2	13.3	12.7	12.4	11.9	11.4	11.1	10.8	10.5	10.3	9.8	9.4	8.6	7.3	5.7	3.7
14.2	13.3	12.8	12.3	11.8	11.4	11.1	10.8	10.4	10.2	9.7	9.4	8.4	7.2	5.7	3.3
14.3	13.3	12.7	12.2	11.7	11.3	10.9	10.6	10.3	9.9	9.1	9.1	7.3	7.3	7.3	7.3
14.0	13.1	12.5	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Table F.15 (Continued)

C Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.6	19.2	21.4	22.4	22.4	22.6	22.7	22.1	21.6	20.7	19.8	19.2	18.3	17.6	16.5	15.6	14.8
0 to 80	17.9	19.0	21.4	22.0	22.4	22.4	22.5	22.0	21.1	20.3	19.6	18.9	18.2	17.5	16.5	15.6	14.9
10 to 90	16.8	19.8	21.2	22.4	22.0	22.6	21.9	22.2	21.5	20.4	19.7	19.0	18.2	17.4	16.5	15.5	14.9
20 to 100	17.7	19.6	21.8	22.2	21.9	22.8	22.4	22.0	21.1	20.6	19.6	19.3	18.2	17.5	16.6	15.5	14.8
30 to 110	17.0	19.4	21.3	22.1	22.5	22.7	22.5	21.9	21.4	20.5	19.5	19.1	18.1	17.5	16.3	15.3	15.2
40 to 120	18.0	19.7	21.4	21.9	22.9	23.0	22.3	22.1	21.0	20.3	19.6	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	18.1	19.8	21.3	21.9	22.8	23.4	23.3	23.4	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, LEQ																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
14.3	13.2	12.8	12.4	11.8	11.4	11.1	10.8	10.5	10.3	9.7	9.4	8.6	7.3	5.7	3.7		
14.3	13.2	12.8	12.2	11.7	11.3	11.0	10.7	10.5	10.2	9.7	9.3	8.5	7.2	5.7	3.3		
14.2	13.3	12.8	12.3	11.7	11.3	11.0	10.6	10.3	10.0	9.1	9.0	7.4	7.3	7.3	7.3		
14.1	13.1	12.4	12.1	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3		
12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3		
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3		
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3		
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3		

Z Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.9	25.5	26.9	25.2	24.3	23.4	23.1	21.9	20.7	21.0	18.9	18.9	17.9	16.9	17.1	15.2	14.9
0 to 80	29.2	26.7	26.9	26.0	24.2	22.4	23.2	23.2	21.3	20.5	20.0	19.1	18.1	17.4	16.3	15.8	14.9
10 to 90	26.4	28.2	24.8	26.6	24.7	24.1	23.0	22.0	21.2	20.5	20.0	18.3	17.8	17.8	16.8	15.4	14.9
20 to 100	26.3	26.7	25.3	25.4	24.6	23.0	24.1	22.0	21.3	20.2	20.2	18.7	18.0	17.4	16.3	15.6	14.8
30 to 110	25.0	26.1	24.1	26.2	23.5	24.0	23.9	23.3	21.9	20.1	19.6	18.7	18.5	17.3	16.6	15.2	15.0
40 to 120	28.4	28.7	27.0	24.8	25.1	24.3	22.1	24.0	21.1	20.3	19.3	18.9	18.2	16.5	16.1	15.4	14.4
50 to 130	27.0	27.0	26.8	26.0	25.7	24.4	24.0	22.8	21.1	20.2	19.3	18.8	20.2	20.3	20.2	23.2	23.2
60 to 140	28.9	27.5	26.8	27.0	27.9	26.6	24.9	25.8	24.5	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Z Weighting, Fast Response, SPL																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
14.5	13.3	12.9	12.3	12.0	11.4	11.6	11.2	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7		
14.4	12.9	12.7	12.1	12.0	11.7	11.4	11.2	11.2	11.6	11.5	12.2	12.8	13.2	13.9	14.6		
14.0	13.5	12.6	12.5	11.8	11.5	11.1	11.1	11.1	11.4	11.5	12.1	12.7	13.2	13.8	14.5		
14.4	13.3	12.9	12.3	11.9	11.3	11.2	11.3	11.0	11.3	11.4	12.1	12.5	13.0	13.4	14.3		
14.3	12.9	12.9	12.2	12.1	12.0	11.5	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.7	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

Z Weighting, Fast Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.2	27.6	27.2	25.8	25.3	24.3	23.8	22.7	21.5	20.8	20.0	19.0	18.3	17.6	16.5	15.7	14.8
0 to 80	28.7	28.1	27.1	25.8	25.7	24.8	23.1	22.7	21.0	20.6	19.7	19.1	18.6	17.6	16.5	15.6	14.8
10 to 90	28.2	28.3	26.8	26.3	25.2	24.4	23.8	22.7	21.4	20.4	19.6	19.2	18.3	17.3	16.5	15.5	14.8
20 to 100	27.7	26.6	27.6	26.0	25.2	24.1	22.9	22.1	21.2	20.7	19.6	19.0	18.2	17.5	16.7	15.8	14.9
30 to 110	27.6	26.9	26.7	25.7	25.5	24.4	23.4	22.4	21.8	20.8	19.7	18.8	18.4	17.3	16.5	15.5	14.6
40 to 120	29.0	27.1	27.1	26.2	25.2	24.1	23.2	22.8	21.3	20.1	19.4	19.2	18.0	17.1	16.2	15.4	14.7
50 to 130	29.7	28.0	27.2	25.0	25.6	24.8	23.5	23.1	21.5	20.9	19.7	19.0	20.3	20.2	20.2	23.2	23.2
60 to 140	29.7	29.6	27.8	25.6	26.8	26.4	25.5	26.0	24.6	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Z Weighting, Fast Response, LEQ																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
14.3	13.5	12.8	12.5	11.9	11.6	11.5	11.3	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7		
14.1	13.1	13.0	12.4	12.1	11.5	11.3	11.4	11.3	11.5	11.7	12.2	12.8	13.3	13.9	14.6		
14.0	13.4	12.8	12.3	11.9	11.4	11.4	11.1	11.1	11.4	11.6	12.2	12.7	13.2	13.9	14.6		
14.1	13.4	12.8	12.3	11.8	11.4	11.3	11.2	11.1	11.4	11.3	12.1	12.5	13.0	13.4	14.3		
14.0	12.9	12.5	12.1	12.1	11.9	11.8	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.8	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

Table F.15 (Continued)

Z Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.1	27.8	26.8	26.9	25.4	24.8	23.7	23.1	21.8	21.1	20.0	19.1	18.4	17.6	16.7	15.7	15.0
0 to 80	28.6	27.7	27.0	26.7	24.8	24.7	23.4	22.6	21.9	20.6	19.7	19.0	18.2	17.5	16.7	15.6	15.0
10 to 90	27.1	27.2	26.5	25.7	25.2	24.0	23.9	22.6	21.5	20.4	19.7	19.1	18.2	17.3	16.5	15.6	14.7
20 to 100	28.9	27.3	27.1	25.9	25.6	23.9	23.6	22.9	21.7	20.8	19.8	19.0	18.0	17.6	16.5	15.5	14.8
30 to 110	28.3	27.8	27.4	25.4	25.1	24.6	23.3	22.5	21.8	20.8	19.8	18.8	18.1	17.1	16.3	15.4	15.2
40 to 120	28.7	27.4	26.3	26.7	25.6	24.6	23.5	22.5	21.6	19.8	19.4	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	27.8	28.8	26.9	26.0	25.2	24.1	23.3	23.5	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	28.3	28.6	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, SPL																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
14.2	13.3	12.8	12.4	11.9	11.6	11.5	11.4	11.4	11.4	11.5	11.7	12.3	12.8	13.3	13.9	14.6	
14.2	13.2	12.8	12.2	11.8	11.5	11.3	11.3	11.3	11.2	11.5	11.6	12.2	12.7	13.2	13.8	14.5	
14.1	13.3	12.7	12.2	11.9	11.4	11.2	11.2	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3	
14.2	13.1	12.5	12.2	11.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.9	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	27.6	25.6	25.9	24.5	22.1	22.1	22.1	

Z Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.5	27.6	27.1	26.6	25.4	24.4	24.2	22.8	22.0	21.0	19.9	19.2	18.3	17.5	16.4	15.8	14.9
0 to 80	28.8	27.6	27.0	25.6	25.3	24.3	23.5	22.4	21.9	20.7	19.8	19.0	18.3	17.3	16.6	15.8	14.9
10 to 90	27.7	27.8	27.1	25.6	24.6	23.8	23.9	22.8	21.6	20.8	19.8	19.3	18.4	17.5	16.5	15.6	14.9
20 to 100	28.2	27.4	26.7	26.4	24.8	24.0	23.8	22.7	21.5	20.7	19.9	18.8	18.1	17.5	16.5	15.6	14.9
30 to 110	28.1	28.4	26.8	25.1	25.4	24.2	23.2	22.6	21.6	20.9	19.6	18.8	18.0	17.1	16.3	15.3	15.2
40 to 120	28.4	27.5	26.8	26.0	25.0	24.7	23.5	22.6	21.4	20.1	19.3	19.1	19.2	19.2	19.2	22.3	22.3
50 to 130	28.5	28.1	27.0	26.2	24.8	24.6	23.5	23.3	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	29.1	28.3	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, LEQ																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
14.2	13.3	13.0	12.5	12.0	11.6	11.5	11.4	11.4	11.4	11.6	11.7	12.3	12.8	13.2	13.9	14.6	
14.2	13.4	12.8	12.4	11.9	11.5	11.4	11.3	11.3	11.3	11.5	11.6	12.2	12.7	13.1	13.8	14.5	
14.1	13.3	12.8	12.4	11.8	11.4	11.4	11.2	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3	
14.1	13.0	12.6	12.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
13.0	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	27.6	25.6	25.9	24.5	22.1	22.1	22.1	

BK4936 microphone with windscreen (Figures/Tables "G")

Directional frequency response with mounted side toward speaker

Figure G.1 - 0-30 degree incidence angles

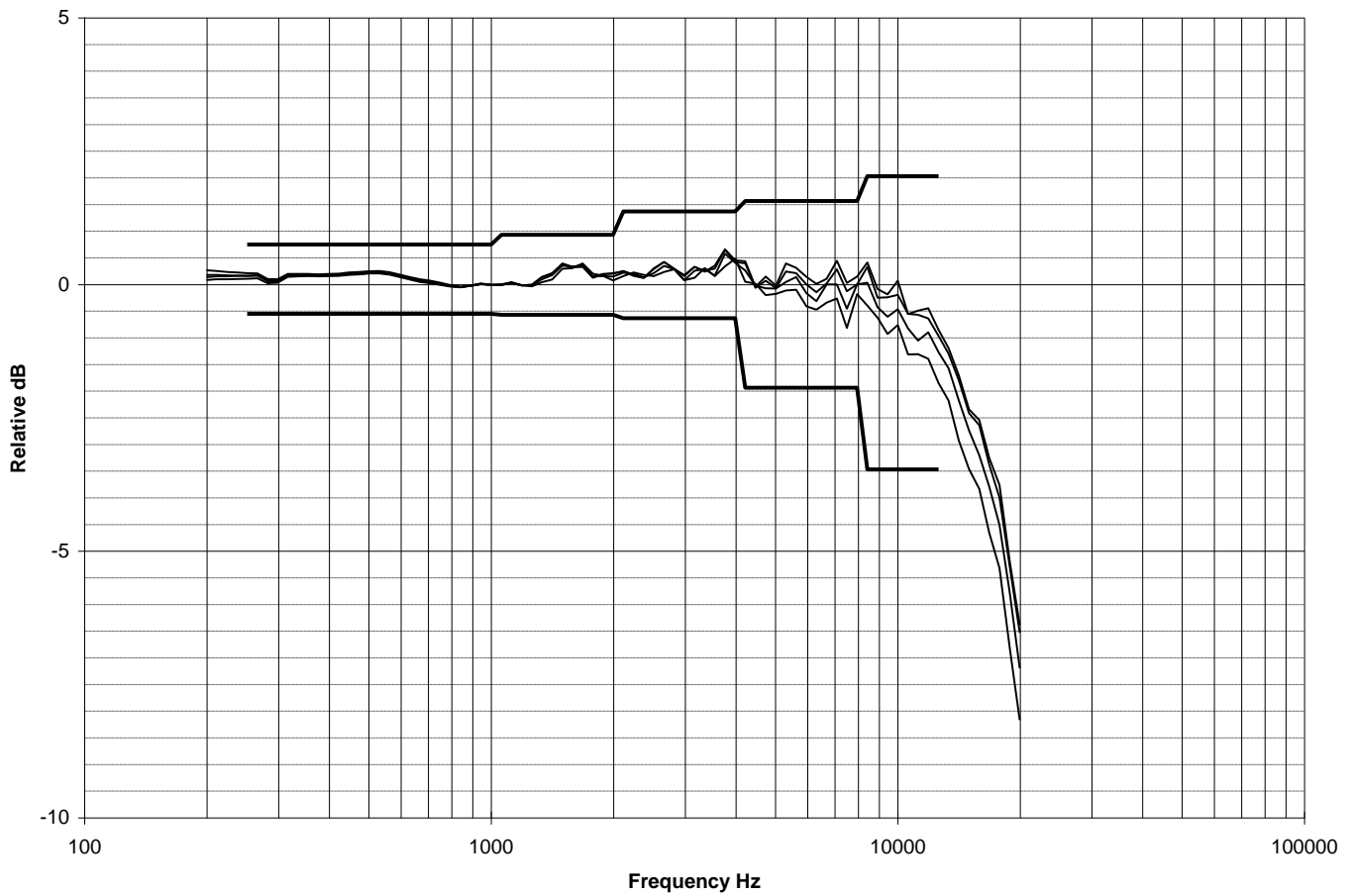


Figure G.2 - 0-90 degree incidence angles

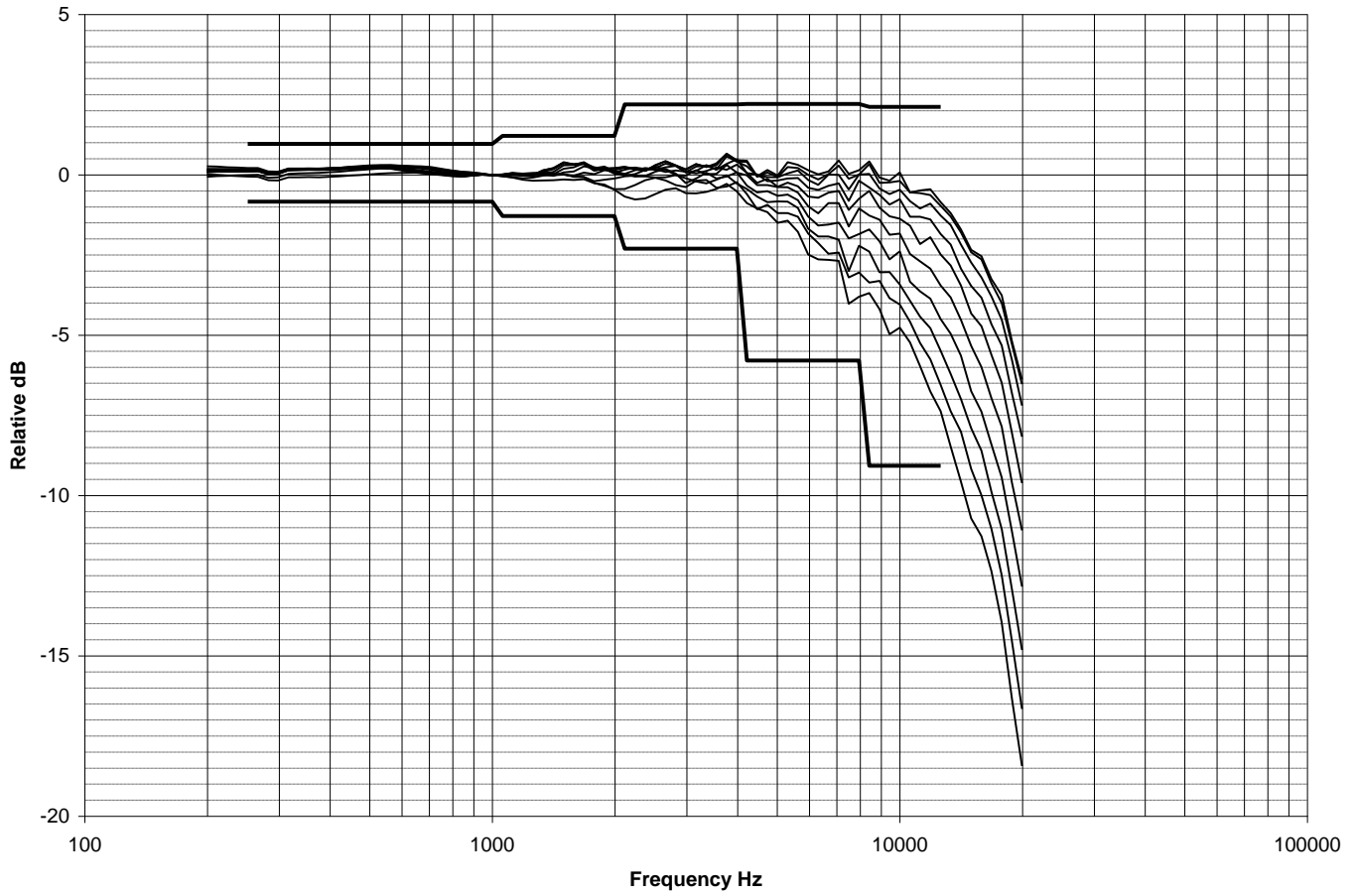


Figure G.3 - 0-150 degree incidence angles

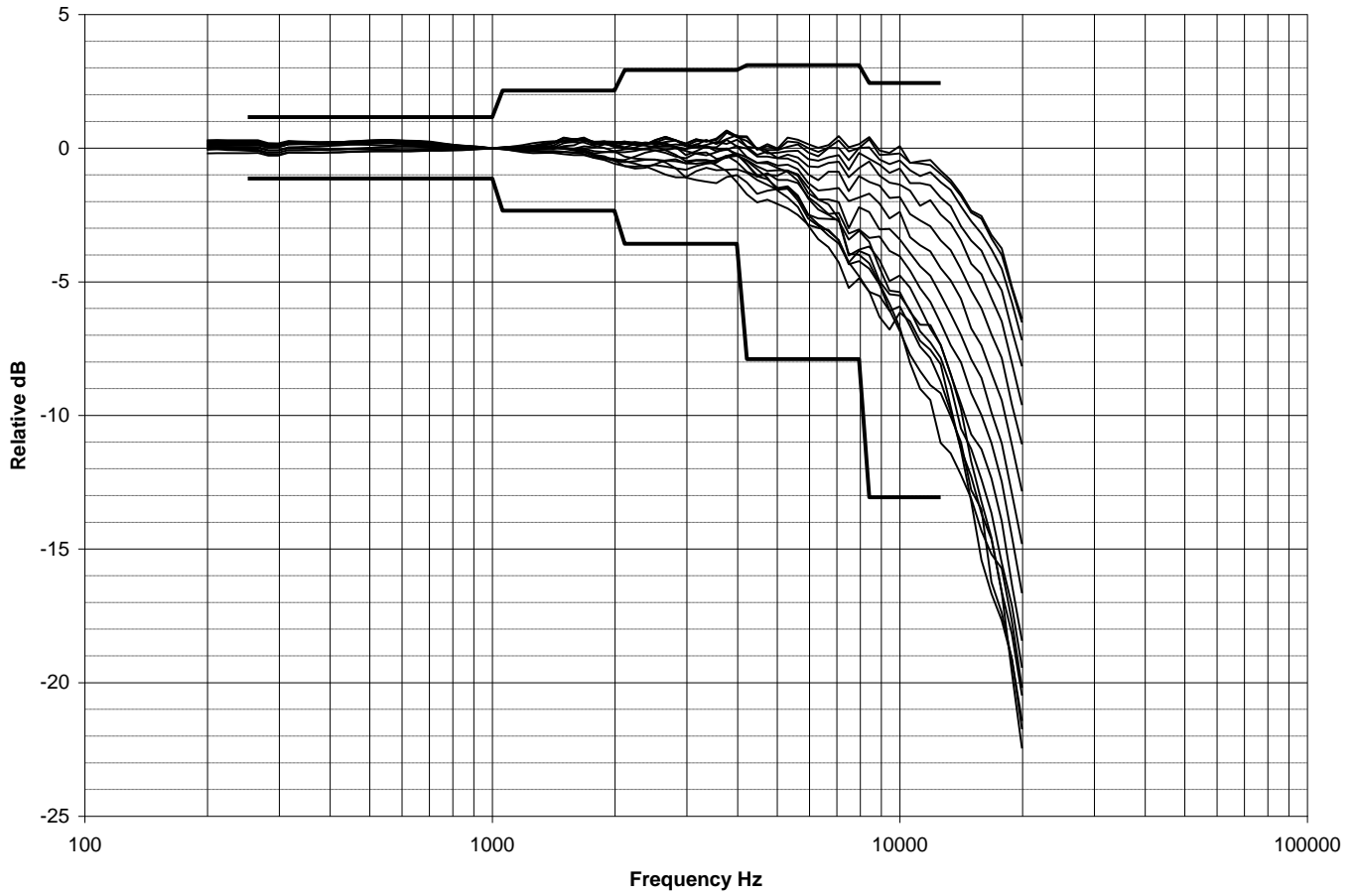
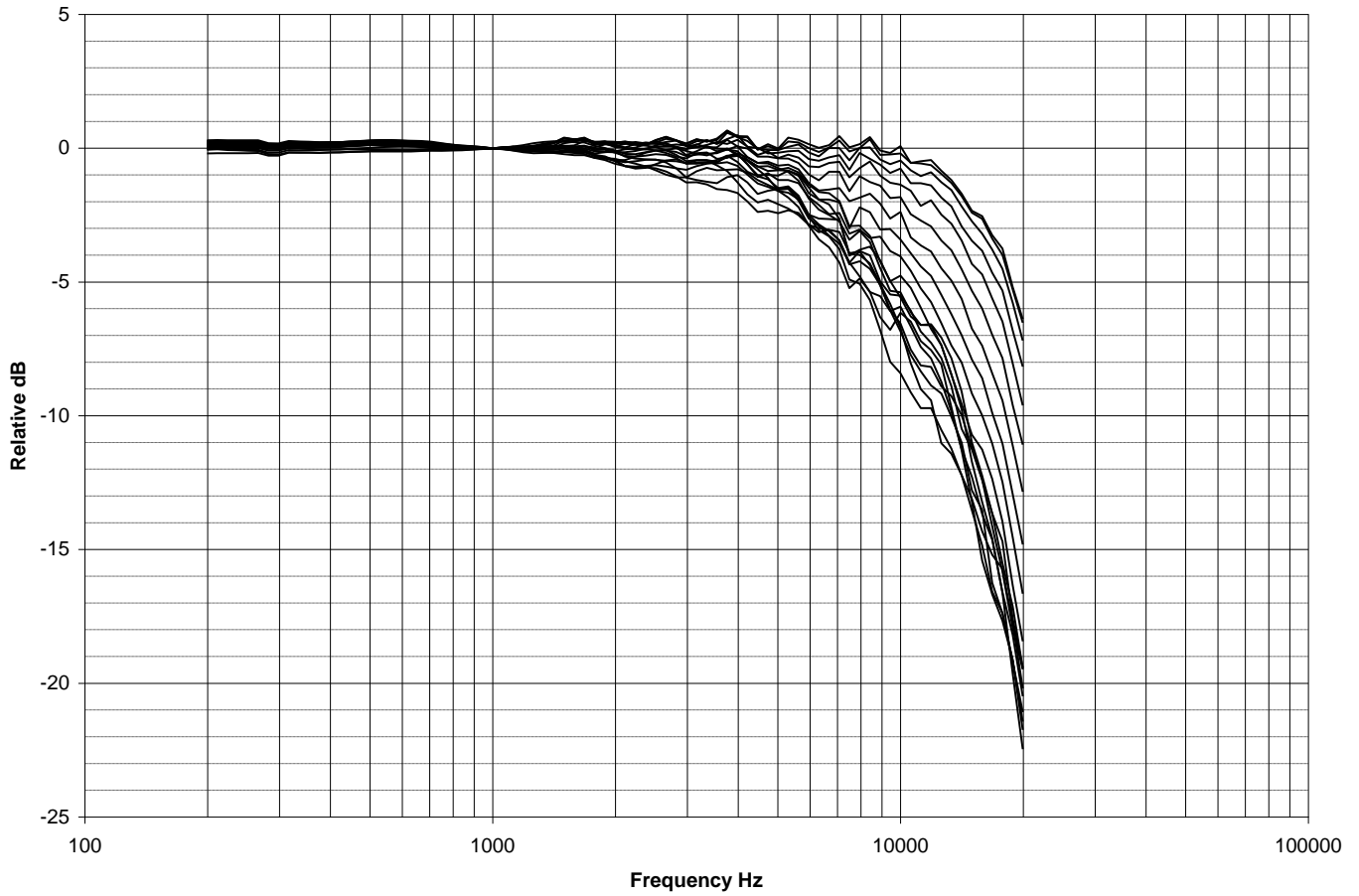


Figure G.4- 0-180 degree incidence angles



Directional frequency response using face toward speaker

Figure G.5- 0-30 degree incidence angles

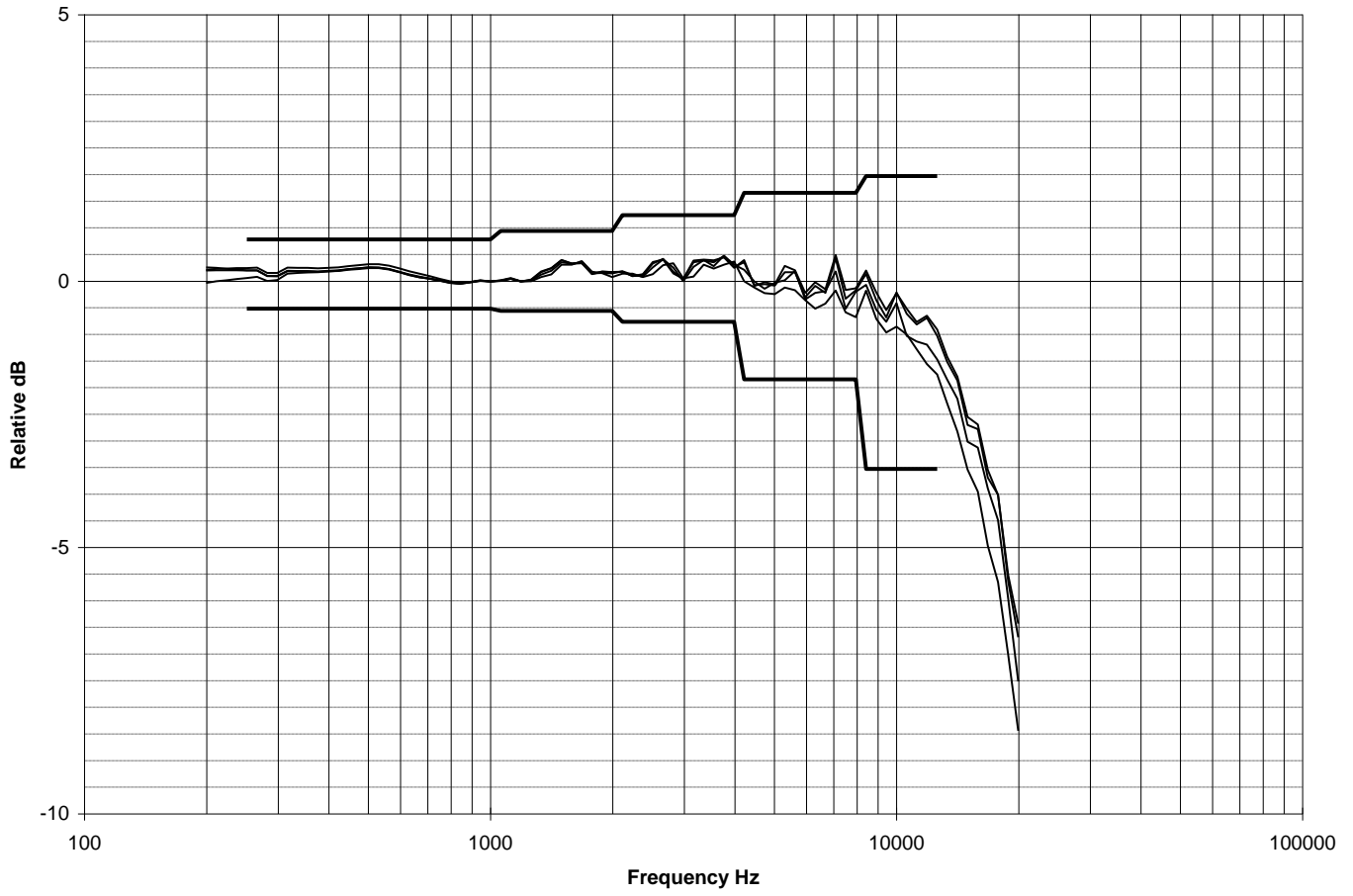


Figure G.6- 0-90 degree incidence angles

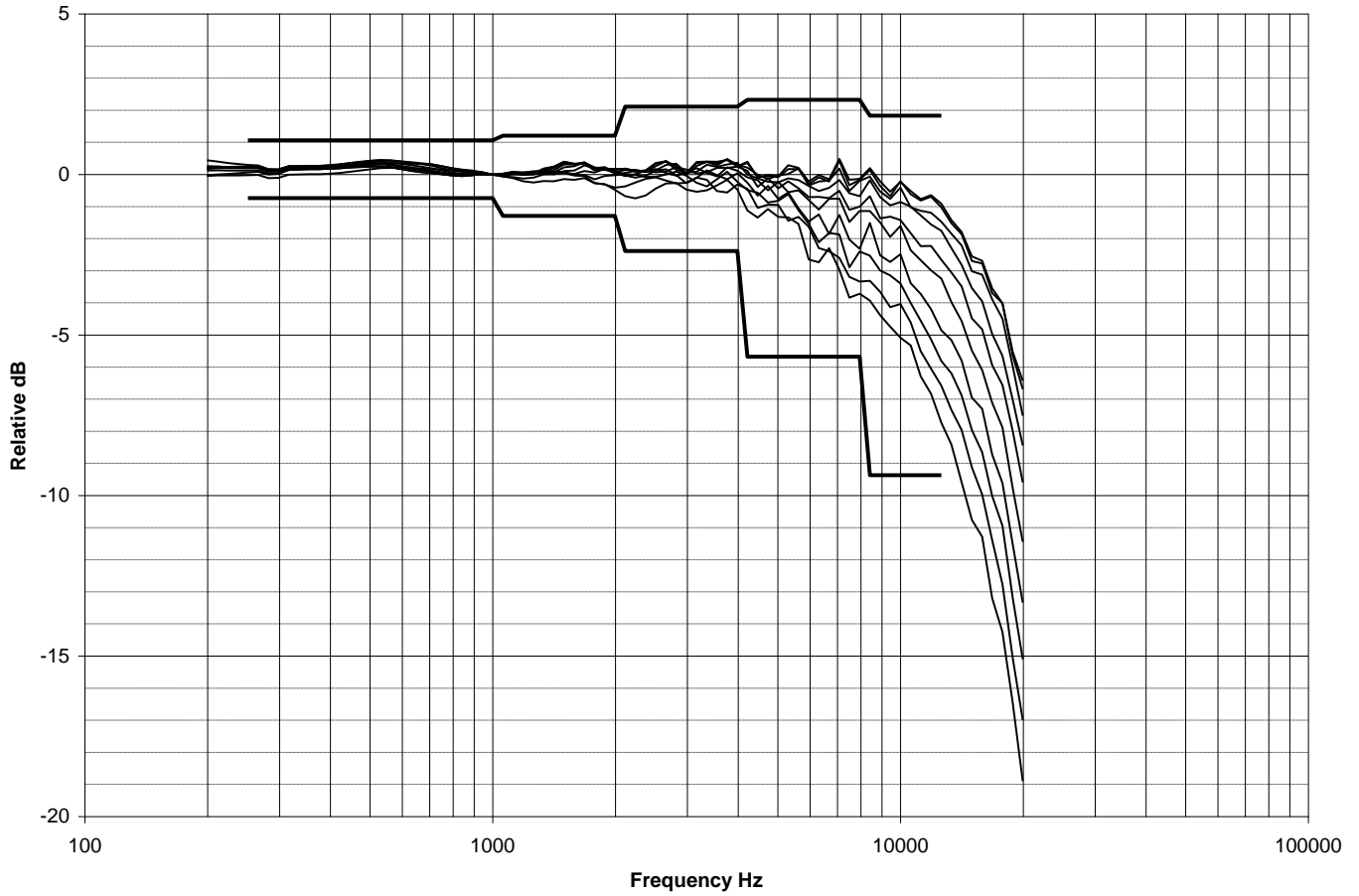


Figure G.7 - 0150 degree incidence angles

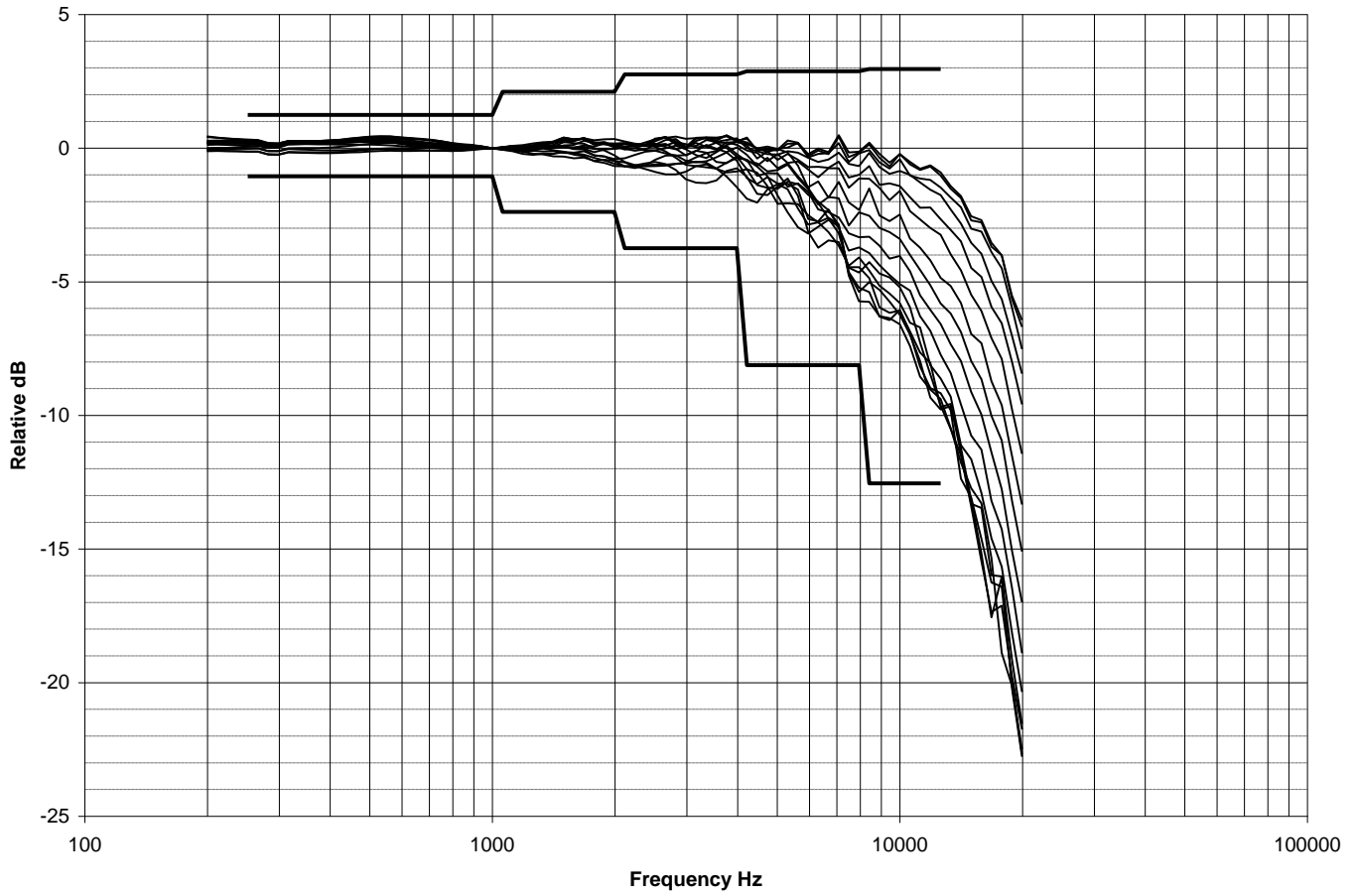
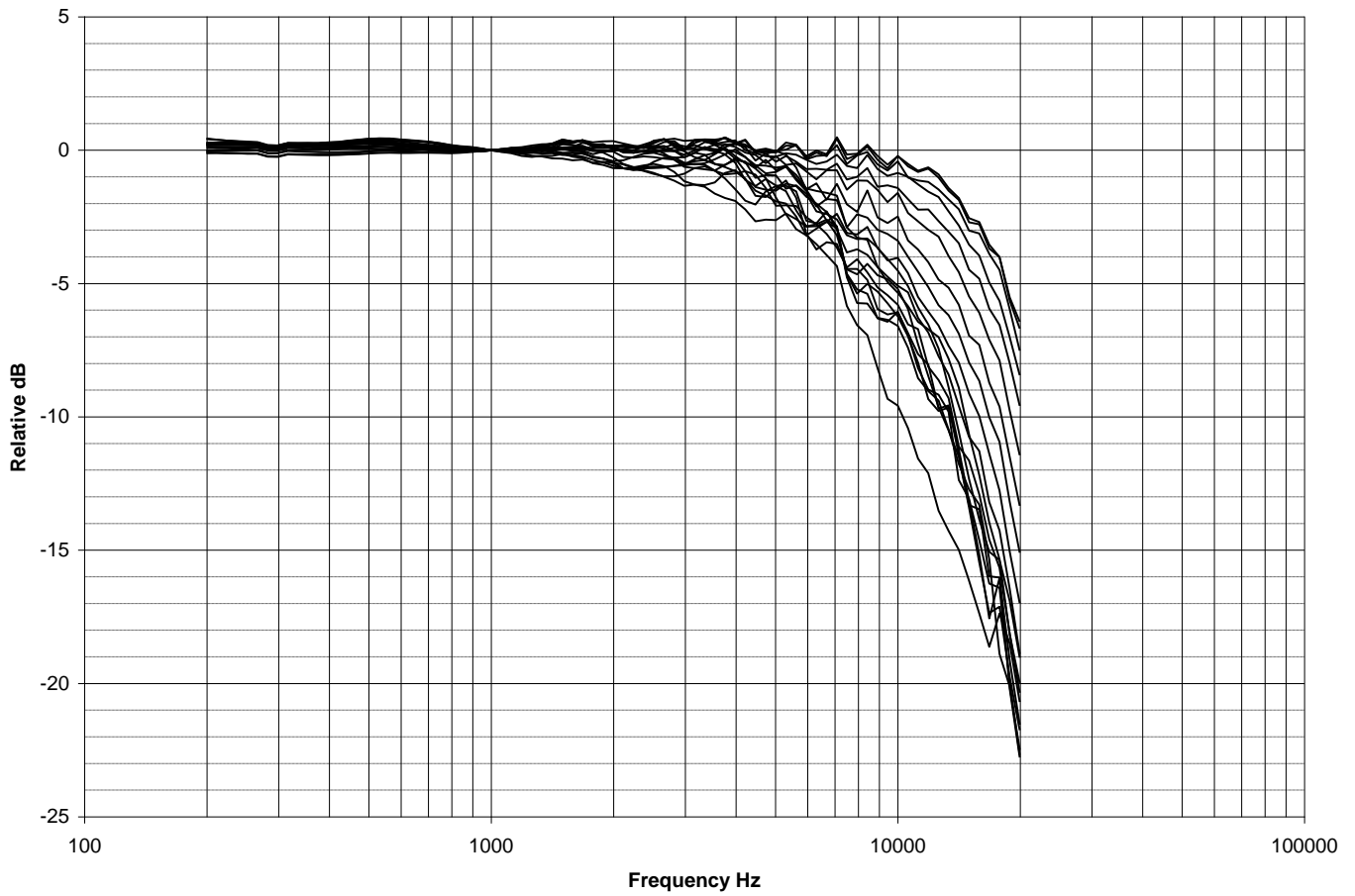
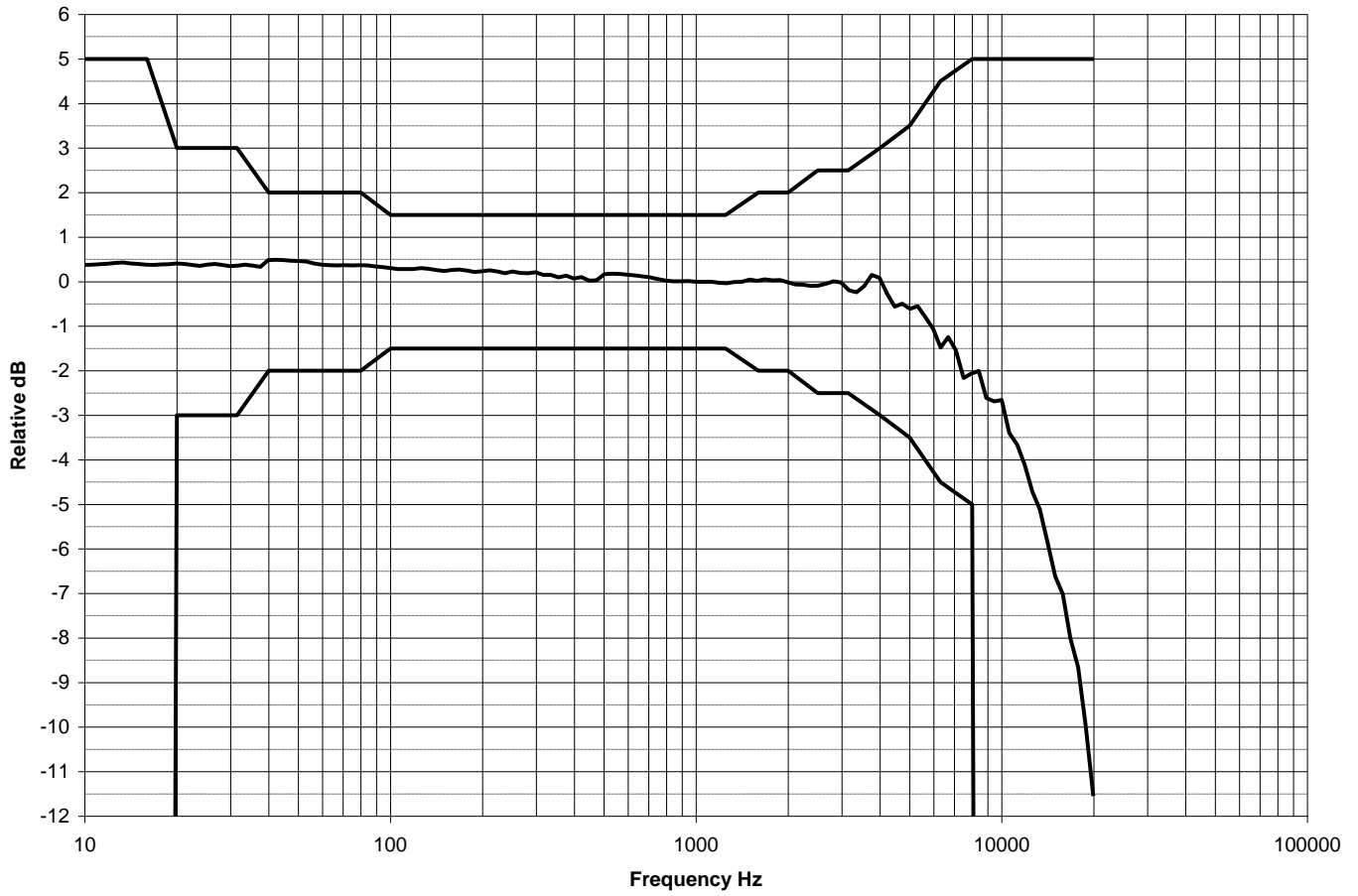


Figure G.8 - 0-180 degree incidence angles



Random Incidence

Figure G.9- Frequency response



Corrections

Table G.10 - Reflection, Diffraction, and Microphone Frequency Response

1/12 OCTAVE FREQUENCY in Hz	Local Microphone Acoustic Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Local Microphone Acoustic Corrections in dB
199.53	0.1	2371.37	0.3
211.35	0.1	2511.89	0.2
223.87	0.1	2660.73	0.1
237.14	0.1	2818.38	0.2
251.19	0.1	2985.38	0.3
266.07	0.1	3162.28	0.2
281.84	0.0	3349.65	0.3
298.54	0.0	3548.13	0.1
316.23	0.0	3758.37	-0.2
334.97	0.0	3981.07	-0.1
354.81	0.0	4216.97	-0.1
375.84	0.0	4466.84	0.3
398.11	0.0	4731.51	0.1
421.70	0.0	5011.87	0.1
446.68	0.0	5308.84	-0.3
473.15	0.0	5623.41	-0.2
501.19	0.0	5956.62	-0.1
530.88	0.0	6309.57	0.0
562.34	0.0	6683.44	-0.2
595.66	0.1	7079.46	-0.4
630.96	0.1	7498.94	-0.2
668.34	0.2	7943.28	-0.3
707.95	0.2	8413.95	-0.8
749.89	0.2	8912.51	-0.3
794.33	0.3	9440.61	-0.5
841.40	0.3	10000.00	-0.7
891.25	0.3	10592.54	-0.3
944.06	0.2	11220.19	-0.4
1000.00	0.3	11885.02	-0.6
1059.25	0.3	12589.25	-0.6
1122.02	0.3	13335.21	-0.5
1188.50	0.3	14125.38	-0.3
1258.93	0.3	14962.36	0.1
1333.52	0.2	15848.93	0.1
1412.54	0.1	16788.04	0.4
1496.24	0.0	17782.79	0.7
1584.89	0.1	18836.49	1.5
1678.80	0.1	19952.62	2.4
1778.28	0.2	2113.49	0.1
1883.65	0.2	2238.72	0.2
1995.26	0.1		

Table G.11- Reflection, Diffraction, and Microphone Frequency Response

1/12 OCTAVE FREQUENCY in Hz	Microphone Windscreen Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Microphone Windscreen Corrections in dB
199.53	-0.1	2511.89	0.4
211.35	-0.1	2660.73	0.4
223.87	-0.1	2818.38	0.4
237.14	-0.1	2985.38	0.4
251.19	-0.1	3162.28	0.5
266.07	-0.1	3349.65	0.6
281.84	-0.1	3548.13	0.5
298.54	-0.1	3758.37	0.4
316.23	-0.1	3981.07	0.3
334.97	-0.1	4216.97	0.3
354.81	-0.1	4466.84	0.3
375.84	-0.1	4731.51	0.1
398.11	-0.1	5011.87	0.2
421.70	-0.1	5308.84	0.1
446.68	-0.1	5623.41	0.1
473.15	-0.1	5956.62	0.2
501.19	-0.1	6309.57	0.1
530.88	-0.1	6683.44	0.1
562.34	-0.1	7079.46	0.3
595.66	-0.1	7498.94	0.3
630.96	-0.1	7943.28	-0.1
668.34	0.0	8413.95	0.0
707.95	0.0	8912.51	0.2
749.89	0.0	9440.61	-0.1
794.33	0.1	10000.00	-0.1
841.40	0.1	10592.54	0.3
891.25	0.1	11220.19	0.1
944.06	0.1	11885.02	-0.1
1000.00	0.1	12589.25	-0.1
1059.25	0.1	13335.21	-0.5
1122.02	0.1	14125.38	-0.5
1188.50	0.2	14962.36	-0.6
1258.93	0.2	15848.93	-0.5
1333.52	0.3	16788.04	-0.7
1412.54	0.4	17782.79	-1.0
1496.24	0.3	18836.49	-0.8
1584.89	0.4	19952.62	-0.9
1678.80	0.3		
1778.28	0.4		
1883.65	0.4		
1995.26	0.4		
2113.49	0.4		
2238.72	0.5		
2371.37	0.4		

Figure G.12 - Pressure Field to Free Field

Frequency in Hz	BK 4936 Correction in dB
125	0.04
250	0.00
1000	-0.14
2000	0.43
4000	1.78

Figure G.13 - Pressure Field to Random Incidence

Frequency in Hz	BK4936 Correction in dB
125	0.05
250	0.00
1000	-0.04
2000	0.17
4000	1.19

Self Generated Noise

Table G.14- Broadband

Range (dB)	SPL			LEQ		
	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting
Fast Response						
-20 to 70	22.9	30.1	37.4	22.8	30.1	37.0
-10 to 80	22.8	29.8	37.1	22.8	30.3	37.2
0 to 90	22.8	30.2	36.6	22.8	30.2	37.3
10 to 100	22.8	30.0	36.6	22.8	30.2	37.6
20 to 110	23.3	30.3	36.5	23.3	30.5	37.5
30 to 120	26.2	31.4	36.8	26.2	31.1	37.1
40 to 130	33.3	34.4	38.2	33.4	34.6	38.9
50 to 140	42.1	42.1	43.1	42.1	42.2	42.8
Slow Response						
-20 to 70	22.8	30.3	37.4	22.8	30.3	37.7
-10 to 80	22.8	30.3	37.4	22.7	30.3	37.7
0 to 90	22.8	30.2	37.5	22.8	30.2	37.5
10 to 100	22.8	30.2	37.9	22.7	30.2	37.6
20 to 110	23.3	30.2	37.5	23.3	30.3	37.3
30 to 120	26.2	31.0	37.6	26.2	31.0	37.9
40 to 130	33.4	34.6	38.6	33.4	34.6	38.5
50 to 140	42.2	42.1	43.0	42.2	42.1	42.9

Table G.15 – Octave Band

Range (dB)	A Weighting, Fast Response, SPL										
	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.8	3.5	10.1	14.6	17.7	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.7	3.6	9.7	15.0	17.9	19.4	19.5	18.9	17.5	13.8
10 to 90	-15.1	-7.7	3.7	10.2	14.9	18.0	19.3	19.4	18.9	17.5	13.7
20 to 100	-6.6	-4.5	3.1	10.4	15.0	17.7	19.3	19.3	18.8	17.3	14.2
30 to 110	3.6	-0.1	3.5	10.0	15.1	17.8	19.1	19.1	18.3	18.3	18.3
40 to 120	12.8	10.7	7.5	10.7	14.9	16.8	19.3	22.3	25.3	28.3	28.3
50 to 130	23.6	19.3	17.2	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.4	28.8	27.6	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Range (dB)	A Weighting, Fast Response, LEQ										
	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.1	3.2	9.9	15.1	18.0	19.4	19.5	19.1	17.6	13.9
0 to 80	-16.8	-7.0	3.4	10.0	14.9	18.0	19.4	19.5	18.9	17.6	13.8
10 to 90	-15.0	-6.6	3.0	9.8	14.8	17.8	19.3	19.4	18.9	17.5	13.8
20 to 100	-6.9	-5.9	3.0	9.8	14.8	17.8	19.2	19.3	18.9	17.3	14.2
30 to 110	3.1	0.0	4.1	10.1	14.8	17.7	19.2	19.2	18.3	18.3	18.3
40 to 120	12.6	9.3	8.0	11.1	15.3	16.9	19.3	22.3	25.3	28.3	28.3
50 to 130	22.9	18.5	17.4	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.5	28.7	27.3	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3

Table G.15 (Continued)

A Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.2	3.4	9.8	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-7.3	3.2	9.9	14.8	17.9	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.6	-6.8	3.2	10.1	14.8	17.8	19.3	19.4	18.9	17.3	13.3
20 to 100	-7.0	-6.2	3.4	9.8	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.3	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	12.8	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	22.9	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	32.9	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

A Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.3	3.3	10.1	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.6	3.4	10.1	14.8	17.8	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.7	-7.1	3.4	10.0	14.8	17.8	19.2	19.4	18.8	17.3	13.3
20 to 100	-6.9	-6.3	3.5	9.9	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.2	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	13.0	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	23.2	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.2	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

C Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.6	28.1	25.7	23.4	21.3	19.2	18.1	17.1	15.6	11.8
0 to 80	24.9	28.0	27.6	24.9	23.0	21.0	19.3	18.0	16.9	15.4	11.8
10 to 90	24.3	27.7	27.1	25.9	23.3	21.0	19.3	18.0	17.0	15.4	11.6
20 to 100	22.6	27.4	27.9	25.3	23.1	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	25.6	27.5	26.5	25.8	23.5	21.2	19.2	17.8	15.4	18.3	18.3
40 to 120	26.8	28.1	27.8	26.1	23.4	20.9	19.2	22.3	25.3	28.3	28.3
50 to 130	26.8	28.0	28.0	26.3	23.3	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	34.0	31.9	29.1	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3

C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.9	27.5	25.6	23.6	21.2	19.4	18.0	17.1	15.6	11.8
0 to 80	24.6	28.0	27.4	25.6	23.4	21.1	19.2	18.0	16.9	15.4	11.7
10 to 90	24.9	27.9	27.3	25.5	23.4	21.2	19.3	17.9	16.9	15.4	11.7
20 to 100	25.4	28.2	27.2	25.7	23.4	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	24.7	28.3	27.6	26.1	23.6	21.0	19.0	17.6	15.4	18.3	18.3
40 to 120	25.5	28.2	27.9	25.8	23.2	20.9	19.3	22.3	25.3	28.3	28.3
50 to 130	27.8	28.4	27.9	26.2	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.7	31.8	29.8	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3

Table G.15- (Continued)

C Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.2	27.9	27.8	25.8	23.6	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	24.9	27.8	27.5	25.6	23.4	21.1	19.3	17.9	17.0	15.4	11.6
10 to 90	25.0	27.9	27.7	25.5	23.4	21.1	19.3	17.9	16.8	15.1	12.0
20 to 100	25.4	27.9	27.7	25.8	23.3	21.0	19.2	17.3	17.3	17.3	17.3
30 to 110	25.4	27.6	27.6	25.5	23.1	20.9	18.3	21.3	24.3	27.3	27.3
40 to 120	25.4	28.4	27.6	25.6	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	27.0	28.6	28.0	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.9	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

C Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.0	27.9	27.6	25.8	23.5	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	25.1	28.1	27.5	25.9	23.4	21.2	19.2	18.0	17.0	15.4	11.6
10 to 90	25.2	27.9	27.6	25.7	23.4	21.1	19.3	17.9	16.8	15.1	12.1
20 to 100	25.2	27.8	27.4	25.6	23.3	21.1	19.2	17.3	17.3	17.3	17.3
30 to 110	25.3	27.3	27.4	25.7	23.2	21.1	18.3	21.3	24.3	27.3	27.3
40 to 120	25.2	27.8	27.7	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	26.9	28.8	28.1	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.3	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Z Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	32.9	30.0	27.5	26.0	23.4	21.2	19.4	18.2	18.0	18.6	19.8
0 to 80	32.9	31.2	28.8	25.9	23.5	21.3	19.5	18.1	17.9	18.4	19.7
10 to 90	33.2	30.5	27.8	25.4	23.5	21.4	19.3	18.3	17.9	18.4	19.7
20 to 100	31.7	30.2	28.2	25.9	23.2	21.4	19.4	18.0	17.8	18.3	19.7
30 to 110	32.9	30.9	27.9	25.9	23.3	21.1	19.1	18.2	18.3	18.3	18.3
40 to 120	31.9	31.6	27.9	25.6	23.1	21.3	19.2	22.3	25.3	28.3	28.3
50 to 130	33.8	30.5	28.1	26.0	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.7	32.5	30.3	30.3	33.2	36.2	39.2	42.3	45.3	48.3	48.3

Z Weighting, Fast Response, LEQ											
Range in dB	16 Hz in dB	31.5 Hz in dB	63 Hz in dB	125 Hz in dB	250 Hz in dB	500 Hz in dB	1000 Hz in dB	2000 Hz in dB	4000 Hz in dB	8000 Hz in dB	16 kHz in dB
-10 to 70	32.9	31.0	28.4	26.0	23.6	21.4	19.4	18.2	18.0	18.6	19.8
0 to 80	34.0	30.9	28.4	26.0	23.5	21.2	19.3	18.2	17.9	18.5	19.7
10 to 90	33.1	30.9	28.3	26.0	23.4	21.2	19.3	18.1	17.9	18.5	19.7
20 to 100	33.4	30.5	28.4	26.1	23.4	21.2	19.4	18.1	17.8	18.3	19.7
30 to 110	33.0	30.9	28.2	25.8	23.5	21.1	19.2	18.1	18.3	18.3	18.3
40 to 120	33.3	31.3	28.5	25.7	23.3	21.1	19.3	22.3	25.3	28.3	28.3
50 to 130	33.3	31.0	28.6	25.7	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.8	33.3	29.9	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3

Table G.15- (Continued)

Z Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.6	31.0	28.6	26.0	23.6	21.2	19.4	18.2	18.0	18.5	19.8
0 to 80	33.1	30.8	28.5	25.8	23.2	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.6	31.0	28.4	26.0	23.5	21.2	19.4	18.1	17.8	18.3	19.6
20 to 100	33.6	30.7	28.5	25.9	23.6	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.8	30.9	28.3	25.8	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	34.0	30.7	28.4	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.7	30.7	28.7	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Z Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.3	31.2	28.6	26.0	23.5	21.3	19.5	18.2	18.0	18.5	19.8
0 to 80	33.1	30.9	28.3	25.9	23.4	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.8	30.9	28.5	25.8	23.3	21.2	19.3	18.1	17.7	18.3	19.6
20 to 100	33.3	30.8	28.3	25.9	23.5	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.6	30.9	28.5	25.9	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	33.5	31.3	28.3	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.6	31.0	28.9	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table G.16 – 1/3 Octave Band

A Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	16.9	-16.9	-16.9	-13.7	-10.5	-6.0	-3.4	-1.6	1.6	3.9	6.5	7.3	9.4	9.8	10.8	11.8
0 to 80	-16.9	16.9	-16.9	-15.6	-13.3	-10.1	-6.7	-2.9	-0.9	3.4	4.0	6.0	7.5	8.1	9.8	10.8	11.8
10 to 90	-16.9	15.5	-16.8	-15.4	-13.7	-10.4	-6.3	-3.4	-1.2	3.7	3.6	5.9	6.7	9.3	10.3	10.7	11.6
20 to 100	-15.9	-6.2	-13.5	-9.2	-10.8	-9.1	-7.1	-3.7	-0.1	1.6	4.3	5.8	7.9	8.7	10.2	11.0	11.9
30 to 110	-6.4	4.2	-4.8	0.8	-3.8	-4.9	-3.8	-1.9	0.1	3.1	4.4	5.6	7.0	8.4	10.2	10.6	11.6
40 to 120	3.4	13.8	6.1	9.5	4.7	3.8	4.4	4.8	4.8	7.5	7.6	7.4	10.2	10.4	10.4	13.3	13.2
50 to 130	12.9	23.2	15.4	19.7	14.8	13.9	14.4	14.7	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	21.8	32.4	25.8	29.9	25.2	22.8	24.6	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
12.2	12.9	13.1	13.3	12.9	12.8	12.9	12.8	12.6	12.4	11.8	11.5	10.8	9.4	7.9	5.8
12.6	12.7	12.9	13.1	13.0	12.8	12.7	12.6	12.2	12.1	11.8	11.5	10.6	9.4	7.8	5.9
12.4	12.8	12.8	13.1	13.2	12.8	12.9	12.8	12.5	12.4	11.8	11.3	10.6	9.2	7.7	5.9
12.5	12.6	12.7	12.8	12.6	12.7	12.8	12.6	12.3	12.2	11.4	11.3	10.1	8.3	8.3	8.3
12.1	12.0	12.8	12.9	12.6	12.3	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

Table G.16 – 1/3 Octave Band

A Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.3	-13.9	-9.9	-6.6	-2.4	-0.4	3.7	3.9	5.9	7.6	9.4	10.2	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.4	-13.8	10.2	-6.5	-3.2	-0.5	3.7	4.0	6.0	7.5	8.8	10.2	11.2	11.8
10 to 90	-16.9	-15.9	-16.8	-15.3	-13.1	10.5	-6.8	-2.6	0.0	3.6	3.9	5.8	7.5	8.7	10.0	11.1	11.8
20 to 100	-15.8	-7.1	-13.6	-8.7	-10.3	-8.0	-6.2	-3.1	0.0	1.8	4.2	6.1	7.8	8.8	9.9	10.8	11.8
30 to 110	-5.5	3.6	-4.8	-0.8	-2.7	-4.4	-3.6	-1.9	0.6	3.6	4.2	6.2	7.6	9.1	10.0	11.0	11.6
40 to 120	3.2	13.3	4.4	9.7	6.7	3.7	4.7	5.1	4.7	7.2	7.4	7.6	10.3	10.4	10.4	13.2	13.2
50 to 130	12.6	23.5	14.5	19.5	16.8	14.1	14.4	14.6	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	24.4	33.8	25.1	30.1	27.0	23.5	24.2	24.5	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, LEQ																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
12.4	12.6	12.9	13.1	13.1	13.0	12.9	12.8	12.5	12.4	11.8	11.5	10.6	9.4	7.8	5.9		
12.5	12.7	13.0	13.1	13.0	12.8	12.9	12.6	12.4	12.3	11.8	11.4	10.6	9.4	7.8	5.8		
12.4	12.6	13.1	13.2	13.1	13.0	12.9	12.6	12.4	12.3	11.7	11.4	10.5	9.2	7.7	5.9		
12.4	12.6	12.9	13.0	13.0	12.9	12.7	12.5	12.3	12.1	11.4	11.3	10.1	8.3	8.3	8.3		
12.2	12.2	12.8	13.1	12.6	12.5	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

A Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-10.4	-6.1	-3.1	-0.7	3.6	3.8	5.7	7.6	8.9	10.2	11.2	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-14.1	-9.5	-6.3	-2.8	-0.6	3.7	4.0	6.0	7.2	8.8	10.0	11.1	11.9
10 to 90	-16.9	-16.9	-16.9	-16.6	-13.5	-9.6	-6.3	-3.0	-0.5	3.4	3.9	5.8	7.6	9.0	9.8	11.1	11.8
20 to 100	-12.7	-12.6	-12.6	-9.7	-9.6	-9.1	-6.2	-2.9	0.0	3.8	4.0	5.8	7.7	9.0	9.9	10.3	11.5
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.3	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	13.2	13.2	13.2	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
12.5	12.5	13.0	13.1	13.1	12.9	12.9	12.8	12.5	12.3	11.8	11.5	10.7	9.3	7.8	5.8		
12.6	12.6	12.9	13.0	13.0	12.8	12.8	12.6	12.4	12.2	11.8	11.4	10.6	9.3	7.7	5.7		
12.4	12.5	12.9	13.0	13.0	12.8	12.7	12.5	12.3	12.1	11.3	11.3	10.3	7.5	7.3	7.3		
12.2	12.4	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3		
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3		
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3		
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3		
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3		

Table G.16 (Continued)

A Weighting, Slow Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-9.9	-6.6	-3.0	-0.6	3.8	3.7	5.8	7.7	8.9	10.0	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-13.8	-9.2	-5.9	-3.1	-0.6	3.8	3.9	6.0	7.5	8.9	10.1	10.9	11.8
10 to 90	-16.9	-16.9	-16.9	-16.6	-14.0	-9.5	-6.4	-3.2	-0.5	3.8	3.9	5.8	7.5	8.7	10.1	10.9	11.8
20 to 100	-12.7	-12.7	-12.7	-9.7	-9.7	-9.2	-6.1	-2.9	-0.3	3.6	4.2	5.6	7.4	8.8	10.0	10.8	11.6
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.2	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	13.0	13.0	13.2	16.0	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.0	23.0	23.2	26.0	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.0	33.0	33.2	36.0	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, LEQ																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
12.5	12.7	13.0	13.1	13.0	13.0	12.9	12.7	12.5	12.3	11.9	11.5	10.7	9.4	7.8	5.8		
12.4	12.6	12.9	13.0	13.1	12.9	12.8	12.6	12.4	12.2	11.7	11.4	10.6	9.3	7.7	5.7		
12.5	12.6	12.9	13.1	13.0	12.8	12.8	12.5	12.3	12.1	11.3	11.3	10.3	7.6	7.3	7.3		
12.2	12.3	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3		
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3		
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3		
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3		
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3		

Table G.16 (Continued)

C Weighting, Fast Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	14.3	17.2	20.5	21.8	21.2	21.6	22.2	22.0	20.9	20.3	20.1	19.4	18.2	17.8	16.8	15.7	14.6
0 to 80	13.7	18.4	21.9	21.2	22.4	22.8	21.0	21.7	20.7	20.1	20.1	19.4	17.9	17.9	16.6	15.8	15.1
10 to 90	15.2	16.8	21.2	21.8	20.9	21.7	21.5	21.6	21.2	20.7	19.2	19.0	18.2	17.4	16.3	15.7	14.6
20 to 100	17.1	17.5	19.9	22.0	20.7	22.9	21.9	21.3	21.3	20.5	19.2	19.0	18.2	17.1	16.3	15.4	15.0
30 to 110	18.2	19.5	19.1	20.0	18.8	22.2	22.0	22.5	20.4	20.1	19.4	18.2	17.8	16.8	16.4	15.4	14.8
40 to 120	18.4	18.0	19.9	22.4	22.9	22.8	22.7	22.3	20.5	19.6	19.7	19.2	18.2	17.3	16.2	15.3	13.9
50 to 130	15.0	19.0	20.2	21.6	23.9	22.9	22.5	22.2	21.1	20.3	19.9	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.0	22.6	24.7	25.6	26.2	24.6	24.6	26.0	24.7	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

C Weighting, Fast Response, SPL																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	
14.4	13.2	12.5	12.3	11.7	11.2	11.2	10.8	10.6	10.4	9.9	9.5	8.6	7.3	5.7	3.9		
13.9	13.4	12.5	12.3	11.7	11.4	11.2	10.7	10.4	10.1	9.7	9.3	8.5	7.2	5.7	3.7		
14.0	13.2	12.8	12.3	11.8	11.2	11.2	10.7	10.5	10.2	9.6	9.2	8.5	7.2	5.4	3.2		
14.5	12.9	12.7	12.1	11.6	11.3	11.0	10.7	10.4	10.1	9.8	8.4	8.3	8.3	8.3	8.3		
13.8	13.0	13.0	12.4	12.0	10.8	10.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

Table G.16 (Continued)

C Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	16.7	18.3	20.3	20.9	22.4	22.4	22.3	21.8	21.2	19.5	19.4	19.0	18.0	17.6	16.4	15.8	15.0
0 to 80	16.5	18.8	20.7	22.0	22.3	23.1	22.3	21.5	21.3	20.1	19.4	18.9	18.4	17.7	16.5	15.6	14.8
10 to 90	18.0	19.4	20.3	22.1	22.9	22.4	22.4	21.5	21.0	20.0	19.6	18.9	18.1	17.2	16.3	15.6	14.8
20 to 100	17.6	18.9	22.1	20.9	21.3	22.5	22.2	21.1	21.1	20.4	19.6	19.2	17.9	17.3	16.6	15.6	14.9
30 to 110	17.1	18.8	21.0	22.3	21.2	22.0	22.0	22.2	20.9	20.7	19.5	18.9	18.1	17.6	16.5	15.5	14.7
40 to 120	18.2	18.6	20.8	22.7	22.9	22.1	22.1	22.3	22.1	20.6	20.0	19.1	18.1	17.6	16.4	15.1	14.2
50 to 130	18.9	20.6	23.1	22.3	22.9	24.0	23.2	23.6	22.0	21.0	20.3	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.6	23.9	24.7	25.8	25.9	24.5	25.7	26.1	24.9	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

C Weighting, Fast Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.1	13.2	12.7	12.4	11.9	11.4	11.1	10.9	10.6	10.3	9.8	9.3	8.6	7.3	5.7	3.8
14.1	13.3	12.8	12.3	11.8	11.2	11.1	10.8	10.6	10.3	9.7	9.4	8.5	7.2	5.7	3.7
14.1	13.2	12.8	12.2	11.9	11.3	11.0	10.7	10.5	10.1	9.7	9.3	8.5	7.1	5.3	3.1
14.0	13.2	12.7	12.2	11.7	11.2	11.0	10.6	10.3	10.1	9.9	8.5	8.3	8.3	8.3	8.3
14.1	13.0	12.5	12.1	12.0	11.4	10.0	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

C Weighting, Slow Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.7	19.2	20.9	21.3	22.4	22.5	22.7	22.5	21.5	20.8	20.0	19.1	18.3	17.4	16.5	15.8	14.9
0 to 80	17.8	19.1	20.6	21.6	22.2	22.7	22.2	21.5	21.2	20.5	19.7	19.1	18.3	17.3	16.4	15.7	15.0
10 to 90	17.1	19.9	20.6	22.5	22.4	22.6	21.9	22.0	21.3	20.4	19.7	18.8	18.1	17.3	16.6	15.6	14.7
20 to 100	17.0	18.8	21.9	21.6	22.4	22.2	22.4	22.0	21.1	20.7	19.6	19.1	18.3	17.5	16.5	15.6	14.8
30 to 110	17.4	19.5	21.3	22.3	22.6	22.4	22.1	22.2	21.0	20.2	19.6	19.1	18.2	17.5	16.7	15.3	15.1
40 to 120	18.1	19.5	21.2	22.3	22.5	22.9	22.4	22.5	21.6	20.5	19.6	19.2	19.3	19.2	19.2	22.3	22.3
50 to 130	17.9	20.2	21.8	23.1	22.5	23.8	23.3	23.5	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.2	13.3	12.7	12.4	11.9	11.4	11.1	10.8	10.5	10.3	9.8	9.4	8.6	7.3	5.7	3.7
14.2	13.3	12.8	12.3	11.8	11.4	11.1	10.8	10.4	10.2	9.7	9.4	8.4	7.2	5.7	3.3
14.3	13.3	12.7	12.2	11.7	11.3	10.9	10.6	10.3	9.9	9.1	9.1	7.3	7.3	7.3	7.3
14.0	13.1	12.5	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Table G.16 (Continued)

C Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.6	19.2	21.4	22.4	22.4	22.6	22.7	22.1	21.6	20.7	19.8	19.2	18.3	17.6	16.5	15.6	14.8
0 to 80	17.9	19.0	21.4	22.0	22.4	22.4	22.5	22.0	21.1	20.3	19.6	18.9	18.2	17.5	16.5	15.6	14.9
10 to 90	16.8	19.8	21.2	22.4	22.0	22.6	21.9	22.2	21.5	20.4	19.7	19.0	18.2	17.4	16.5	15.5	14.9
20 to 100	17.7	19.6	21.8	22.2	21.9	22.8	22.4	22.0	21.1	20.6	19.6	19.3	18.2	17.5	16.6	15.5	14.8
30 to 110	17.0	19.4	21.3	22.1	22.5	22.7	22.5	21.9	21.4	20.5	19.5	19.1	18.1	17.5	16.3	15.3	15.2
40 to 120	18.0	19.7	21.4	21.9	22.9	23.0	22.3	22.1	21.0	20.3	19.6	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	18.1	19.8	21.3	21.9	22.8	23.4	23.3	23.4	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, LEQ																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.3	13.2	12.8	12.4	11.8	11.4	11.1	10.8	10.5	10.3	9.7	9.4	8.6	7.3	5.7	3.7	
	14.3	13.2	12.8	12.2	11.7	11.3	11.0	10.7	10.5	10.2	9.7	9.3	8.5	7.2	5.7	3.3	
	14.2	13.3	12.8	12.3	11.7	11.3	11.0	10.6	10.3	10.0	9.1	9.0	7.4	7.3	7.3	7.3	
	14.1	13.1	12.4	12.1	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
	12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
	42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

Z Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.9	25.5	26.9	25.2	24.3	23.4	23.1	21.9	20.7	21.0	18.9	18.9	17.9	16.9	17.1	15.2	14.9
0 to 80	29.2	26.7	26.9	26.0	24.2	22.4	23.2	23.2	21.3	20.5	20.0	20.0	18.1	17.4	16.3	14.8	14.9
10 to 90	26.4	28.2	28.8	26.6	24.7	24.1	23.0	22.0	21.2	20.5	20.0	18.8	17.8	17.8	16.8	15.4	14.9
20 to 100	26.3	26.7	26.3	25.4	24.6	23.0	23.3	22.0	21.3	20.2	20.2	18.7	18.0	17.4	16.3	14.8	14.8
30 to 110	25.0	28.1	27.1	26.2	23.5	24.0	23.3	21.9	20.1	19.6	18.8	18.5	17.3	16.6	15.2	15.0	15.0
40 to 120	28.4	27.7	27.0	24.8	25.1	24.3	24.4	24.0	21.1	20.3	19.3	18.2	16.5	16.1	14.4	14.4	14.4
50 to 130	27.0	27.0	26.8	26.0	25.7	24.4	24.4	22.8	21.1	20.2	19.3	18.8	20.2	20.3	20.2	23.2	23.2
60 to 140	28.9	27.5	26.8	27.0	27.9	26.6	26.6	25.8	24.5	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Z Weighting, Fast Response, SPL																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.5	13.3	12.9	12.3	12.0	11.4	11.6	11.2	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7	
	14.4	12.9	12.7	12.1	12.0	11.7	11.4	11.2	11.2	11.6	11.5	12.2	12.8	13.2	13.9	14.6	
	14.0	13.5	12.6	12.5	11.8	11.5	11.1	11.1	11.1	11.4	11.5	12.1	12.7	13.2	13.8	14.5	
	14.4	13.3	12.9	12.3	11.9	11.3	11.2	11.3	11.0	11.3	11.4	12.1	12.5	13.0	13.4	14.3	
	14.3	12.9	12.9	12.2	12.1	12.0	11.5	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3	
	13.7	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3	
	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3	
	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3	

Table G.16 (Continued)

Z Weighting, Fast Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.2	27.6	27.2	25.8	25.3	24.3	23.8	22.7	21.5	20.8	20.0	19.0	18.3	17.6	16.5	15.7	14.8
0 to 80	28.7	28.1	27.1	25.8	25.7	24.8	23.1	22.7	21.0	20.6	19.7	19.1	18.6	17.6	16.5	15.6	14.8
10 to 90	28.2	28.3	26.8	26.3	25.2	24.4	23.8	22.7	21.4	20.4	19.6	19.2	18.3	17.3	16.5	15.5	14.8
20 to 100	27.7	26.6	27.6	26.0	25.2	24.1	22.9	22.1	21.2	20.7	19.6	19.0	18.2	17.5	16.7	15.8	14.9
30 to 110	27.6	26.9	26.7	25.7	25.5	24.4	23.4	22.4	21.8	20.8	19.7	18.8	18.4	17.3	16.5	15.5	14.6
40 to 120	29.0	27.1	27.1	26.2	25.2	24.1	23.2	22.8	21.3	20.1	19.4	19.2	18.0	17.1	16.2	15.4	14.7
50 to 130	29.7	28.0	27.2	25.0	25.6	24.8	23.5	23.1	21.5	20.9	19.7	19.0	20.3	20.2	20.2	23.2	23.2
60 to 140	29.7	29.6	27.8	25.6	26.8	26.4	25.5	26.0	24.6	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Z Weighting, Fast Response, LEQ																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.3	13.5	12.8	12.5	11.9	11.6	11.5	11.3	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7	
	14.1	13.1	13.0	12.4	12.1	11.5	11.3	11.4	11.3	11.5	11.7	12.2	12.8	13.3	13.9	14.6	
	14.0	13.4	12.8	12.3	11.9	11.4	11.4	11.1	11.1	11.4	11.6	12.2	12.7	13.2	13.9	14.6	
	14.1	13.4	12.8	12.3	11.8	11.4	11.3	11.2	11.1	11.4	11.3	12.1	12.5	13.0	13.4	14.3	
	14.0	12.9	12.5	12.1	12.1	11.9	11.8	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3	
	13.8	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3	
	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3	
	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3	

Z Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.1	27.8	26.8	26.9	25.4	24.8	23.7	23.1	21.8	21.1	20.0	19.1	18.4	17.6	16.7	15.7	15.0
0 to 80	28.6	27.7	27.0	26.7	24.8	24.7	23.4	22.6	21.9	20.6	19.7	19.0	18.2	17.5	16.7	15.6	15.0
10 to 90	27.1	27.2	26.5	25.7	25.2	24.0	23.9	22.6	21.5	20.4	19.7	19.1	18.2	17.3	16.5	15.6	14.7
20 to 100	28.9	27.3	27.1	25.9	25.6	23.9	23.6	22.9	21.7	20.8	19.8	19.0	18.0	17.6	16.5	15.5	14.8
30 to 110	28.3	27.8	27.4	25.4	25.1	24.6	23.3	22.5	21.8	20.8	19.8	18.8	18.1	17.1	16.3	15.4	15.2
40 to 120	28.7	27.4	26.3	26.7	25.6	24.6	23.5	22.5	21.6	19.8	19.4	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	27.8	28.8	26.9	26.0	25.2	24.1	23.3	23.5	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	28.3	28.6	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, SPL																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.2	13.3	12.8	12.4	11.9	11.6	11.5	11.4	11.4	11.5	11.7	12.3	12.8	13.3	13.9	14.6	
	14.2	13.2	12.8	12.2	11.8	11.5	11.3	11.3	11.2	11.5	11.6	12.2	12.7	13.2	13.8	14.5	
	14.1	13.3	12.7	12.2	11.9	11.4	11.2	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3	
	14.2	13.1	12.5	12.2	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
	12.9	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
	37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1	

Table G.16 (Continued)

Z Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.5	27.6	27.1	26.6	25.4	24.4	24.2	22.8	22.0	21.0	19.9	19.2	18.3	17.5	16.4	15.8	14.9
0 to 80	28.8	27.6	27.0	25.6	25.3	24.3	23.5	22.4	21.9	20.7	19.8	19.0	18.3	17.3	16.6	15.8	14.9
10 to 90	27.7	27.8	27.1	25.6	24.6	23.8	23.9	22.8	21.6	20.8	19.8	19.3	18.4	17.5	16.5	15.6	14.9
20 to 100	28.2	27.4	26.7	26.4	24.8	24.0	23.8	22.7	21.5	20.7	19.9	18.8	18.1	17.5	16.5	15.6	14.9
30 to 110	28.1	28.4	26.8	25.1	25.4	24.2	23.2	22.6	21.6	20.9	19.6	18.8	18.0	17.1	16.3	15.3	15.2
40 to 120	28.4	27.5	26.8	26.0	25.0	24.7	23.5	22.6	21.4	20.1	19.3	19.1	19.2	19.2	19.2	22.3	22.3
50 to 130	28.5	28.1	27.0	26.2	24.8	24.6	23.5	23.3	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	29.1	28.3	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.2	13.3	13.0	12.5	12.0	11.6	11.5	11.4	11.4	11.6	11.7	12.3	12.8	13.2	13.9	14.6
14.2	13.4	12.8	12.4	11.9	11.5	11.4	11.3	11.3	11.5	11.6	12.2	12.7	13.1	13.8	14.5
14.1	13.3	12.8	12.4	11.8	11.4	11.4	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3
14.1	13.0	12.6	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
13.0	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1

BK4936 microphone using remote preamp (Figures/Tables "H")

Tolerance: IEC 61672 class 1

Directional frequency response

Figure H.1- 0-30 degree incidence angels

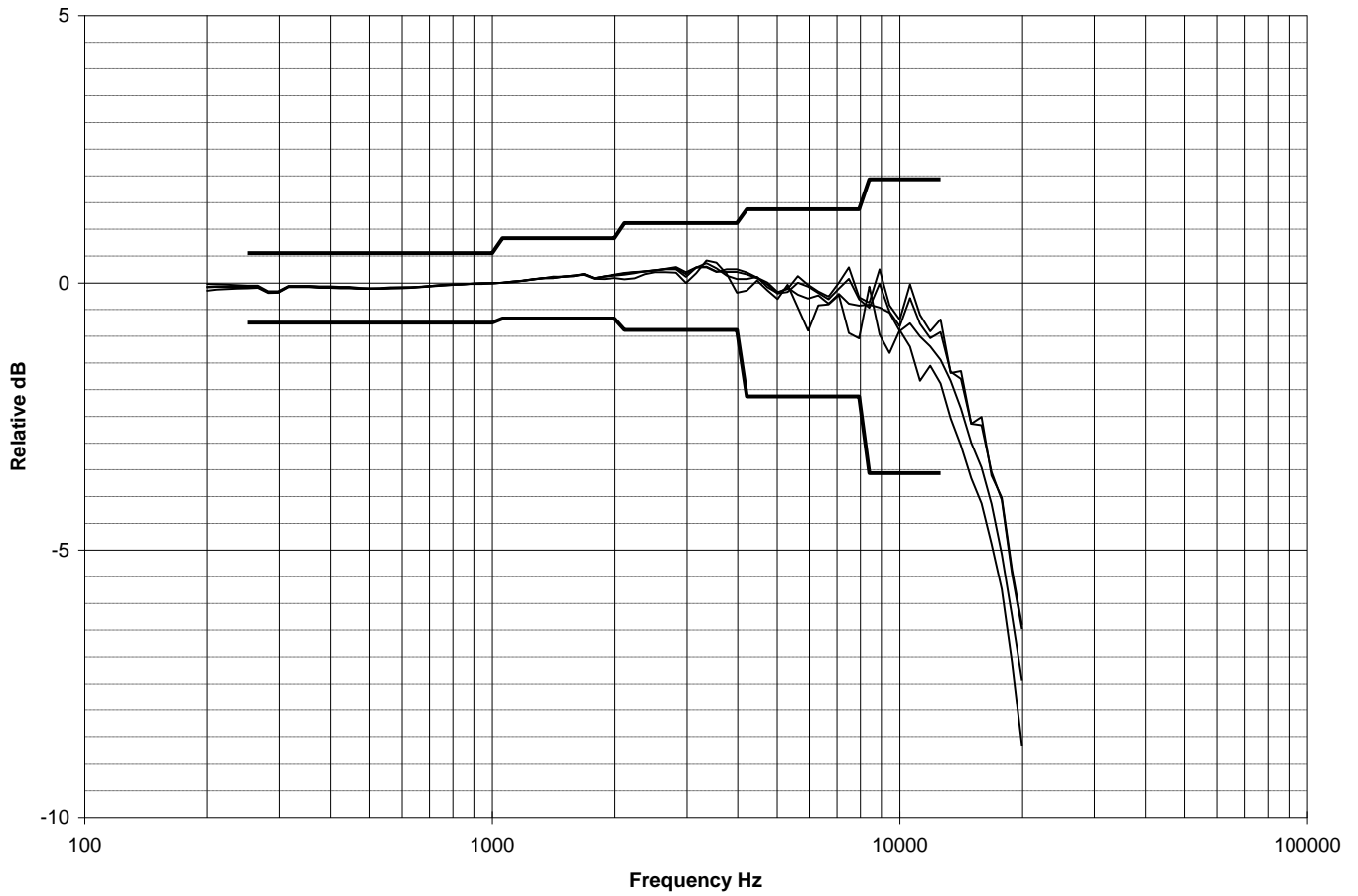


Figure H.2 - 0-90 degree incidence angels

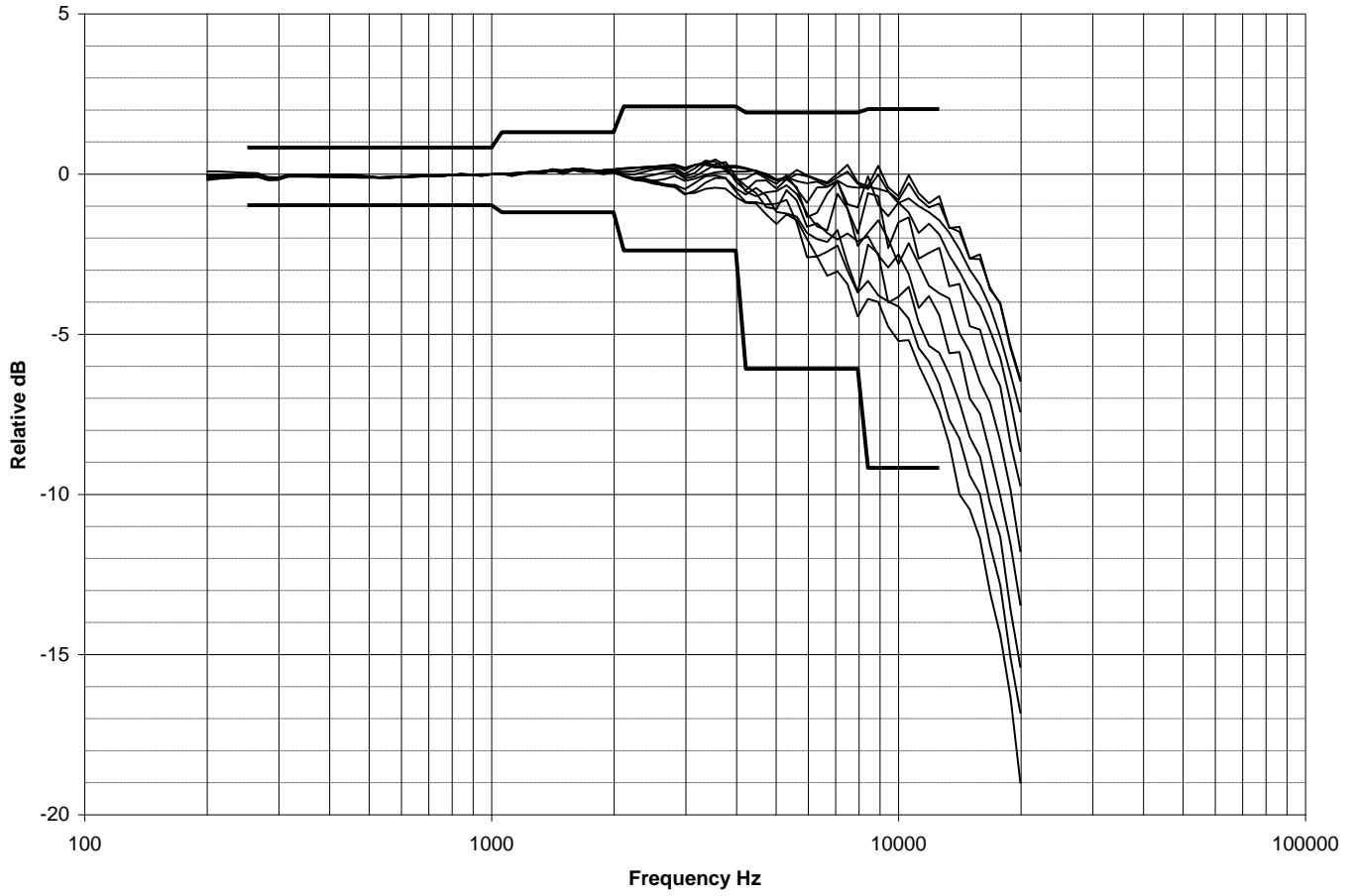


Figure H.3 - 0-150 degree incidence angels

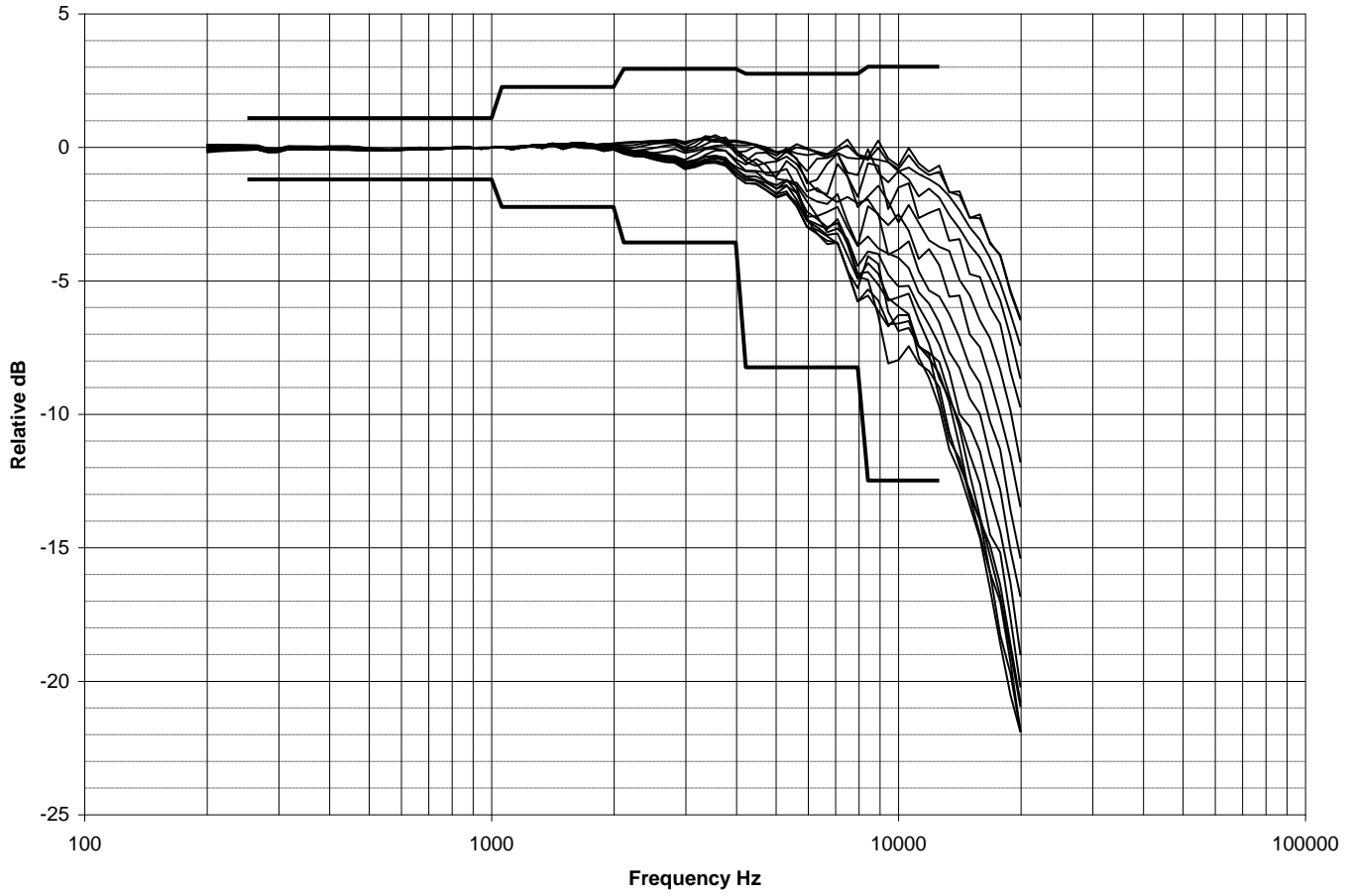
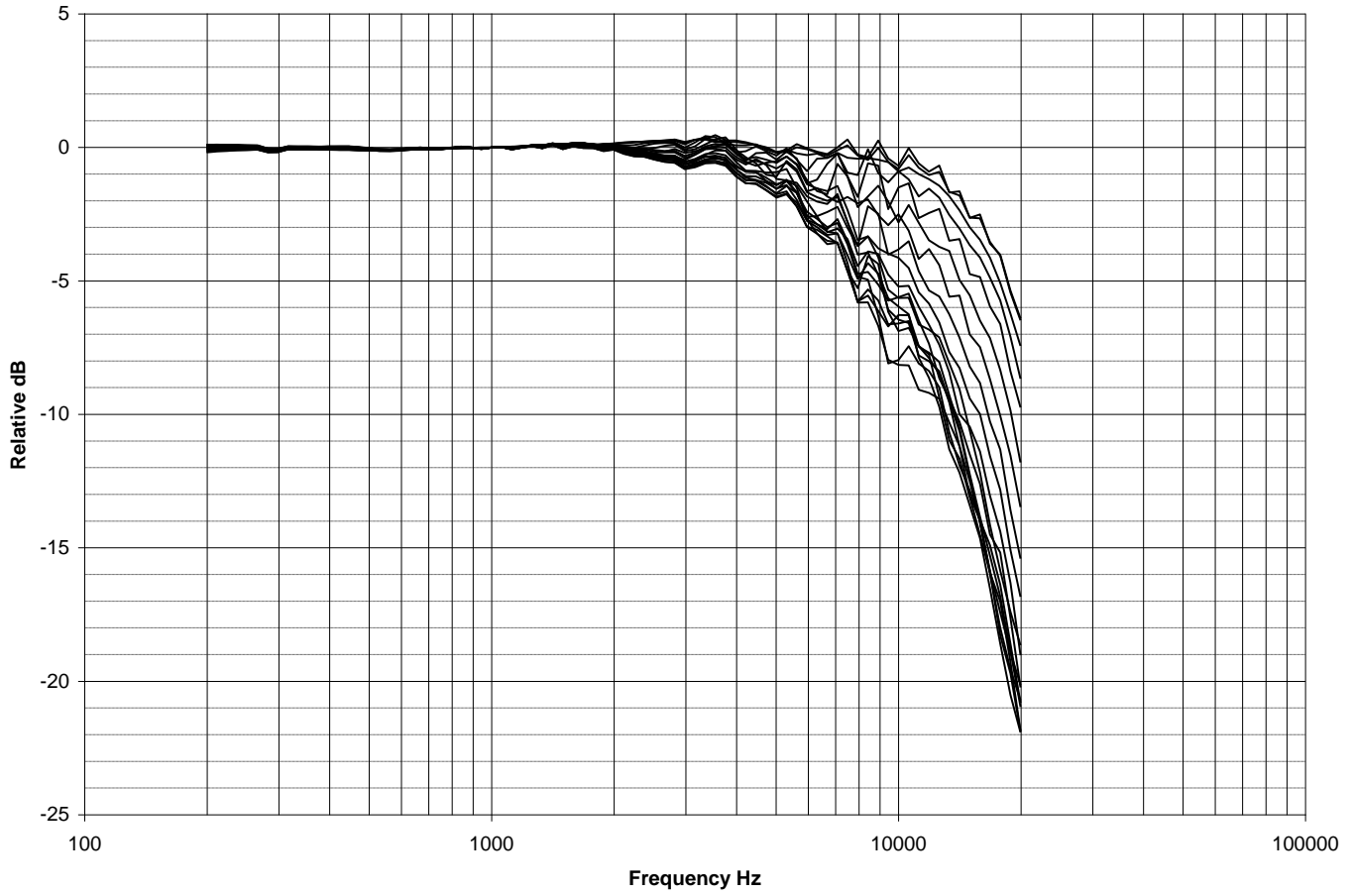
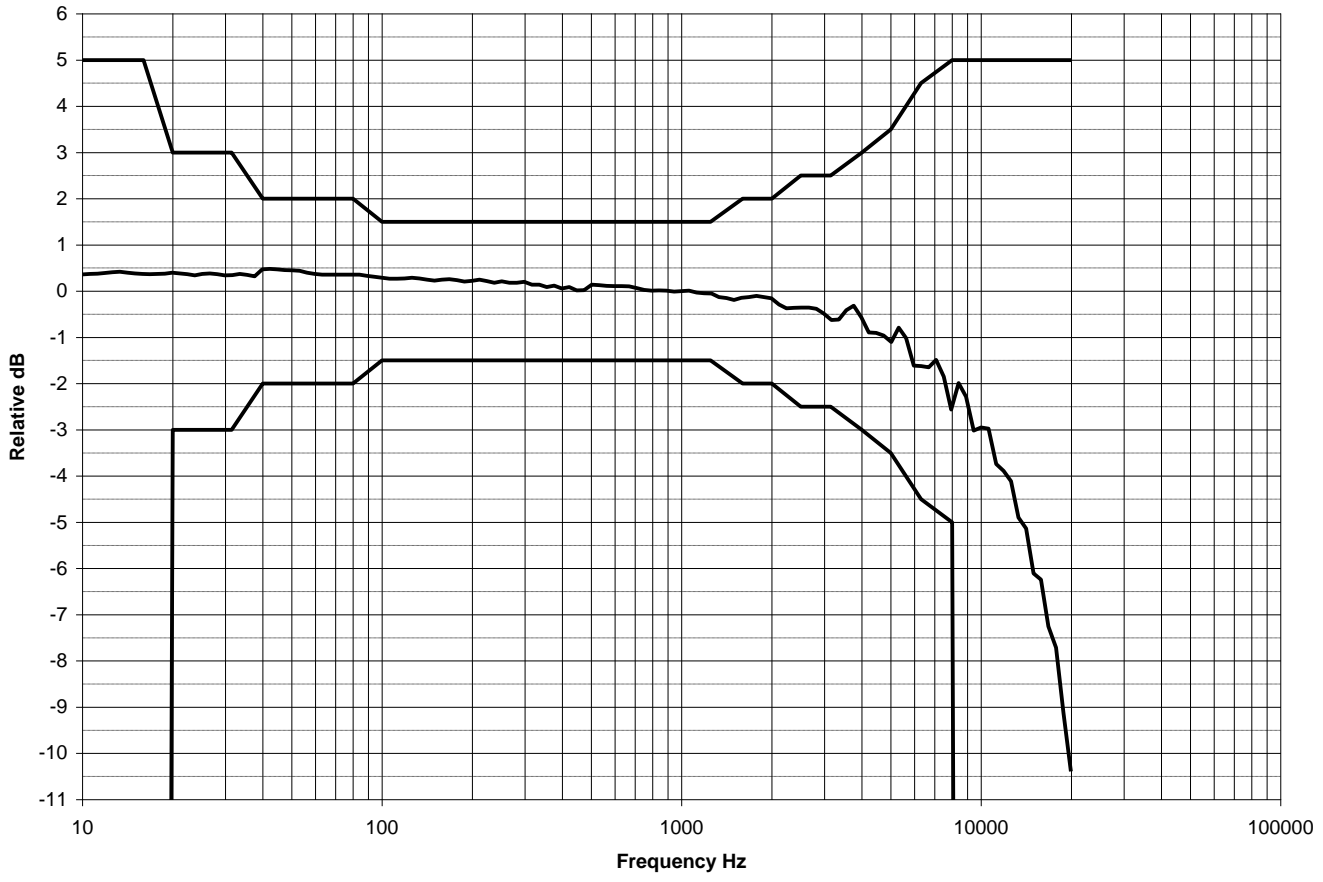


Figure H.4 - 0-180 degree incidence angles (IEC 61672 class 1)



Random Incidence

Figure H.5 - Frequency Response



Corrections

Table H.6 - Reflection, Diffraction, and Microphone Frequency Response

1/12 Octave Frequency in Hz	Remote Microphone Acoustic Corrections in dB	1/12 Octave Frequency in Hz	Remote Microphone Acoustic Corrections in dB
199.53	-0.1	3349.65	-0.6
211.35	0.0	3548.13	-0.7
223.87	0.0	3758.37	-0.7
237.14	0.0	3981.07	-0.8
251.19	0.0	4216.97	-0.9
266.07	0.0	4466.84	-1.0
281.84	0.0	4731.51	-1.0
298.54	0.0	5011.87	-1.1
316.23	0.0	5308.84	-1.4
334.97	0.0	5623.41	-1.8
354.81	0.0	5956.62	-1.8
375.84	0.0	6309.57	-1.8
398.11	0.0	6683.44	-2.1
421.70	0.0	7079.46	-2.6
446.68	0.0	7498.94	-3.2
473.15	0.1	7943.28	-2.7
501.19	0.1	8413.95	-3.3
530.88	0.1	8912.51	-4.4
562.34	0.1	9440.61	-4.0
595.66	0.1	10000.00	-4.1
630.96	0.1	10592.54	-5.2
668.34	0.0	11220.19	-4.7
707.95	0.0	11885.02	-4.6
749.89	0.0	12589.25	-5.1
794.33	0.0	13335.21	-4.1
841.40	-0.1	14125.38	-3.9
891.25	0.0	14962.36	-2.8
944.06	0.0	15848.93	-2.2
1000.00	-0.1	16788.04	-0.9
1059.25	-0.1	17782.79	0.0
1122.02	-0.1	18836.49	1.1
1188.50	-0.1	19952.62	2.3
1258.93	-0.1	2238.72	-0.4
1333.52	-0.1	2371.37	-0.4
1412.54	-0.2	2511.89	-0.3
1496.24	-0.1	2660.73	-0.3
1584.89	-0.2	2818.38	-0.4
1678.80	-0.2	2985.38	-0.4
1778.28	-0.2	3162.28	-0.5
1883.65	-0.3		
1995.26	-0.3		
2113.49	-0.4		

Table H.7 - Pressure Field to Free Field

Frequency in Hz	BK 4936 Correction in dB
125	0.04
250	0.00
1000	-0.01
2000	0.17
4000	1.44

Table H.8 - Pressure Field to Random Incidence

Frequency in Hz	BK 4936 Correction in dB
125	0.05
250	0.00
1000	-0.04
2000	0.17
4000	1.19

Self Generated Noise

Table H.9-Broadband

		SPL			LEQ		
Fast Response							
Range (dB)	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting	
-20 to 70	22.9	30.1	37.4	22.8	30.1	37.0	
-10 to 80	22.8	29.8	37.1	22.8	30.3	37.2	
0 to 90	22.8	30.2	36.6	22.8	30.2	37.3	
10 to 100	22.8	30.0	36.6	22.8	30.2	37.6	
20 to 110	23.3	30.3	36.5	23.3	30.5	37.5	
30 to 120	26.2	31.4	36.8	26.2	31.1	37.1	
40 to 130	33.3	34.4	38.2	33.4	34.6	38.9	
50 to 140	42.1	42.1	43.1	42.1	42.2	42.8	
Slow Response							
Range (dB)	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting	
-20 to 70	22.8	30.3	37.4	22.8	30.3	37.7	
-10 to 80	22.8	30.3	37.4	22.7	30.3	37.7	
0 to 90	22.8	30.2	37.5	22.8	30.2	37.5	
10 to 100	22.8	30.2	37.9	22.7	30.2	37.6	
20 to 110	23.3	30.2	37.5	23.3	30.3	37.3	
30 to 120	26.2	31.0	37.6	26.2	31.0	37.9	
40 to 130	33.4	34.6	38.6	33.4	34.6	38.5	
50 to 140	42.2	42.1	43.0	42.2	42.1	42.9	

Table H.10 – Octave Band

A Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.8	3.5	10.1	14.6	17.7	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.7	3.6	9.7	15.0	17.9	19.4	19.5	18.9	17.5	13.8
10 to 90	-15.1	-7.7	3.7	10.2	14.9	18.0	19.3	19.4	18.9	17.5	13.7
20 to 100	-6.6	-4.5	3.1	10.4	15.0	17.7	19.3	19.3	18.8	17.3	14.2
30 to 110	3.6	-0.1	3.5	10.0	15.1	17.8	19.1	19.1	18.3	18.3	18.3
40 to 120	12.8	10.7	7.5	10.7	14.9	16.8	19.3	22.3	25.3	28.3	28.3
50 to 130	23.6	19.3	17.2	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.4	28.8	27.6	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3

A Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.1	3.2	9.9	15.1	18.0	19.4	19.5	19.1	17.6	13.9
0 to 80	-16.8	-7.0	3.4	10.0	14.9	18.0	19.4	19.5	18.9	17.6	13.8
10 to 90	-15.0	-6.6	3.0	9.8	14.8	17.8	19.3	19.4	18.9	17.5	13.8
20 to 100	-6.9	-5.9	3.0	9.8	14.8	17.8	19.2	19.3	18.9	17.3	14.2
30 to 110	3.1	0.0	4.1	10.1	14.8	17.7	19.2	19.2	18.3	18.3	18.3
40 to 120	12.6	9.3	8.0	11.1	15.3	16.9	19.3	22.3	25.3	28.3	28.3
50 to 130	22.9	18.5	17.4	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.5	28.7	27.3	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3

A Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.2	3.4	9.8	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-7.3	3.2	9.9	14.8	17.9	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.6	-6.8	3.2	10.1	14.8	17.8	19.3	19.4	18.9	17.3	13.3
20 to 100	-7.0	-6.2	3.4	9.8	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.3	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	12.8	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	22.9	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	32.9	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

A Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.3	3.3	10.1	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.6	3.4	10.1	14.8	17.8	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.7	-7.1	3.4	10.0	14.8	17.8	19.2	19.4	18.8	17.3	13.3
20 to 100	-6.9	-6.3	3.5	9.9	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.2	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	13.0	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	23.2	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.2	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table H.10 - (Continued)

C Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.6	28.1	25.7	23.4	21.3	19.2	18.1	17.1	15.6	11.8
0 to 80	24.9	28.0	27.6	24.9	23.0	21.0	19.3	18.0	16.9	15.4	11.8
10 to 90	24.3	27.7	27.1	25.9	23.3	21.0	19.3	18.0	17.0	15.4	11.6
20 to 100	22.6	27.4	27.9	25.3	23.1	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	25.6	27.5	26.5	25.8	23.5	21.2	19.2	17.8	15.4	18.3	18.3
40 to 120	26.8	28.1	27.8	26.1	23.4	20.9	19.2	22.3	25.3	28.3	28.3
50 to 130	26.8	28.0	28.0	26.3	23.3	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	34.0	31.9	29.1	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.9	27.5	25.6	23.6	21.2	19.4	18.0	17.1	15.6	11.8
0 to 80	24.6	28.0	27.4	25.6	23.4	21.1	19.2	18.0	16.9	15.4	11.7
10 to 90	24.9	27.9	27.3	25.5	23.4	21.2	19.3	17.9	16.9	15.4	11.7
20 to 100	25.4	28.2	27.2	25.7	23.4	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	24.7	28.3	27.6	26.1	23.6	21.0	19.0	17.6	15.4	18.3	18.3
40 to 120	25.5	28.2	27.9	25.8	23.2	20.9	19.3	22.3	25.3	28.3	28.3
50 to 130	27.8	28.4	27.9	26.2	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.7	31.8	29.8	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
C Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.2	27.9	27.8	25.8	23.6	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	24.9	27.8	27.5	25.6	23.4	21.1	19.3	17.9	17.0	15.4	11.6
10 to 90	25.0	27.9	27.7	25.5	23.4	21.1	19.3	17.9	16.8	15.1	12.0
20 to 100	25.4	27.9	27.7	25.8	23.3	21.0	19.2	17.3	17.3	17.3	17.3
30 to 110	25.4	27.6	27.6	25.5	23.1	20.9	18.3	21.3	24.3	27.3	27.3
40 to 120	25.4	28.4	27.6	25.6	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	27.0	28.6	28.0	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.9	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
C Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.0	27.9	27.6	25.8	23.5	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	25.1	28.1	27.5	25.9	23.4	21.2	19.2	18.0	17.0	15.4	11.6
10 to 90	25.2	27.9	27.6	25.7	23.4	21.1	19.3	17.9	16.8	15.1	12.1
20 to 100	25.2	27.8	27.4	25.6	23.3	21.1	19.2	17.3	17.3	17.3	17.3
30 to 110	25.3	27.3	27.4	25.7	23.2	21.1	18.3	21.3	24.3	27.3	27.3
40 to 120	25.2	27.8	27.7	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	26.9	28.8	28.1	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.3	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table H.10 - (Continued)

Z Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	32.9	30.0	27.5	26.0	23.4	21.2	19.4	18.2	18.0	18.6	19.8
0 to 80	32.9	31.2	28.8	25.9	23.5	21.3	19.5	18.1	17.9	18.4	19.7
10 to 90	33.2	30.5	27.8	25.4	23.5	21.4	19.3	18.3	17.9	18.4	19.7
20 to 100	31.7	30.2	28.2	25.9	23.2	21.4	19.4	18.0	17.8	18.3	19.7
30 to 110	32.9	30.9	27.9	25.9	23.3	21.1	19.1	18.2	18.3	18.3	18.3
40 to 120	31.9	31.6	27.9	25.6	23.1	21.3	19.2	22.3	25.3	28.3	28.3
50 to 130	33.8	30.5	28.1	26.0	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.7	32.5	30.3	30.3	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Fast Response, LEQ											
Range in dB	16 Hz in dB	31.5 Hz in dB	63 Hz in dB	125 Hz in dB	250 Hz in dB	500 Hz in dB	1000 Hz in dB	2000 Hz in dB	4000 Hz in dB	8000 Hz in dB	16 kHz in dB
-10 to 70	32.9	31.0	28.4	26.0	23.6	21.4	19.4	18.2	18.0	18.6	19.8
0 to 80	34.0	30.9	28.4	26.0	23.5	21.2	19.3	18.2	17.9	18.5	19.7
10 to 90	33.1	30.9	28.3	26.0	23.4	21.2	19.3	18.1	17.9	18.5	19.7
20 to 100	33.4	30.5	28.4	26.1	23.4	21.2	19.4	18.1	17.8	18.3	19.7
30 to 110	33.0	30.9	28.2	25.8	23.5	21.1	19.2	18.1	18.3	18.3	18.3
40 to 120	33.3	31.3	28.5	25.7	23.3	21.1	19.3	22.3	25.3	28.3	28.3
50 to 130	33.3	31.0	28.6	25.7	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.8	33.3	29.9	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.6	31.0	28.6	26.0	23.6	21.2	19.4	18.2	18.0	18.5	19.8
0 to 80	33.1	30.8	28.5	25.8	23.2	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.6	31.0	28.4	26.0	23.5	21.2	19.4	18.1	17.8	18.3	19.6
20 to 100	33.6	30.7	28.5	25.9	23.6	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.8	30.9	28.3	25.8	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	34.0	30.7	28.4	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.7	30.7	28.7	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
Z Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.3	31.2	28.6	26.0	23.5	21.3	19.5	18.2	18.0	18.5	19.8
0 to 80	33.1	30.9	28.3	25.9	23.4	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.8	30.9	28.5	25.8	23.3	21.2	19.3	18.1	17.7	18.3	19.6
20 to 100	33.3	30.8	28.3	25.9	23.5	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.6	30.9	28.5	25.9	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	33.5	31.3	28.3	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.6	31.0	28.9	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table H.11- 1/3 Octave Band

A Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	16.9	-16.9	-16.9	-13.7	-10.5	-6.0	-3.4	-1.6	1.6	3.9	6.5	7.3	9.4	9.8	10.8	11.8
0 to 80	-16.9	16.9	-16.9	-15.6	-13.3	-10.1	-6.7	-2.9	-0.9	3.4	4.0	6.0	7.5	8.1	9.8	10.8	11.8
10 to 90	-16.9	15.5	-16.8	-15.4	-13.7	-10.4	-6.3	-3.4	-1.2	3.7	3.6	5.9	6.7	9.3	10.3	10.7	11.6
20 to 100	-15.9	-6.2	-13.5	-9.2	-10.8	-9.1	-7.1	-3.7	-0.1	1.6	4.3	5.8	7.9	8.7	10.2	11.0	11.9
30 to 110	-6.4	4.2	-4.8	0.8	-3.8	-4.9	-3.8	-1.9	0.1	3.1	4.4	5.6	7.0	8.4	10.2	10.6	11.6
40 to 120	3.4	13.8	6.1	9.5	4.7	3.8	4.4	4.8	4.8	7.5	7.6	7.4	10.2	10.4	10.4	13.3	13.2
50 to 130	12.9	23.2	15.4	19.7	14.8	13.9	14.4	14.7	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	21.8	32.4	25.8	29.9	25.2	22.8	24.6	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, SPL																
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	
12.2	12.9	13.1	13.3	12.9	12.8	12.9	12.8	12.6	12.4	11.8	11.5	10.8	9.4	7.9	5.8	
12.6	12.7	12.9	13.1	13.0	12.8	12.7	12.6	12.2	12.1	11.8	11.5	10.6	9.4	7.8	5.9	
12.4	12.8	12.8	13.1	13.2	12.8	12.9	12.8	12.5	12.4	11.8	11.3	10.6	9.2	7.7	5.9	
12.5	12.6	12.7	12.8	12.6	12.7	12.8	12.6	12.3	12.2	11.4	11.3	10.1	8.3	8.3	8.3	
12.1	12.0	12.8	12.9	12.6	12.3	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3	
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3	
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3	
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3	

A Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.3	-13.9	-9.9	-6.6	-2.4	-0.4	3.7	3.9	5.9	7.6	9.4	10.2	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.4	-13.8	10.2	-6.5	-3.2	-0.5	3.7	4.0	6.0	7.5	8.8	10.2	11.2	11.8
10 to 90	-16.9	-15.9	-16.8	-15.3	-13.1	10.5	-6.8	-2.6	0.0	3.6	3.9	5.8	7.5	8.7	10.0	11.1	11.8
20 to 100	-15.8	-7.1	-13.6	-8.7	-10.3	-8.0	-6.2	-3.1	0.0	1.8	4.2	6.1	7.8	8.8	9.9	10.8	11.8
30 to 110	-5.5	3.6	-4.8	-0.8	-2.7	-4.4	-3.6	-1.9	0.6	3.6	4.2	6.2	7.6	9.1	10.0	11.0	11.6
40 to 120	3.2	13.3	4.4	9.7	6.7	3.7	4.7	5.1	4.7	7.2	7.4	7.6	10.3	10.4	10.4	13.2	13.2
50 to 130	12.6	23.5	14.5	19.5	16.8	14.1	14.4	14.6	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	24.4	33.8	25.1	30.1	27.0	23.5	24.2	24.5	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, LEQ																
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	
12.4	12.6	12.9	13.1	13.1	13.0	12.9	12.8	12.5	12.4	11.8	11.5	10.6	9.4	7.8	5.9	
12.5	12.7	13.0	13.1	13.0	12.8	12.9	12.6	12.4	12.3	11.8	11.4	10.6	9.4	7.8	5.8	
12.4	12.6	13.1	13.2	13.1	13.0	12.9	12.6	12.4	12.3	11.7	11.4	10.5	9.2	7.7	5.9	
12.4	12.6	12.9	13.0	13.0	12.9	12.7	12.5	12.3	12.1	11.4	11.3	10.1	8.3	8.3	8.3	
12.2	12.2	12.8	13.1	12.6	12.5	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3	
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3	
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3	
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3	

Table H.11 (Continued)

A Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-10.4	-6.1	-3.1	-0.7	3.6	3.8	5.7	7.6	8.9	10.2	11.2	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-14.1	-9.5	-6.3	-2.8	-0.6	3.7	4.0	6.0	7.2	8.8	10.0	11.1	11.9
10 to 90	-16.9	-16.9	-16.9	-16.6	-13.5	-9.6	-6.3	-3.0	-0.5	3.4	3.9	5.8	7.6	9.0	9.8	11.1	11.8
20 to 100	-12.7	-12.6	-12.6	-9.7	-9.6	-9.1	-6.2	-2.9	0.0	3.8	4.0	5.8	7.7	9.0	9.9	10.3	11.5
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.3	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	13.2	13.2	13.2	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, SPL																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.5	13.0	13.1	13.1	12.9	12.9	12.8	12.5	12.3	11.8	11.5	10.7	9.3	7.8	5.8	
12.6	12.6	12.9	13.0	13.0	12.8	12.8	12.6	12.4	12.2	11.8	11.4	10.6	9.3	7.7	5.7	
12.4	12.5	12.9	13.0	13.0	12.8	12.7	12.5	12.3	12.1	11.3	11.3	10.3	7.5	7.3	7.3	
12.2	12.4	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

A Weighting, Slow Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-9.9	-6.6	-3.0	-0.6	3.8	3.7	5.8	7.7	8.9	10.0	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-13.8	-9.2	-5.9	-3.1	-0.6	3.8	3.9	6.0	7.5	8.9	10.1	10.9	11.8
10 to 90	-16.9	-16.9	-16.9	-16.6	-14.0	-9.5	-6.4	-3.2	-0.5	3.8	3.9	5.8	7.5	8.7	10.1	10.9	11.8
20 to 100	-12.7	-12.7	-12.7	-9.7	-9.7	-9.2	-6.1	-2.9	-0.3	3.6	4.2	5.6	7.4	8.8	10.0	10.8	11.6
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.2	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	2	2	13.2	2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.	23.	23.2	2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.	33.	33.2	2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, LEQ																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.7	13.0	13.1	13.0	13.0	12.9	12.7	12.5	12.3	11.9	11.5	10.7	9.4	7.8	5.8	
12.4	12.6	12.9	13.0	13.1	12.9	12.8	12.6	12.4	12.2	11.7	11.4	10.6	9.3	7.7	5.7	
12.5	12.6	12.9	13.1	13.0	12.8	12.8	12.5	12.3	12.1	11.3	11.3	10.3	7.6	7.3	7.3	
12.2	12.3	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

Table H.11 (Continued)

C Weighting, Fast Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	14.3	17.2	20.5	21.8	21.2	21.6	22.2	22.0	20.9	20.3	20.1	19.4	18.2	17.8	16.8	15.7	14.6
0 to 80	13.7	18.4	21.9	21.2	22.4	22.8	21.0	21.7	20.7	20.1	20.1	19.4	17.9	17.9	16.6	15.8	15.1
10 to 90	15.2	16.8	21.2	21.8	20.9	21.7	21.5	21.6	21.2	20.7	19.2	19.0	18.2	17.4	16.3	15.7	14.6
20 to 100	17.1	17.5	19.9	22.0	20.7	22.9	21.9	21.3	21.3	20.5	19.2	19.0	18.2	17.1	16.3	15.4	15.0
30 to 110	18.2	19.5	19.1	20.0	18.8	22.2	22.0	22.5	20.4	20.1	19.4	18.2	17.8	16.8	16.4	15.4	14.8
40 to 120	18.4	18.0	19.9	22.4	22.9	22.8	22.7	22.3	20.5	19.6	19.7	19.2	18.2	17.3	16.2	15.3	13.9
50 to 130	15.0	19.0	20.2	21.6	23.9	22.9	22.5	22.2	21.1	20.3	19.9	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.0	22.6	24.7	25.6	26.2	24.6	24.6	26.0	24.7	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

C Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
14.4	13.2	12.5	12.3	11.7	11.2	11.2	10.8	10.6	10.4	9.9	9.5	8.6	7.3	5.7	3.9		
13.9	13.4	12.5	12.3	11.7	11.4	11.2	10.7	10.4	10.1	9.7	9.3	8.5	7.2	5.7	3.7		
14.0	13.2	12.8	12.3	11.8	11.2	11.2	10.7	10.5	10.2	9.6	9.2	8.5	7.2	5.4	3.2		
14.5	12.9	12.7	12.1	11.6	11.3	11.0	10.7	10.4	10.1	9.8	8.4	8.3	8.3	8.3	8.3		
13.8	13.0	13.0	12.4	12.0	10.8	10.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

C Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	16.7	18.3	20.3	20.9	22.4	22.4	22.3	21.8	21.2	19.5	19.4	19.0	18.0	17.6	16.4	15.8	15.0
0 to 80	16.5	18.8	20.7	22.0	22.3	23.1	22.3	21.5	21.3	20.1	19.4	18.9	18.4	17.7	16.5	15.6	14.8
10 to 90	18.0	19.4	20.3	22.1	22.9	22.4	22.4	21.5	21.0	20.0	19.6	18.9	18.1	17.2	16.3	15.6	14.8
20 to 100	17.6	18.9	22.1	20.9	21.3	22.5	22.2	21.1	21.1	20.4	19.6	19.2	17.9	17.3	16.6	15.6	14.9
30 to 110	17.1	18.8	21.0	22.3	21.2	22.0	22.0	22.2	20.9	20.7	19.5	18.9	18.1	17.6	16.5	15.5	14.7
40 to 120	18.2	18.6	20.8	22.7	22.9	22.1	22.1	22.3	22.1	20.6	20.0	19.1	18.1	17.6	16.4	15.1	14.2
50 to 130	18.9	20.6	23.1	22.3	22.9	24.0	23.2	23.6	22.0	21.0	20.3	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.6	23.9	24.7	25.8	25.9	24.5	25.7	26.1	24.9	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Table H.11 (Continued)

C Weighting, Fast Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.1	13.2	12.7	12.4	11.9	11.4	11.1	10.9	10.6	10.3	9.8	9.3	8.6	7.3	5.7	3.8
14.1	13.3	12.8	12.3	11.8	11.2	11.1	10.8	10.6	10.3	9.7	9.4	8.5	7.2	5.7	3.7
14.1	13.2	12.8	12.2	11.9	11.3	11.0	10.7	10.5	10.1	9.7	9.3	8.5	7.1	5.3	3.1
14.0	13.2	12.7	12.2	11.7	11.2	11.0	10.6	10.3	10.1	9.9	8.5	8.3	8.3	8.3	8.3
14.1	13.0	12.5	12.1	12.0	11.4	10.0	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

C Weighting, Slow Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.7	19.2	20.9	21.3	22.4	22.5	22.7	22.5	21.5	20.8	20.0	19.1	18.3	17.4	16.5	15.8	14.9
0 to 80	17.8	19.1	20.6	21.6	22.2	22.7	22.2	21.5	21.2	20.5	19.7	19.1	18.3	17.3	16.4	15.7	15.0
10 to 90	17.1	19.9	20.6	22.5	22.4	22.6	21.9	22.0	21.3	20.4	19.7	18.8	18.1	17.3	16.6	15.6	14.7
20 to 100	17.0	18.8	21.9	21.6	22.4	22.2	22.4	22.0	21.1	20.7	19.6	19.1	18.3	17.5	16.5	15.6	14.8
30 to 110	17.4	19.5	21.3	22.3	22.6	22.4	22.1	22.2	21.0	20.2	19.6	19.1	18.2	17.5	16.7	15.3	15.1
40 to 120	18.1	19.5	21.2	22.3	22.5	22.9	22.4	22.5	21.6	20.5	19.6	19.2	19.3	19.2	19.2	22.3	22.3
50 to 130	17.9	20.2	21.8	23.1	22.5	23.8	23.3	23.5	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.2	13.3	12.7	12.4	11.9	11.4	11.1	10.8	10.5	10.3	9.8	9.4	8.6	7.3	5.7	3.7
14.2	13.3	12.8	12.3	11.8	11.4	11.1	10.8	10.4	10.2	9.7	9.4	8.4	7.2	5.7	3.3
14.3	13.3	12.7	12.2	11.7	11.3	10.9	10.6	10.3	9.9	9.1	9.1	7.3	7.3	7.3	7.3
14.0	13.1	12.5	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Table H.11 (Continued)

C Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.6	19.2	21.4	22.4	22.4	22.6	22.7	22.1	21.6	20.7	19.8	19.2	18.3	17.6	16.5	15.6	14.8
0 to 80	17.9	19.0	21.4	22.0	22.4	22.4	22.5	22.0	21.1	20.3	19.6	18.9	18.2	17.5	16.5	15.6	14.9
10 to 90	16.8	19.8	21.2	22.4	22.0	22.6	21.9	22.2	21.5	20.4	19.7	19.0	18.2	17.4	16.5	15.5	14.9
20 to 100	17.7	19.6	21.8	22.2	21.9	22.8	22.4	22.0	21.1	20.6	19.6	19.3	18.2	17.5	16.6	15.5	14.8
30 to 110	17.0	19.4	21.3	22.1	22.5	22.7	22.5	21.9	21.4	20.5	19.5	19.1	18.1	17.5	16.3	15.3	15.2
40 to 120	18.0	19.7	21.4	21.9	22.9	23.0	22.3	22.1	21.0	20.3	19.6	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	18.1	19.8	21.3	21.9	22.8	23.4	23.3	23.4	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, LEQ																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.3	13.2	12.8	12.4	11.8	11.4	11.1	10.8	10.5	10.3	9.7	9.4	8.6	7.3	5.7	3.7	
	14.3	13.2	12.8	12.2	11.7	11.3	11.0	10.7	10.5	10.2	9.7	9.3	8.5	7.2	5.7	3.3	
	14.2	13.3	12.8	12.3	11.7	11.3	11.0	10.6	10.3	10.0	9.1	9.0	7.4	7.3	7.3	7.3	
	14.1	13.1	12.4	12.1	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
	12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
	42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

Table H.11 (Continued)

Z Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.9	25.5	26.9	25.2	24.3	23.4	23.1	21.9	20.7	21.0	18.9	18.1	17.9	16.9	17.1	2	14.9
0 to 80	29.2	26.7	26.9	26.0	24.2	22.4	23.2	23.2	21.3	20.5	20.0	1	18.1	17.4	16.3	8	14.9
10 to 90	26.4	26.2	25.8	26.6	24.7	24.1	24.0	22.0	21.2	20.5	20.0	3	17.8	17.8	16.8	4	14.9
20 to 100	26.3	26.7	26.4	25.4	24.6	23.0	23.3	22.0	21.3	20.2	20.2	7	18.0	17.4	16.3	6	14.8
30 to 110	25.0	28.1	27.1	26.2	23.5	24.0	22.2	23.3	21.9	20.1	19.6	7	18.5	17.3	16.6	2	15.0
40 to 120	28.4	27.7	27.0	24.8	25.1	24.3	24.4	24.0	21.1	20.3	19.3	9	18.2	16.5	16.1	4	14.4
50 to 130	27.0	27.0	26.6	26.0	25.7	24.4	24.4	22.8	21.1	20.2	19.3	8	20.2	20.3	20.2	2	23.2
60 to 140	28.9	27.7	27.0	27.0	27.9	26.6	26.6	25.8	24.5	27.2	27.2	2	30.2	30.2	30.2	2	33.2

Table H.11 (Continued)

Z Weighting, Fast Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.5	13.3	12.9	12.3	12.0	11.4	11.6	11.2	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7
14.4	12.9	12.7	12.1	12.0	11.7	11.4	11.2	11.2	11.6	11.5	12.2	12.8	13.2	13.9	14.6
14.0	13.5	12.6	12.5	11.8	11.5	11.1	11.1	11.1	11.4	11.5	12.1	12.7	13.2	13.8	14.5
14.4	13.3	12.9	12.3	11.9	11.3	11.2	11.3	11.0	11.3	11.4	12.1	12.5	13.0	13.4	14.3
14.3	12.9	12.9	12.2	12.1	12.0	11.5	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.7	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

Z Weighting, Fast Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.2	27.6	27.2	25.8	25.3	24.3	23.8	22.7	21.5	20.8	20.0	19.0	18.3	17.6	16.5	15.7	14.8
0 to 80	28.7	28.1	27.1	25.8	25.7	24.8	23.1	22.7	21.0	20.6	19.7	19.1	18.6	17.6	16.5	15.6	14.8
10 to 90	28.2	28.3	26.8	26.3	25.2	24.4	23.8	22.7	21.4	20.4	19.6	19.2	18.3	17.3	16.5	15.5	14.8
20 to 100	27.7	26.6	27.6	26.0	25.2	24.1	22.9	22.1	21.2	20.7	19.6	19.0	18.2	17.5	16.7	15.8	14.9
30 to 110	27.6	26.9	26.7	25.7	25.5	24.4	23.4	22.4	21.8	20.8	19.7	18.8	18.4	17.3	16.5	15.5	14.6
40 to 120	29.0	27.1	27.1	26.2	25.2	24.1	23.2	22.8	21.3	20.1	19.4	19.2	18.0	17.1	16.2	15.4	14.7
50 to 130	29.7	28.0	27.2	25.0	25.6	24.8	23.5	23.1	21.5	20.9	19.7	19.0	20.3	20.2	20.2	23.2	23.2
60 to 140	29.7	29.6	27.8	25.6	26.8	26.4	25.5	26.0	24.6	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Z Weighting, Fast Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.3	13.5	12.8	12.5	11.9	11.6	11.5	11.3	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7
14.1	13.1	13.0	12.4	12.1	11.5	11.3	11.4	11.3	11.5	11.7	12.2	12.8	13.3	13.9	14.6
14.0	13.4	12.8	12.3	11.9	11.4	11.4	11.1	11.1	11.4	11.6	12.2	12.7	13.2	13.9	14.6
14.1	13.4	12.8	12.3	11.8	11.4	11.3	11.2	11.1	11.4	11.3	12.1	12.5	13.0	13.4	14.3
14.0	12.9	12.5	12.1	12.1	11.9	11.8	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.8	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

Table H.11 (Continued)

Z Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.1	27.8	26.8	26.9	25.4	24.8	23.7	23.1	21.8	21.1	20.0	19.1	18.4	17.6	16.7	15.7	15.0
0 to 80	28.6	27.7	27.0	26.7	24.8	24.7	23.4	22.6	21.9	20.6	19.7	19.0	18.2	17.5	16.7	15.6	15.0
10 to 90	27.1	27.2	26.5	25.7	25.2	24.0	23.9	22.6	21.5	20.4	19.7	19.1	18.2	17.3	16.5	15.6	14.7
20 to 100	28.9	27.3	27.1	25.9	25.6	23.9	23.6	22.9	21.7	20.8	19.8	19.0	18.0	17.6	16.5	15.5	14.8
30 to 110	28.3	27.8	27.4	25.4	25.1	24.6	23.3	22.5	21.8	20.8	19.8	18.8	18.1	17.1	16.3	15.4	15.2
40 to 120	28.7	27.4	26.3	26.7	25.6	24.6	23.5	22.5	21.6	19.8	19.4	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	27.8	28.8	26.9	26.0	25.2	24.1	23.3	23.5	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	28.3	28.6	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, SPL																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.2	13.3	12.8	12.4	11.9	11.6	11.5	11.4	11.4	11.5	11.7	12.3	12.8	13.3	13.9	14.6	
	14.2	13.2	12.8	12.2	11.8	11.5	11.3	11.3	11.2	11.5	11.6	12.2	12.7	13.2	13.8	14.5	
	14.1	13.3	12.7	12.2	11.9	11.4	11.2	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3	
	14.2	13.1	12.5	12.2	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
	12.9	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
	37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1	

Z Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.5	27.6	27.1	26.6	25.4	24.4	24.2	22.8	22.0	21.0	19.9	19.2	18.3	17.5	16.4	15.8	14.9
0 to 80	28.8	27.6	27.0	25.6	25.3	24.3	23.5	22.4	21.9	20.7	19.8	19.0	18.3	17.3	16.6	15.8	14.9
10 to 90	27.7	27.8	27.1	25.6	24.6	23.8	23.9	22.8	21.6	20.8	19.8	19.3	18.4	17.5	16.5	15.6	14.9
20 to 100	28.2	27.4	26.7	26.4	24.8	24.0	23.8	22.7	21.5	20.7	19.9	18.8	18.1	17.5	16.5	15.6	14.9
30 to 110	28.1	28.4	26.8	25.1	25.4	24.2	23.2	22.6	21.6	20.9	19.6	18.8	18.0	17.1	16.3	15.3	15.2
40 to 120	28.4	27.5	26.8	26.0	25.0	24.7	23.5	22.6	21.4	20.1	19.3	19.1	19.2	19.2	19.2	22.3	22.3
50 to 130	28.5	28.1	27.0	26.2	24.8	24.6	23.5	23.3	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	29.1	28.3	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, LEQ																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.2	13.3	13.0	12.5	12.0	11.6	11.5	11.4	11.4	11.6	11.7	12.3	12.8	13.2	13.9	14.6	
	14.2	13.4	12.8	12.4	11.9	11.5	11.4	11.3	11.3	11.5	11.6	12.2	12.7	13.1	13.8	14.5	
	14.1	13.3	12.8	12.4	11.8	11.4	11.4	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3	
	14.1	13.0	12.6	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
	13.0	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
	37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1	

BK4936 microphone using windscreen and remote preamp (Figures/Tables "I")

Tolerance: IEC 61672 class 1

Directional frequency response

Figure I.1 - 0-30 degree incidence angles

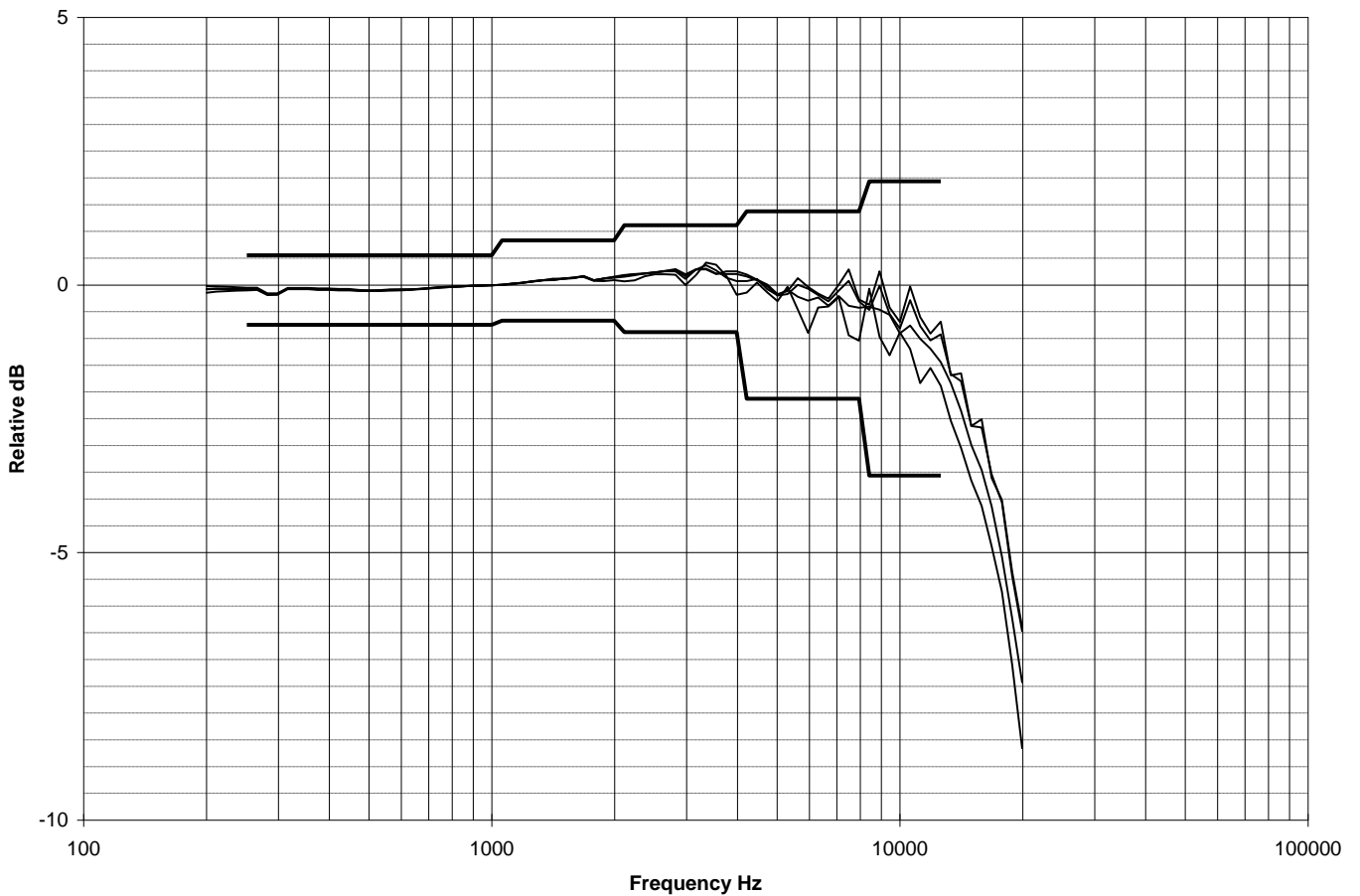


Figure I.2 -0-90 degree incidence angles

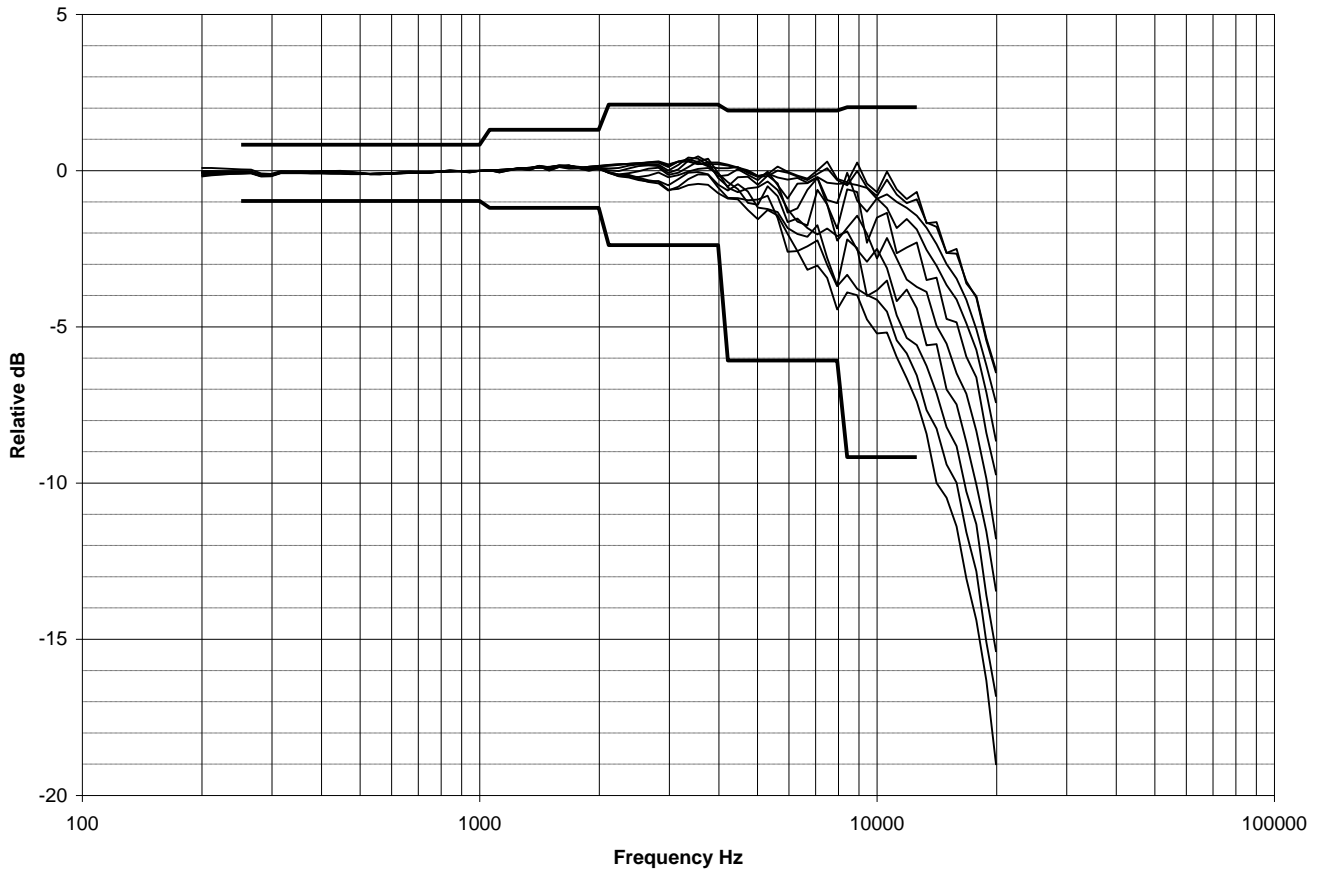


Figure I.3 - 0-150 degree incidence angles

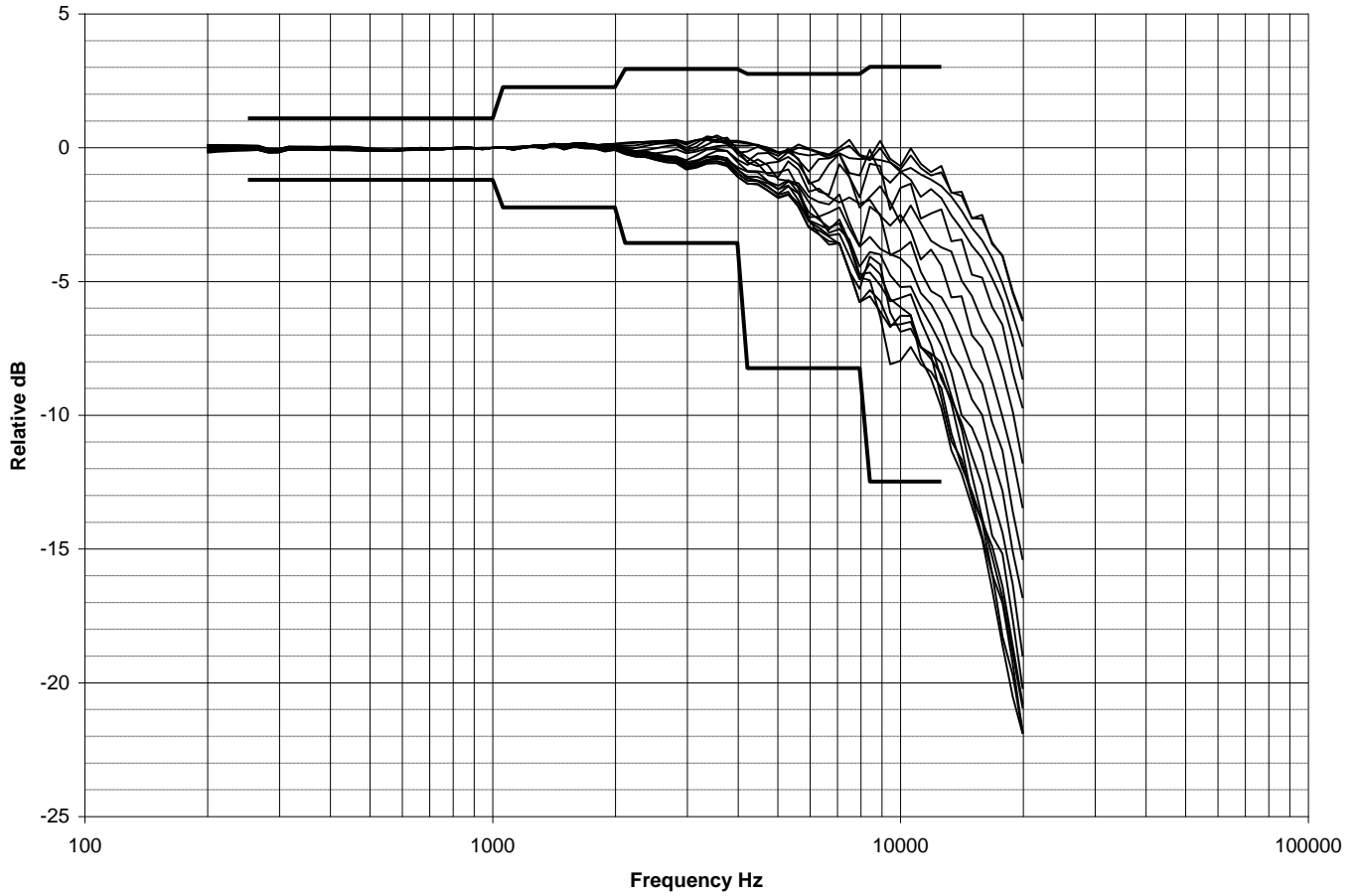
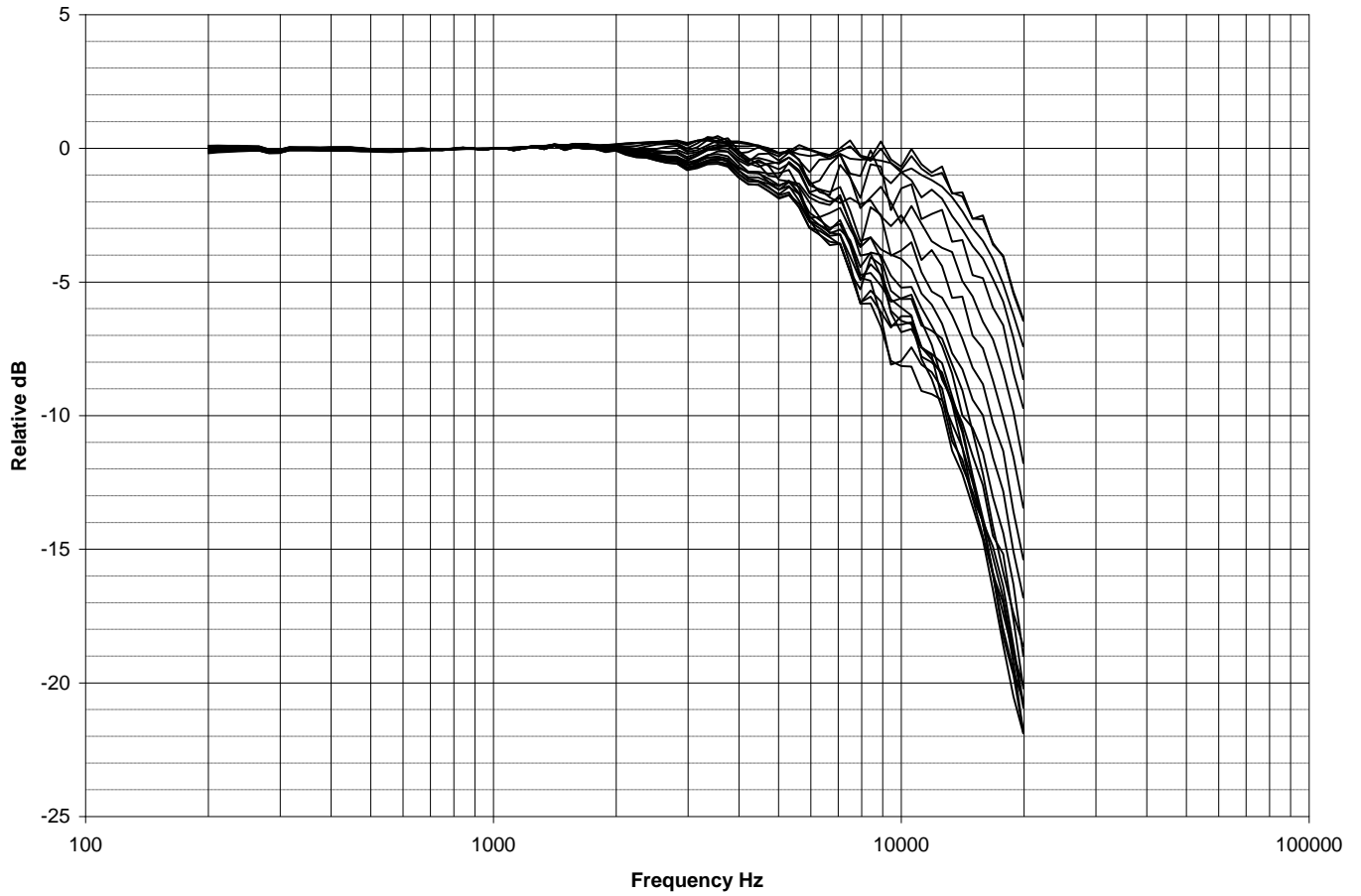
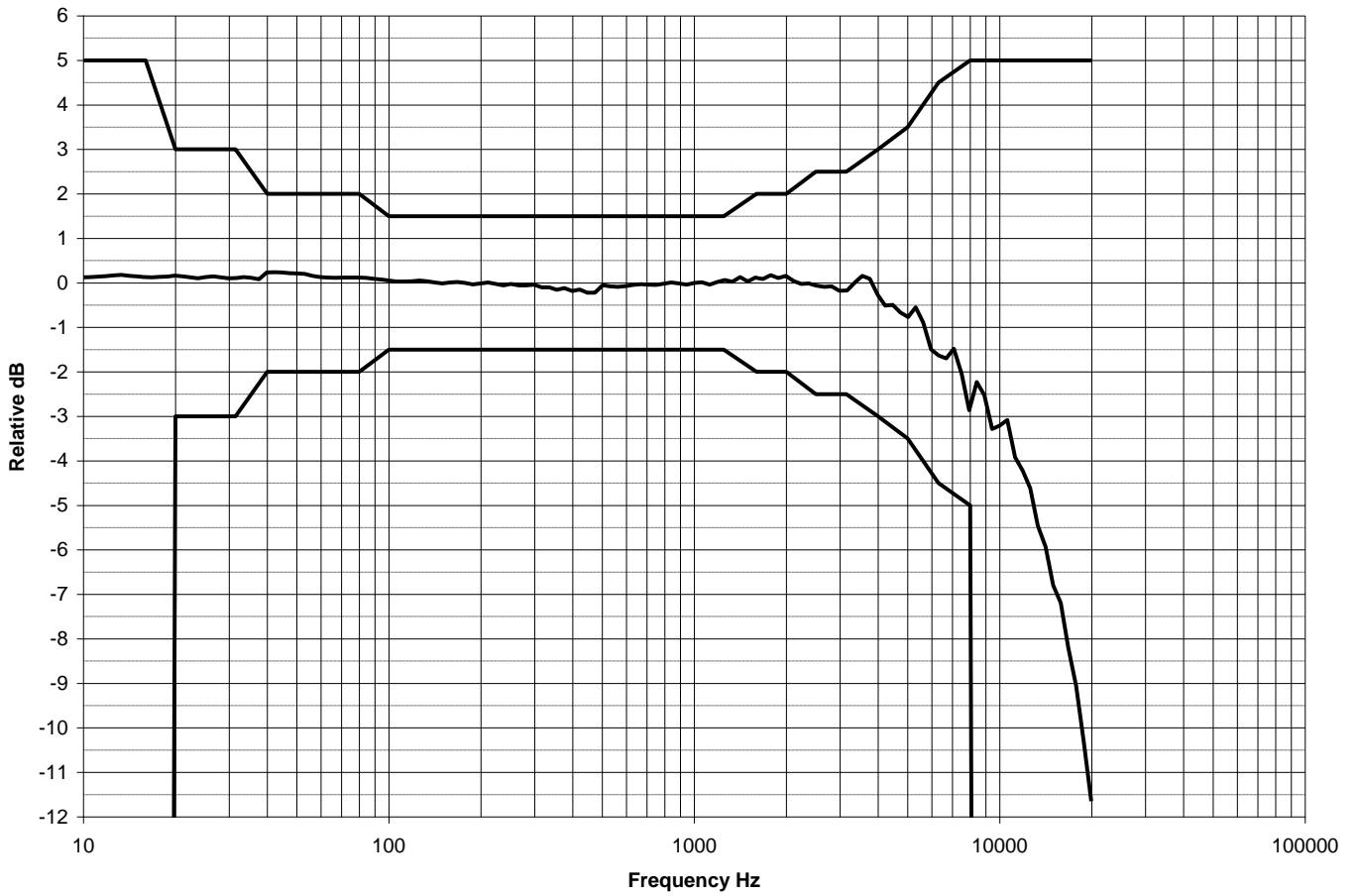


Figure I.4 - 0-180 degree incidence angles



Random Incidence

Figure I.5- Frequency Response



Corrections

Figure I.6 - Reflection, Diffraction, and Microphone Frequency Response

1/12 OCTAVE FREQUENCY in Hz	Remote Microphone Acoustic Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Remote Microphone Acoustic Corrections in dB
199.53	0.1	2371.37	0.2
211.35	0.1	2511.89	0.1
223.87	0.0	2660.73	0.1
237.14	0.0	2818.38	0.1
251.19	0.0	2985.38	0.0
266.07	0.0	3162.28	0.1
281.84	0.0	3349.65	0.2
298.54	0.0	3548.13	0.2
316.23	0.0	3758.37	0.0
334.97	0.0	3981.07	-0.2
354.81	0.0	4216.97	-0.1
375.84	0.1	4466.84	0.0
398.11	0.1	4731.51	-0.1
421.70	0.1	5011.87	0.1
446.68	0.1	5308.84	-0.1
473.15	0.1	5623.41	-0.3
501.19	0.1	5956.62	-0.2
530.88	0.0	6309.57	-0.1
562.34	0.0	6683.44	-0.1
595.66	0.1	7079.46	-0.2
630.96	0.1	7498.94	-0.6
668.34	0.1	7943.28	-0.4
707.95	0.1	8413.95	-0.3
749.89	0.1	8912.51	-0.8
794.33	0.1	9440.61	-0.6
841.40	0.2	10000.00	-0.4
891.25	0.1	10592.54	-0.7
944.06	0.1	11220.19	-0.5
1000.00	0.1	11885.02	-0.5
1059.25	0.1	12589.25	-0.9
1122.02	0.1	13335.21	-0.3
1188.50	0.2	14125.38	-0.6
1258.93	0.2	14962.36	0.1
1333.52	0.2	15848.93	-0.1
1412.54	0.3	16788.04	0.5
1496.24	0.3	17782.79	0.4
1584.89	0.3	18836.49	1.6
1678.80	0.2	19952.62	2.2
1778.28	0.2	2113.49	0.2
1883.65	0.2	2238.72	0.2
1995.26	0.2		

Figure I.7 - Reflection, Diffraction, and Microphone Frequency Response

1/12 OCTAVE FREQUENCY in Hz	Microphone Windscreen Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Microphone Windscreen Corrections in dB
199.53	-0.1	2238.72	0.5
211.35	-0.1	2371.37	0.4
223.87	-0.1	2511.89	0.4
237.14	-0.1	2660.73	0.4
251.19	-0.1	2818.38	0.4
266.07	-0.1	2985.38	0.4
281.84	-0.1	3162.28	0.5
298.54	-0.1	3349.65	0.6
316.23	-0.1	3548.13	0.5
334.97	-0.1	3758.37	0.4
354.81	-0.1	3981.07	0.3
375.84	-0.1	4216.97	0.3
398.11	-0.1	4466.84	0.3
421.70	-0.1	4731.51	0.1
446.68	-0.1	5011.87	0.2
473.15	-0.1	5308.84	0.1
501.19	-0.1	5623.41	0.1
530.88	-0.1	5956.62	0.2
562.34	-0.1	6309.57	0.1
595.66	-0.1	6683.44	0.1
630.96	-0.1	7079.46	0.3
668.34	0.0	7498.94	0.3
707.95	0.0	7943.28	-0.1
749.89	0.0	8413.95	0.0
794.33	0.1	8912.51	0.2
841.40	0.1	9440.61	-0.1
891.25	0.1	10000.00	-0.1
944.06	0.1	10592.54	0.3
1000.00	0.1	11220.19	0.1
1059.25	0.1	11885.02	-0.1
1122.02	0.1	12589.25	-0.1
1188.50	0.2	13335.21	-0.5
1258.93	0.2	14125.38	-0.5
1333.52	0.3	14962.36	-0.6
1412.54	0.4	15848.93	-0.5
1496.24	0.3	16788.04	-0.7
1584.89	0.4	17782.79	-1.0
1678.80	0.3	18836.49	-0.8
1778.28	0.4	19952.62	-0.9
1883.65	0.4		
1995.26	0.4		
2113.49	0.4		

Table I.8- Pressure field to free field

Frequency in Hz	BK 4936 Correction in dB
125	0.04
250	0.00
1000	0.19
2000	0.67
4000	1.80

Table I.9- Pressure field to random incidence

Frequency in Hz	BK 4936 Correction in dB
125	0.05
250	0.00
1000	0.21
2000	0.59
4000	1.10

Self Generated Noise

Table I.10-Broadband

Range (dB)	SPL			LEQ		
	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting
Fast Response						
-20 to 70	22.9	30.1	37.4	22.8	30.1	37.0
-10 to 80	22.8	29.8	37.1	22.8	30.3	37.2
0 to 90	22.8	30.2	36.6	22.8	30.2	37.3
10 to 100	22.8	30.0	36.6	22.8	30.2	37.6
20 to 110	23.3	30.3	36.5	23.3	30.5	37.5
30 to 120	26.2	31.4	36.8	26.2	31.1	37.1
40 to 130	33.3	34.4	38.2	33.4	34.6	38.9
50 to 140	42.1	42.1	43.1	42.1	42.2	42.8
Slow Response						
-20 to 70	22.8	30.3	37.4	22.8	30.3	37.7
-10 to 80	22.8	30.3	37.4	22.7	30.3	37.7
0 to 90	22.8	30.2	37.5	22.8	30.2	37.5
10 to 100	22.8	30.2	37.9	22.7	30.2	37.6
20 to 110	23.3	30.2	37.5	23.3	30.3	37.3
30 to 120	26.2	31.0	37.6	26.2	31.0	37.9
40 to 130	33.4	34.6	38.6	33.4	34.6	38.5
50 to 140	42.2	42.1	43.0	42.2	42.1	42.9

Table I.11 – Octave Band

A Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.8	3.5	10.1	14.6	17.7	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.7	3.6	9.7	15.0	17.9	19.4	19.5	18.9	17.5	13.8
10 to 90	-15.1	-7.7	3.7	10.2	14.9	18.0	19.3	19.4	18.9	17.5	13.7
20 to 100	-6.6	-4.5	3.1	10.4	15.0	17.7	19.3	19.3	18.8	17.3	14.2
30 to 110	3.6	-0.1	3.5	10.0	15.1	17.8	19.1	19.1	18.3	18.3	18.3
40 to 120	12.8	10.7	7.5	10.7	14.9	16.8	19.3	22.3	25.3	28.3	28.3
50 to 130	23.6	19.3	17.2	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.4	28.8	27.6	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3

A Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.1	3.2	9.9	15.1	18.0	19.4	19.5	19.1	17.6	13.9
0 to 80	-16.8	-7.0	3.4	10.0	14.9	18.0	19.4	19.5	18.9	17.6	13.8
10 to 90	-15.0	-6.6	3.0	9.8	14.8	17.8	19.3	19.4	18.9	17.5	13.8
20 to 100	-6.9	-5.9	3.0	9.8	14.8	17.8	19.2	19.3	18.9	17.3	14.2
30 to 110	3.1	0.0	4.1	10.1	14.8	17.7	19.2	19.2	18.3	18.3	18.3
40 to 120	12.6	9.3	8.0	11.1	15.3	16.9	19.3	22.3	25.3	28.3	28.3
50 to 130	22.9	18.5	17.4	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.5	28.7	27.3	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3

A Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.2	3.4	9.8	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-7.3	3.2	9.9	14.8	17.9	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.6	-6.8	3.2	10.1	14.8	17.8	19.3	19.4	18.9	17.3	13.3
20 to 100	-7.0	-6.2	3.4	9.8	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.3	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	12.8	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	22.9	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	32.9	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

A Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.3	3.3	10.1	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.6	3.4	10.1	14.8	17.8	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.7	-7.1	3.4	10.0	14.8	17.8	19.2	19.4	18.8	17.3	13.3
20 to 100	-6.9	-6.3	3.5	9.9	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.2	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	13.0	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	23.2	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.2	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table I.11 - (Continued)

C Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.6	28.1	25.7	23.4	21.3	19.2	18.1	17.1	15.6	11.8
0 to 80	24.9	28.0	27.6	24.9	23.0	21.0	19.3	18.0	16.9	15.4	11.8
10 to 90	24.3	27.7	27.1	25.9	23.3	21.0	19.3	18.0	17.0	15.4	11.6
20 to 100	22.6	27.4	27.9	25.3	23.1	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	25.6	27.5	26.5	25.8	23.5	21.2	19.2	17.8	15.4	18.3	18.3
40 to 120	26.8	28.1	27.8	26.1	23.4	20.9	19.2	22.3	25.3	28.3	28.3
50 to 130	26.8	28.0	28.0	26.3	23.3	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	34.0	31.9	29.1	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.9	27.5	25.6	23.6	21.2	19.4	18.0	17.1	15.6	11.8
0 to 80	24.6	28.0	27.4	25.6	23.4	21.1	19.2	18.0	16.9	15.4	11.7
10 to 90	24.9	27.9	27.3	25.5	23.4	21.2	19.3	17.9	16.9	15.4	11.7
20 to 100	25.4	28.2	27.2	25.7	23.4	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	24.7	28.3	27.6	26.1	23.6	21.0	19.0	17.6	15.4	18.3	18.3
40 to 120	25.5	28.2	27.9	25.8	23.2	20.9	19.3	22.3	25.3	28.3	28.3
50 to 130	27.8	28.4	27.9	26.2	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.7	31.8	29.8	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
C Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.2	27.9	27.8	25.8	23.6	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	24.9	27.8	27.5	25.6	23.4	21.1	19.3	17.9	17.0	15.4	11.6
10 to 90	25.0	27.9	27.7	25.5	23.4	21.1	19.3	17.9	16.8	15.1	12.0
20 to 100	25.4	27.9	27.7	25.8	23.3	21.0	19.2	17.3	17.3	17.3	17.3
30 to 110	25.4	27.6	27.6	25.5	23.1	20.9	18.3	21.3	24.3	27.3	27.3
40 to 120	25.4	28.4	27.6	25.6	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	27.0	28.6	28.0	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.9	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
C Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.0	27.9	27.6	25.8	23.5	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	25.1	28.1	27.5	25.9	23.4	21.2	19.2	18.0	17.0	15.4	11.6
10 to 90	25.2	27.9	27.6	25.7	23.4	21.1	19.3	17.9	16.8	15.1	12.1
20 to 100	25.2	27.8	27.4	25.6	23.3	21.1	19.2	17.3	17.3	17.3	17.3
30 to 110	25.3	27.3	27.4	25.7	23.2	21.1	18.3	21.3	24.3	27.3	27.3
40 to 120	25.2	27.8	27.7	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	26.9	28.8	28.1	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.3	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table I.11 - (Continued)

Z Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	32.9	30.0	27.5	26.0	23.4	21.2	19.4	18.2	18.0	18.6	19.8
0 to 80	32.9	31.2	28.8	25.9	23.5	21.3	19.5	18.1	17.9	18.4	19.7
10 to 90	33.2	30.5	27.8	25.4	23.5	21.4	19.3	18.3	17.9	18.4	19.7
20 to 100	31.7	30.2	28.2	25.9	23.2	21.4	19.4	18.0	17.8	18.3	19.7
30 to 110	32.9	30.9	27.9	25.9	23.3	21.1	19.1	18.2	18.3	18.3	18.3
40 to 120	31.9	31.6	27.9	25.6	23.1	21.3	19.2	22.3	25.3	28.3	28.3
50 to 130	33.8	30.5	28.1	26.0	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.7	32.5	30.3	30.3	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Fast Response, LEQ											
Range in dB	16 Hz in dB	31.5 Hz in dB	63 Hz in dB	125 Hz in dB	250 Hz in dB	500 Hz in dB	1000 Hz in dB	2000 Hz in dB	4000 Hz in dB	8000 Hz in dB	16 kHz in dB
-10 to 70	32.9	31.0	28.4	26.0	23.6	21.4	19.4	18.2	18.0	18.6	19.8
0 to 80	34.0	30.9	28.4	26.0	23.5	21.2	19.3	18.2	17.9	18.5	19.7
10 to 90	33.1	30.9	28.3	26.0	23.4	21.2	19.3	18.1	17.9	18.5	19.7
20 to 100	33.4	30.5	28.4	26.1	23.4	21.2	19.4	18.1	17.8	18.3	19.7
30 to 110	33.0	30.9	28.2	25.8	23.5	21.1	19.2	18.1	18.3	18.3	18.3
40 to 120	33.3	31.3	28.5	25.7	23.3	21.1	19.3	22.3	25.3	28.3	28.3
50 to 130	33.3	31.0	28.6	25.7	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.8	33.3	29.9	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.6	31.0	28.6	26.0	23.6	21.2	19.4	18.2	18.0	18.5	19.8
0 to 80	33.1	30.8	28.5	25.8	23.2	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.6	31.0	28.4	26.0	23.5	21.2	19.4	18.1	17.8	18.3	19.6
20 to 100	33.6	30.7	28.5	25.9	23.6	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.8	30.9	28.3	25.8	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	34.0	30.7	28.4	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.7	30.7	28.7	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
Z Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.3	31.2	28.6	26.0	23.5	21.3	19.5	18.2	18.0	18.5	19.8
0 to 80	33.1	30.9	28.3	25.9	23.4	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.8	30.9	28.5	25.8	23.3	21.2	19.3	18.1	17.7	18.3	19.6
20 to 100	33.3	30.8	28.3	25.9	23.5	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.6	30.9	28.5	25.9	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	33.5	31.3	28.3	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.6	31.0	28.9	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table I.12- 1/3 Octave Band

A Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	16.9	-16.9	-16.9	-13.7	-10.5	-6.0	-3.4	-1.6	1.6	3.9	6.5	7.3	9.4	9.8	10.8	11.8
0 to 80	-16.9	16.9	-16.9	-15.6	-13.3	-10.1	-6.7	-2.9	-0.9	3.4	4.0	6.0	7.5	8.1	9.8	10.8	11.8
10 to 90	-16.9	15.5	-16.8	-15.4	-13.7	-10.4	-6.3	-3.4	-1.2	3.7	3.6	5.9	6.7	9.3	10.3	10.7	11.6
20 to 100	-15.9	-6.2	-13.5	-9.2	-10.8	-9.1	-7.1	-3.7	-0.1	1.6	4.3	5.8	7.9	8.7	10.2	11.0	11.9
30 to 110	-6.4	4.2	-4.8	0.8	-3.8	-4.9	-3.8	-1.9	0.1	3.1	4.4	5.6	7.0	8.4	10.2	10.6	11.6
40 to 120	3.4	13.8	6.1	9.5	4.7	3.8	4.4	4.8	4.8	7.5	7.6	7.4	10.2	10.4	10.4	13.3	13.2
50 to 130	12.9	23.2	15.4	19.7	14.8	13.9	14.4	14.7	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	21.8	32.4	25.8	29.9	25.2	22.8	24.6	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
12.2	12.9	13.1	13.3	12.9	12.8	12.9	12.8	12.6	12.4	11.8	11.5	10.8	9.4	7.9	5.8		
12.6	12.7	12.9	13.1	13.0	12.8	12.7	12.6	12.2	12.1	11.8	11.5	10.6	9.4	7.8	5.9		
12.4	12.8	12.8	13.1	13.2	12.8	12.9	12.8	12.5	12.4	11.8	11.3	10.6	9.2	7.7	5.9		
12.5	12.6	12.7	12.8	12.6	12.7	12.8	12.6	12.3	12.2	11.4	11.3	10.1	8.3	8.3	8.3		
12.1	12.0	12.8	12.9	12.6	12.3	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

A Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.3	-13.9	-9.9	-6.6	-2.4	-0.4	3.7	3.9	5.9	7.6	9.4	10.2	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.4	-13.8	10.2	-6.5	-3.2	-0.5	3.7	4.0	6.0	7.5	8.8	10.2	11.2	11.8
10 to 90	-16.9	-15.9	-16.8	-15.3	-13.1	10.5	-6.8	-2.6	0.0	3.6	3.9	5.8	7.5	8.7	10.0	11.1	11.8
20 to 100	-15.8	-7.1	-13.6	-8.7	-10.3	-8.0	-6.2	-3.1	0.0	1.8	4.2	6.1	7.8	8.8	9.9	10.8	11.8
30 to 110	-5.5	3.6	-4.8	-0.8	-2.7	-4.4	-3.6	-1.9	0.6	3.6	4.2	6.2	7.6	9.1	10.0	11.0	11.6
40 to 120	3.2	13.3	4.4	9.7	6.7	3.7	4.7	5.1	4.7	7.2	7.4	7.6	10.3	10.4	10.4	13.2	13.2
50 to 130	12.6	23.5	14.5	19.5	16.8	14.1	14.4	14.6	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	24.4	33.8	25.1	30.1	27.0	23.5	24.2	24.5	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, LEQ																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
12.4	12.6	12.9	13.1	13.1	13.0	12.9	12.8	12.5	12.4	11.8	11.5	10.6	9.4	7.8	5.9		
12.5	12.7	13.0	13.1	13.0	12.8	12.9	12.6	12.4	12.3	11.8	11.4	10.6	9.4	7.8	5.8		
12.4	12.6	13.1	13.2	13.1	13.0	12.9	12.6	12.4	12.3	11.7	11.4	10.5	9.2	7.7	5.9		
12.4	12.6	12.9	13.0	13.0	12.9	12.7	12.5	12.3	12.1	11.4	11.3	10.1	8.3	8.3	8.3		
12.2	12.2	12.8	13.1	12.6	12.5	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

Table I.12 (Continued)

A Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-10.4	-6.1	-3.1	-0.7	3.6	3.8	5.7	7.6	8.9	10.2	11.2	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-14.1	-9.5	-6.3	-2.8	-0.6	3.7	4.0	6.0	7.2	8.8	10.0	11.1	11.9
10 to 90	-16.9	-16.9	-16.9	-16.6	-13.5	-9.6	-6.3	-3.0	-0.5	3.4	3.9	5.8	7.6	9.0	9.8	11.1	11.8
20 to 100	-12.7	-12.6	-12.6	-9.7	-9.6	-9.1	-6.2	-2.9	0.0	3.8	4.0	5.8	7.7	9.0	9.9	10.3	11.5
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.3	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	13.2	13.2	13.2	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, SPL																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.5	13.0	13.1	13.1	12.9	12.9	12.8	12.5	12.3	11.8	11.5	10.7	9.3	7.8	5.8	
12.6	12.6	12.9	13.0	13.0	12.8	12.8	12.6	12.4	12.2	11.8	11.4	10.6	9.3	7.7	5.7	
12.4	12.5	12.9	13.0	13.0	12.8	12.7	12.5	12.3	12.1	11.3	11.3	10.3	7.5	7.3	7.3	
12.2	12.4	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

A Weighting, Slow Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-9.9	-6.6	-3.0	-0.6	3.8	3.7	5.8	7.7	8.9	10.0	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-13.8	-9.2	-5.9	-3.1	-0.6	3.8	3.9	6.0	7.5	8.9	10.1	10.9	11.8
10 to 90	-16.9	-16.9	-16.9	-16.6	-14.0	-9.5	-6.4	-3.2	-0.5	3.8	3.9	5.8	7.5	8.7	10.1	10.9	11.8
20 to 100	-12.7	-12.7	-12.7	-9.7	-9.7	-9.2	-6.1	-2.9	-0.3	3.6	4.2	5.6	7.4	8.8	10.0	10.8	11.6
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.2	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	2	2	13.2	2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.	23.	23.2	2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.	33.	33.2	2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, LEQ																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.7	13.0	13.1	13.0	13.0	12.9	12.7	12.5	12.3	11.9	11.5	10.7	9.4	7.8	5.8	
12.4	12.6	12.9	13.0	13.1	12.9	12.8	12.6	12.4	12.2	11.7	11.4	10.6	9.3	7.7	5.7	
12.5	12.6	12.9	13.1	13.0	12.8	12.8	12.5	12.3	12.1	11.3	11.3	10.3	7.6	7.3	7.3	
12.2	12.3	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

Table I.12 (Continued)

C Weighting, Fast Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	14.3	17.2	20.5	21.8	21.2	21.6	22.2	22.0	20.9	20.3	20.1	19.4	18.2	17.8	16.8	15.7	14.6
0 to 80	13.7	18.4	21.9	21.2	22.4	22.8	21.0	21.7	20.7	20.1	20.1	19.4	17.9	17.9	16.6	15.8	15.1
10 to 90	15.2	16.8	21.2	21.8	20.9	21.7	21.5	21.6	21.2	20.7	19.2	19.0	18.2	17.4	16.3	15.7	14.6
20 to 100	17.1	17.5	19.9	22.0	20.7	22.9	21.9	21.3	21.3	20.5	19.2	19.0	18.2	17.1	16.3	15.4	15.0
30 to 110	18.2	19.5	19.1	20.0	18.8	22.2	22.0	22.5	20.4	20.1	19.4	18.2	17.8	16.8	16.4	15.4	14.8
40 to 120	18.4	18.0	19.9	22.4	22.9	22.8	22.7	22.3	20.5	19.6	19.7	19.2	18.2	17.3	16.2	15.3	13.9
50 to 130	15.0	19.0	20.2	21.6	23.9	22.9	22.5	22.2	21.1	20.3	19.9	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.0	22.6	24.7	25.6	26.2	24.6	24.6	26.0	24.7	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

C Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
14.4	13.2	12.5	12.3	11.7	11.2	11.2	10.8	10.6	10.4	9.9	9.5	8.6	7.3	5.7	3.9		
13.9	13.4	12.5	12.3	11.7	11.4	11.2	10.7	10.4	10.1	9.7	9.3	8.5	7.2	5.7	3.7		
14.0	13.2	12.8	12.3	11.8	11.2	11.2	10.7	10.5	10.2	9.6	9.2	8.5	7.2	5.4	3.2		
14.5	12.9	12.7	12.1	11.6	11.3	11.0	10.7	10.4	10.1	9.8	8.4	8.3	8.3	8.3	8.3		
13.8	13.0	13.0	12.4	12.0	10.8	10.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

C Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	16.7	18.3	20.3	20.9	22.4	22.4	22.3	21.8	21.2	19.5	19.4	19.0	18.0	17.6	16.4	15.8	15.0
0 to 80	16.5	18.8	20.7	22.0	22.3	23.1	22.3	21.5	21.3	20.1	19.4	18.9	18.4	17.7	16.5	15.6	14.8
10 to 90	18.0	19.4	20.3	22.1	22.9	22.4	22.4	21.5	21.0	20.0	19.6	18.9	18.1	17.2	16.3	15.6	14.8
20 to 100	17.6	18.9	22.1	20.9	21.3	22.5	22.2	21.1	21.1	20.4	19.6	19.2	17.9	17.3	16.6	15.6	14.9
30 to 110	17.1	18.8	21.0	22.3	21.2	22.0	22.0	22.2	20.9	20.7	19.5	18.9	18.1	17.6	16.5	15.5	14.7
40 to 120	18.2	18.6	20.8	22.7	22.9	22.1	22.1	22.3	22.1	20.6	20.0	19.1	18.1	17.6	16.4	15.1	14.2
50 to 130	18.9	20.6	23.1	22.3	22.9	24.0	23.2	23.6	22.0	21.0	20.3	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.6	23.9	24.7	25.8	25.9	24.5	25.7	26.1	24.9	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Table I.12 (Continued)

C Weighting, Fast Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.1	13.2	12.7	12.4	11.9	11.4	11.1	10.9	10.6	10.3	9.8	9.3	8.6	7.3	5.7	3.8
14.1	13.3	12.8	12.3	11.8	11.2	11.1	10.8	10.6	10.3	9.7	9.4	8.5	7.2	5.7	3.7
14.1	13.2	12.8	12.2	11.9	11.3	11.0	10.7	10.5	10.1	9.7	9.3	8.5	7.1	5.3	3.1
14.0	13.2	12.7	12.2	11.7	11.2	11.0	10.6	10.3	10.1	9.9	8.5	8.3	8.3	8.3	8.3
14.1	13.0	12.5	12.1	12.0	11.4	10.0	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

C Weighting, Slow Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.7	19.2	20.9	21.3	22.4	22.5	22.7	22.5	21.5	20.8	20.0	19.1	18.3	17.4	16.5	15.8	14.9
0 to 80	17.8	19.1	20.6	21.6	22.2	22.7	22.2	21.5	21.2	20.5	19.7	19.1	18.3	17.3	16.4	15.7	15.0
10 to 90	17.1	19.9	20.6	22.5	22.4	22.6	21.9	22.0	21.3	20.4	19.7	18.8	18.1	17.3	16.6	15.6	14.7
20 to 100	17.0	18.8	21.9	21.6	22.4	22.2	22.4	22.0	21.1	20.7	19.6	19.1	18.3	17.5	16.5	15.6	14.8
30 to 110	17.4	19.5	21.3	22.3	22.6	22.4	22.1	22.2	21.0	20.2	19.6	19.1	18.2	17.5	16.7	15.3	15.1
40 to 120	18.1	19.5	21.2	22.3	22.5	22.9	22.4	22.5	21.6	20.5	19.6	19.2	19.3	19.2	19.2	22.3	22.3
50 to 130	17.9	20.2	21.8	23.1	22.5	23.8	23.3	23.5	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.2	13.3	12.7	12.4	11.9	11.4	11.1	10.8	10.5	10.3	9.8	9.4	8.6	7.3	5.7	3.7
14.2	13.3	12.8	12.3	11.8	11.4	11.1	10.8	10.4	10.2	9.7	9.4	8.4	7.2	5.7	3.3
14.3	13.3	12.7	12.2	11.7	11.3	10.9	10.6	10.3	9.9	9.1	9.1	7.3	7.3	7.3	7.3
14.0	13.1	12.5	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Table I.12 (Continued)

C Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.6	19.2	21.4	22.4	22.4	22.6	22.7	22.1	21.6	20.7	19.8	19.2	18.3	17.6	16.5	15.6	14.8
0 to 80	17.9	19.0	21.4	22.0	22.4	22.4	22.5	22.0	21.1	20.3	19.6	18.9	18.2	17.5	16.5	15.6	14.9
10 to 90	16.8	19.8	21.2	22.4	22.0	22.6	21.9	22.2	21.5	20.4	19.7	19.0	18.2	17.4	16.5	15.5	14.9
20 to 100	17.7	19.6	21.8	22.2	21.9	22.8	22.4	22.0	21.1	20.6	19.6	19.3	18.2	17.5	16.6	15.5	14.8
30 to 110	17.0	19.4	21.3	22.1	22.5	22.7	22.5	21.9	21.4	20.5	19.5	19.1	18.1	17.5	16.3	15.3	15.2
40 to 120	18.0	19.7	21.4	21.9	22.9	23.0	22.3	22.1	21.0	20.3	19.6	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	18.1	19.8	21.3	21.9	22.8	23.4	23.3	23.4	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, LEQ																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
	14.3	13.2	12.8	12.4	11.8	11.4	11.1	10.8	10.5	10.3	9.7	9.4	8.6	7.3	5.7	3.7
	14.3	13.2	12.8	12.2	11.7	11.3	11.0	10.7	10.5	10.2	9.7	9.3	8.5	7.2	5.7	3.3
	14.2	13.3	12.8	12.3	11.7	11.3	11.0	10.6	10.3	10.0	9.1	9.0	7.4	7.3	7.3	7.3
	14.1	13.1	12.4	12.1	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
	12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
	42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Z Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.9	25.5	26.9	25.2	24.3	23.4	23.1	21.9	20.7	21.0	18.9	18.9	17.9	16.9	17.1	15.2	14.9
0 to 80	29.2	26.7	26.9	26.0	24.2	22.4	23.2	23.2	21.3	20.5	20.0	19.1	18.1	17.4	16.3	15.8	14.9
10 to 90	26.4	28.2	24.8	26.6	24.7	24.1	23.0	22.0	21.2	20.5	20.0	18.3	17.8	17.8	16.8	15.4	14.9
20 to 100	26.3	26.7	25.3	25.4	24.6	23.0	24.1	22.0	21.3	20.2	20.2	18.7	18.0	17.4	16.3	15.6	14.8
30 to 110	25.0	26.1	24.1	26.2	23.5	24.0	23.9	23.3	21.9	20.1	19.6	18.7	18.5	17.3	16.6	15.2	15.0
40 to 120	28.4	28.7	27.0	24.8	25.1	24.3	22.1	24.0	21.1	20.3	19.3	18.9	18.2	16.5	16.1	15.4	14.4
50 to 130	27.0	27.0	26.8	26.0	25.7	24.4	24.0	22.8	21.1	20.2	19.3	18.8	20.2	20.3	20.2	23.2	23.2
60 to 140	28.9	27.5	26.8	27.0	27.9	26.6	24.9	25.8	24.5	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Z Weighting, Fast Response, SPL																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
	14.5	13.3	12.9	12.3	12.0	11.4	11.6	11.2	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7
	14.4	12.9	12.7	12.1	12.0	11.7	11.4	11.2	11.2	11.6	11.5	12.2	12.8	13.2	13.9	14.6
	14.0	13.5	12.6	12.5	11.8	11.5	11.1	11.1	11.1	11.4	11.5	12.1	12.7	13.2	13.8	14.5
	14.4	13.3	12.9	12.3	11.9	11.3	11.2	11.3	11.0	11.3	11.4	12.1	12.5	13.0	13.4	14.3
	14.3	12.9	12.9	12.2	12.1	12.0	11.5	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
	13.7	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

Table I.12 (Continued)

Z Weighting, Fast Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.2	27.6	27.2	25.8	25.3	24.3	23.8	22.7	21.5	20.8	20.0	19.0	18.3	17.6	16.5	15.7	14.8
0 to 80	28.7	28.1	27.1	25.8	25.7	24.8	23.1	22.7	21.0	20.6	19.7	19.1	18.6	17.6	16.5	15.6	14.8
10 to 90	28.2	28.3	26.8	26.3	25.2	24.4	23.8	22.7	21.4	20.4	19.6	19.2	18.3	17.3	16.5	15.5	14.8
20 to 100	27.7	26.6	27.6	26.0	25.2	24.1	22.9	22.1	21.2	20.7	19.6	19.0	18.2	17.5	16.7	15.8	14.9
30 to 110	27.6	26.9	26.7	25.7	25.5	24.4	23.4	22.4	21.8	20.8	19.7	18.8	18.4	17.3	16.5	15.5	14.6
40 to 120	29.0	27.1	27.1	26.2	25.2	24.1	23.2	22.8	21.3	20.1	19.4	19.2	18.0	17.1	16.2	15.4	14.7
50 to 130	29.7	28.0	27.2	25.0	25.6	24.8	23.5	23.1	21.5	20.9	19.7	19.0	20.3	20.2	20.2	23.2	23.2
60 to 140	29.7	29.6	27.8	25.6	26.8	26.4	25.5	26.0	24.6	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Z Weighting, Fast Response, LEQ																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
14.3	13.5	12.8	12.5	11.9	11.6	11.5	11.3	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7		
14.1	13.1	13.0	12.4	12.1	11.5	11.3	11.4	11.3	11.5	11.7	12.2	12.8	13.3	13.9	14.6		
14.0	13.4	12.8	12.3	11.9	11.4	11.4	11.1	11.1	11.4	11.6	12.2	12.7	13.2	13.9	14.6		
14.1	13.4	12.8	12.3	11.8	11.4	11.3	11.2	11.1	11.4	11.3	12.1	12.5	13.0	13.4	14.3		
14.0	12.9	12.5	12.1	12.1	11.9	11.8	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.8	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

Z Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.1	27.8	26.8	26.9	25.4	24.8	23.7	23.1	21.8	21.1	20.0	19.1	18.4	17.6	16.7	15.7	15.0
0 to 80	28.6	27.7	27.0	26.7	24.8	24.7	23.4	22.6	21.9	20.6	19.7	19.0	18.2	17.5	16.7	15.6	15.0
10 to 90	27.1	27.2	26.5	25.7	25.2	24.0	23.9	22.6	21.5	20.4	19.7	19.1	18.2	17.3	16.5	15.6	14.7
20 to 100	28.9	27.3	27.1	25.9	25.6	23.9	23.6	22.9	21.7	20.8	19.8	19.0	18.0	17.6	16.5	15.5	14.8
30 to 110	28.3	27.8	27.4	25.4	25.1	24.6	23.3	22.5	21.8	20.8	19.8	18.8	18.1	17.1	16.3	15.4	15.2
40 to 120	28.7	27.4	26.3	26.7	25.6	24.6	23.5	22.5	21.6	19.8	19.4	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	27.8	28.8	26.9	26.0	25.2	24.1	23.3	23.5	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	28.3	28.6	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Table I.12 (Continued)

Z Weighting, Slow Response, SPL															
630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
14.2	13.3	12.8	12.4	11.9	11.6	11.5	11.4	11.4	11.5	11.7	12.3	12.8	13.3	13.9	14.6
14.2	13.2	12.8	12.2	11.8	11.5	11.3	11.3	11.2	11.5	11.6	12.2	12.7	13.2	13.8	14.5
14.1	13.3	12.7	12.2	11.9	11.4	11.2	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3
14.2	13.1	12.5	12.2	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
12.9	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1

Z Weighting, Slow Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz
-10 to 70	28.5	27.6	27.1	26.6	25.4	24.4	24.2	22.8	22.0	21.0	19.9	19.2	18.3	17.5	16.4	15.8	14.9
0 to 80	28.8	27.6	27.0	25.6	25.3	24.3	23.5	22.4	21.9	20.7	19.8	19.0	18.3	17.3	16.6	15.8	14.9
10 to 90	27.7	27.8	27.1	25.6	24.6	23.8	23.9	22.8	21.6	20.8	19.8	19.3	18.4	17.5	16.5	15.6	14.9
20 to 100	28.2	27.4	26.7	26.4	24.8	24.0	23.8	22.7	21.5	20.7	19.9	18.8	18.1	17.5	16.5	15.6	14.9
30 to 110	28.1	28.4	26.8	25.1	25.4	24.2	23.2	22.6	21.6	20.9	19.6	18.8	18.0	17.1	16.3	15.3	15.2
40 to 120	28.4	27.5	26.8	26.0	25.0	24.7	23.5	22.6	21.4	20.1	19.3	19.1	19.2	19.2	19.2	22.3	22.3
50 to 130	28.5	28.1	27.0	26.2	24.8	24.6	23.5	23.3	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	29.1	28.3	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, LEQ															
630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.2	13.3	13.0	12.5	12.0	11.6	11.5	11.4	11.4	11.6	11.7	12.3	12.8	13.2	13.9	14.6
14.2	13.4	12.8	12.4	11.9	11.5	11.4	11.3	11.3	11.5	11.6	12.2	12.7	13.1	13.8	14.5
14.1	13.3	12.8	12.4	11.8	11.4	11.4	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3
14.1	13.0	12.6	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
13.0	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1

BK4936 microphone using random incidence corrector (Figures/Tables "J")

Tolerance: IEC 61672 class 1

Directional frequency response with mounted side toward speaker

Figure J.1- 0-30 degree incidence angles

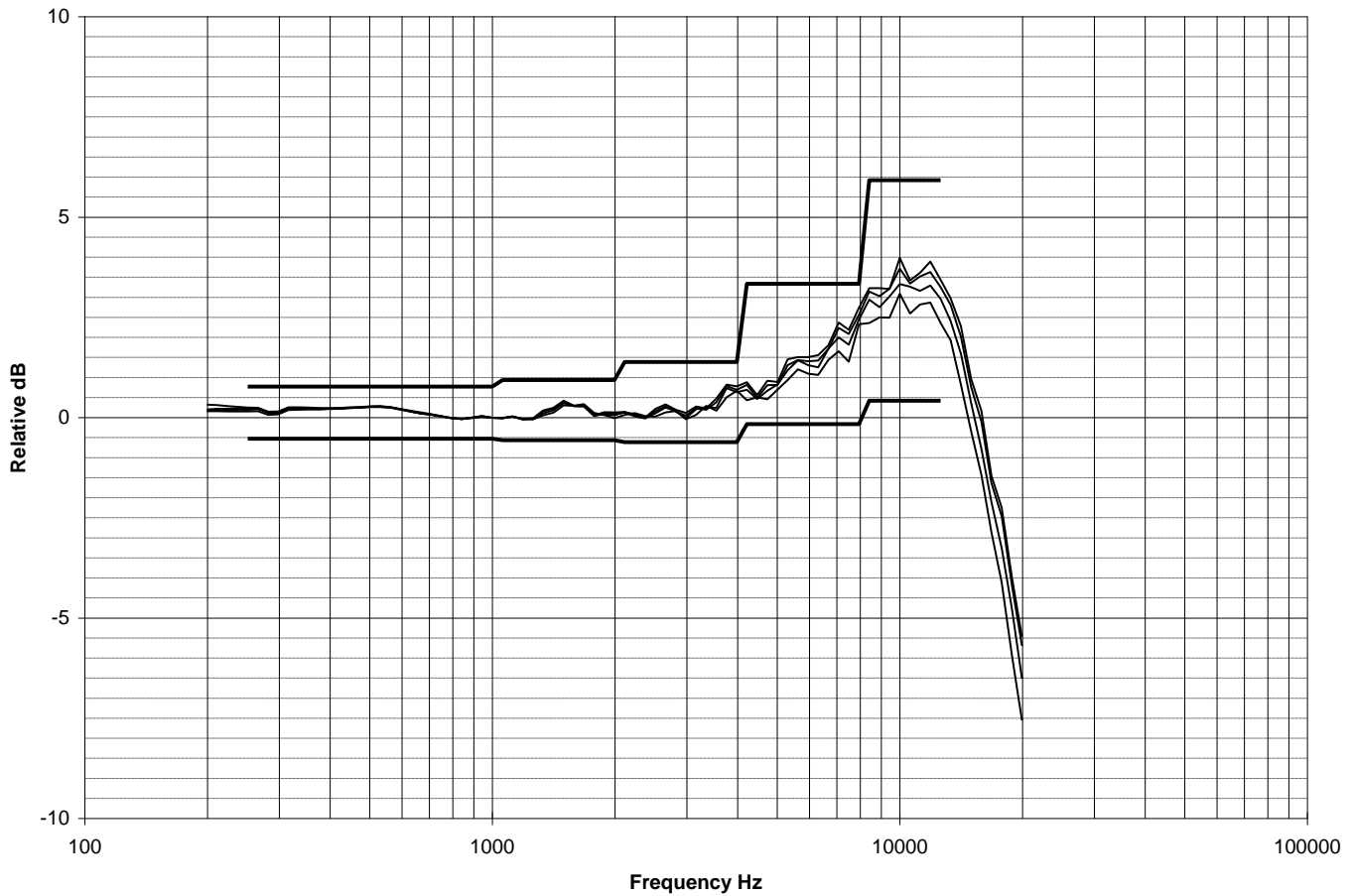


Figure J.2 - 0-90 degree incidence angles

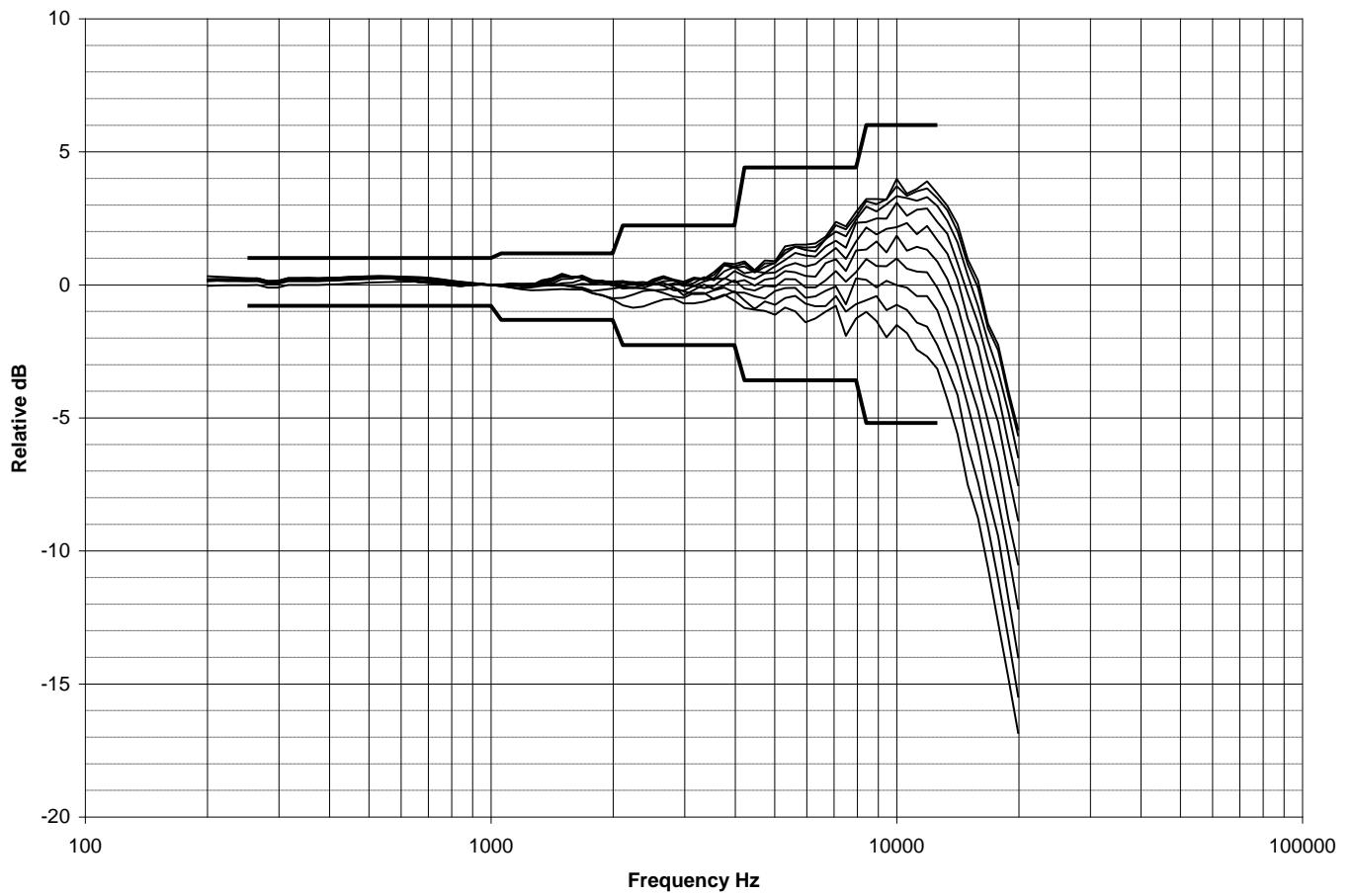


Figure J.3- 0-150 degree incidence angles

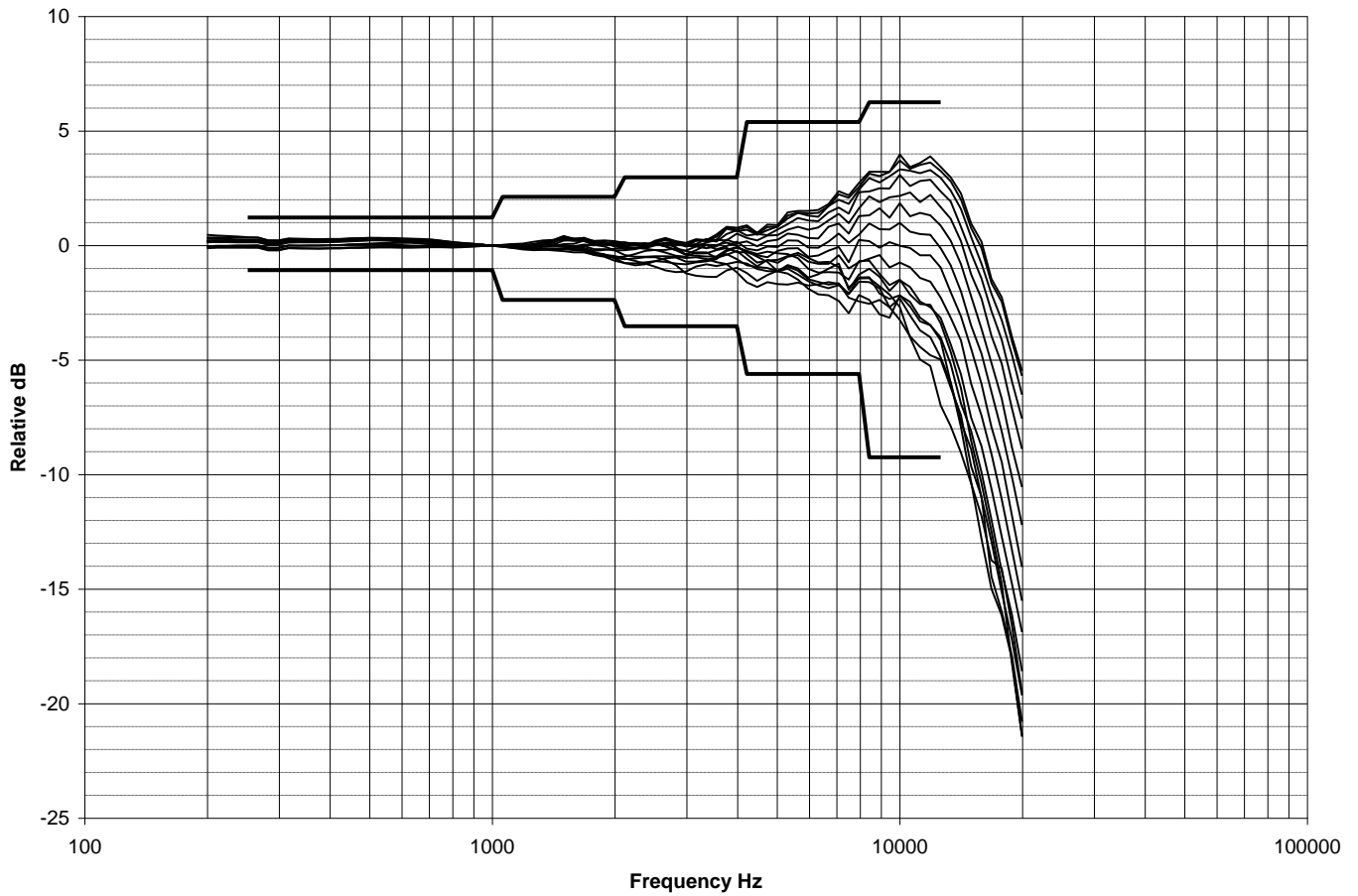
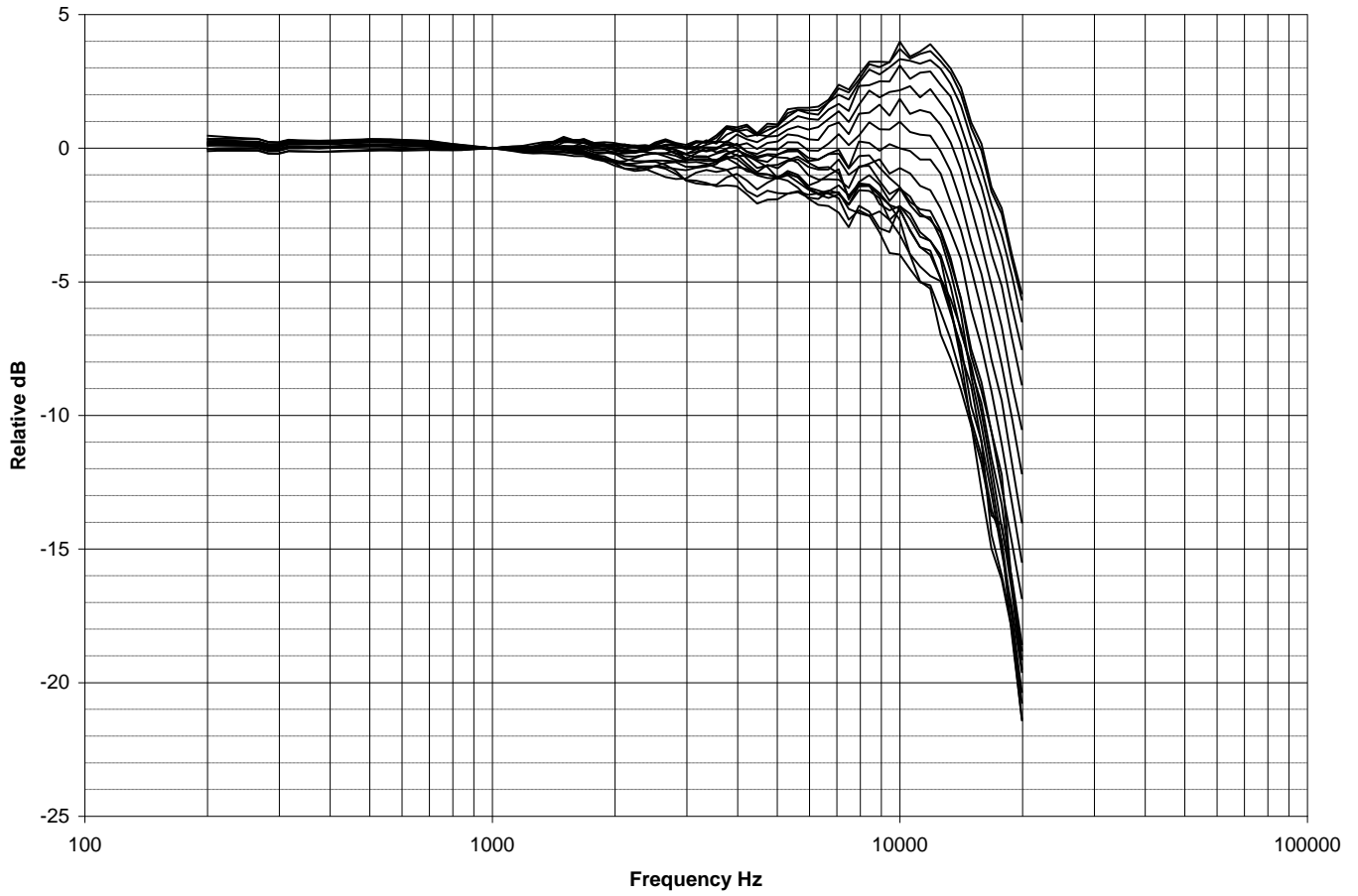


Figure J.4- 0-180 degree incidence angles



Directional frequency response using random incidence corrector and face toward speaker

Figure J.5 - 0-30 degree incidence angles

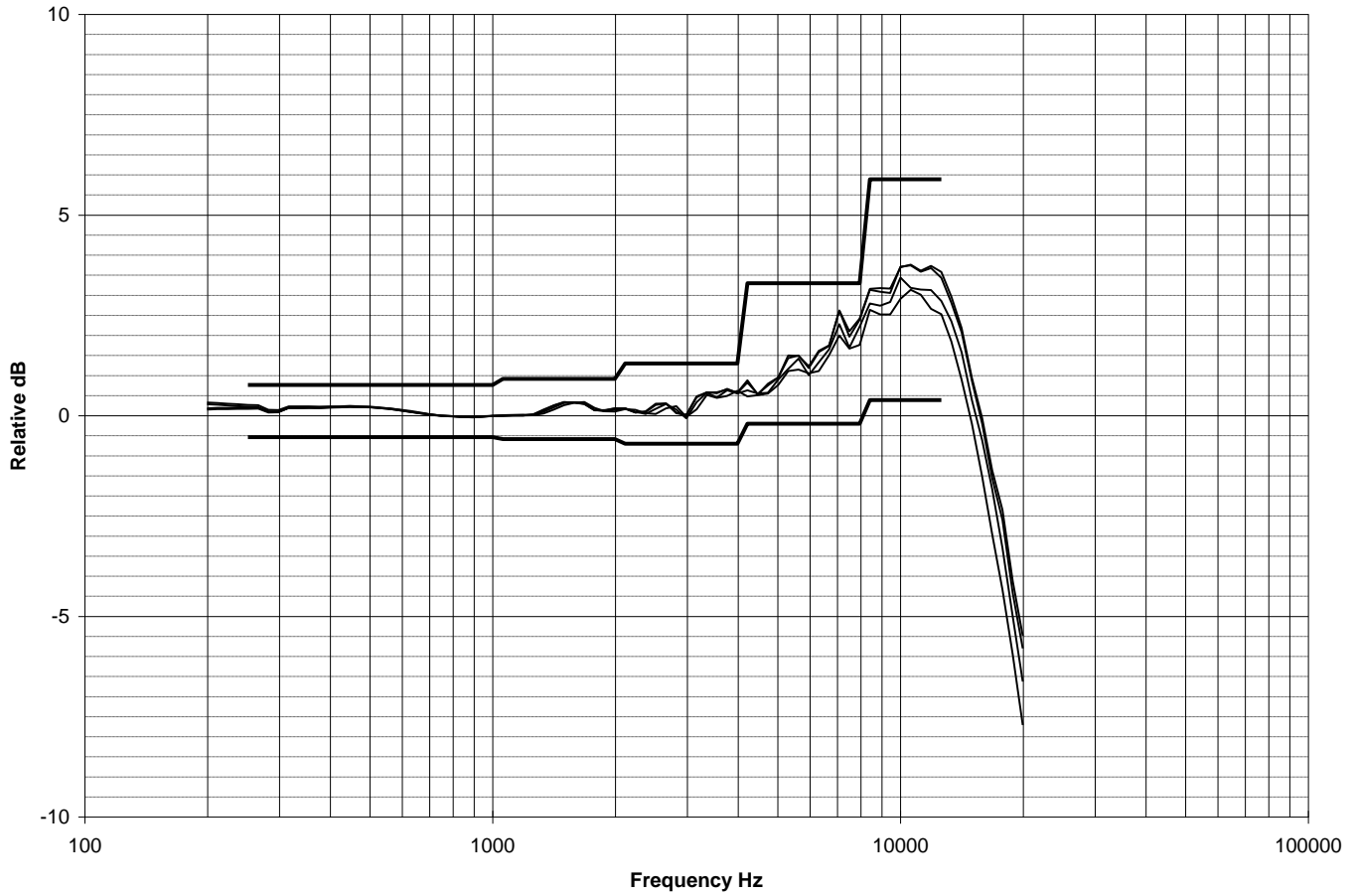


Figure J.6 - 0-90 degree incidence angles

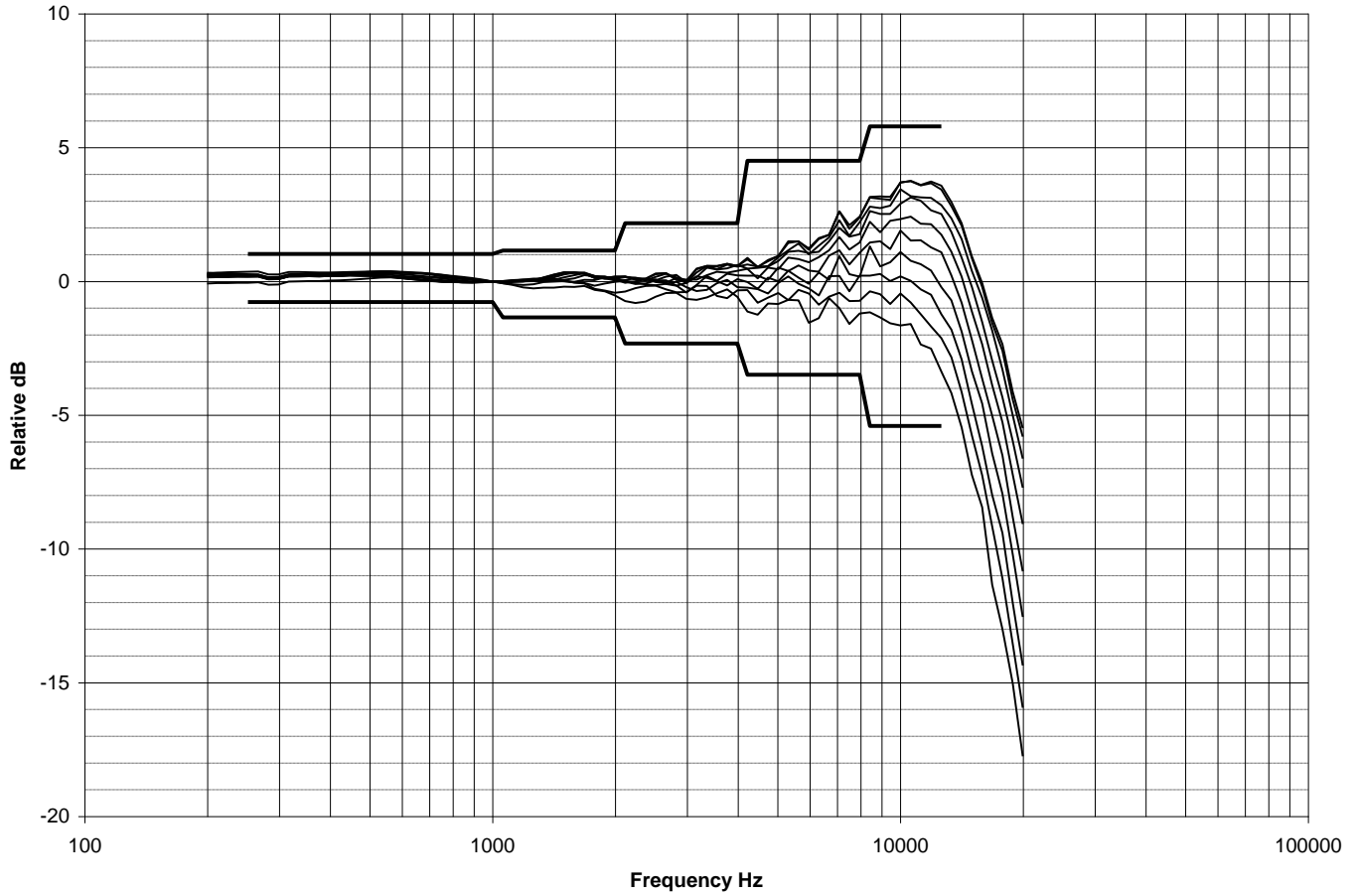


Figure J.7 - 0-150 degree incidence angles

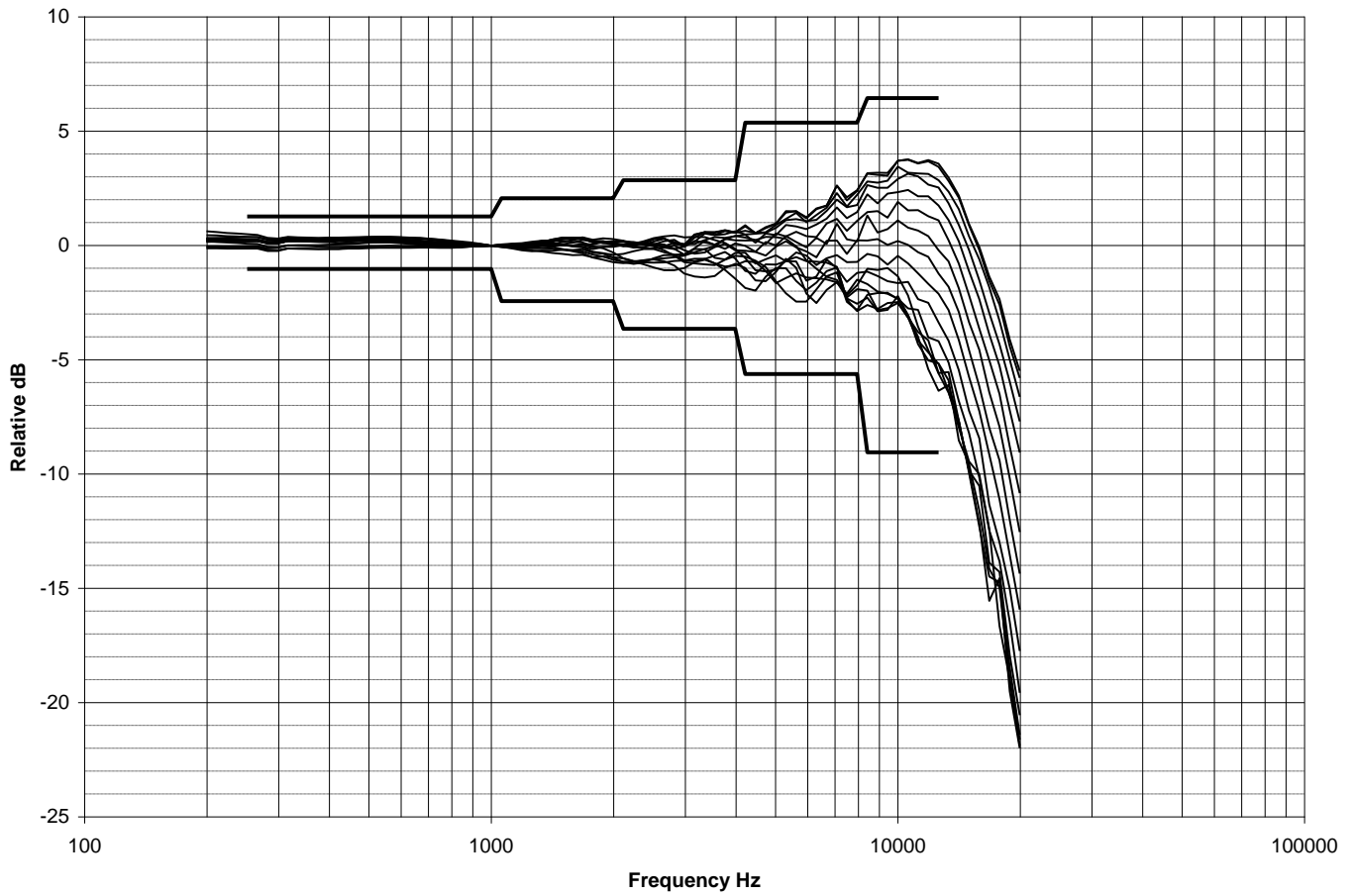
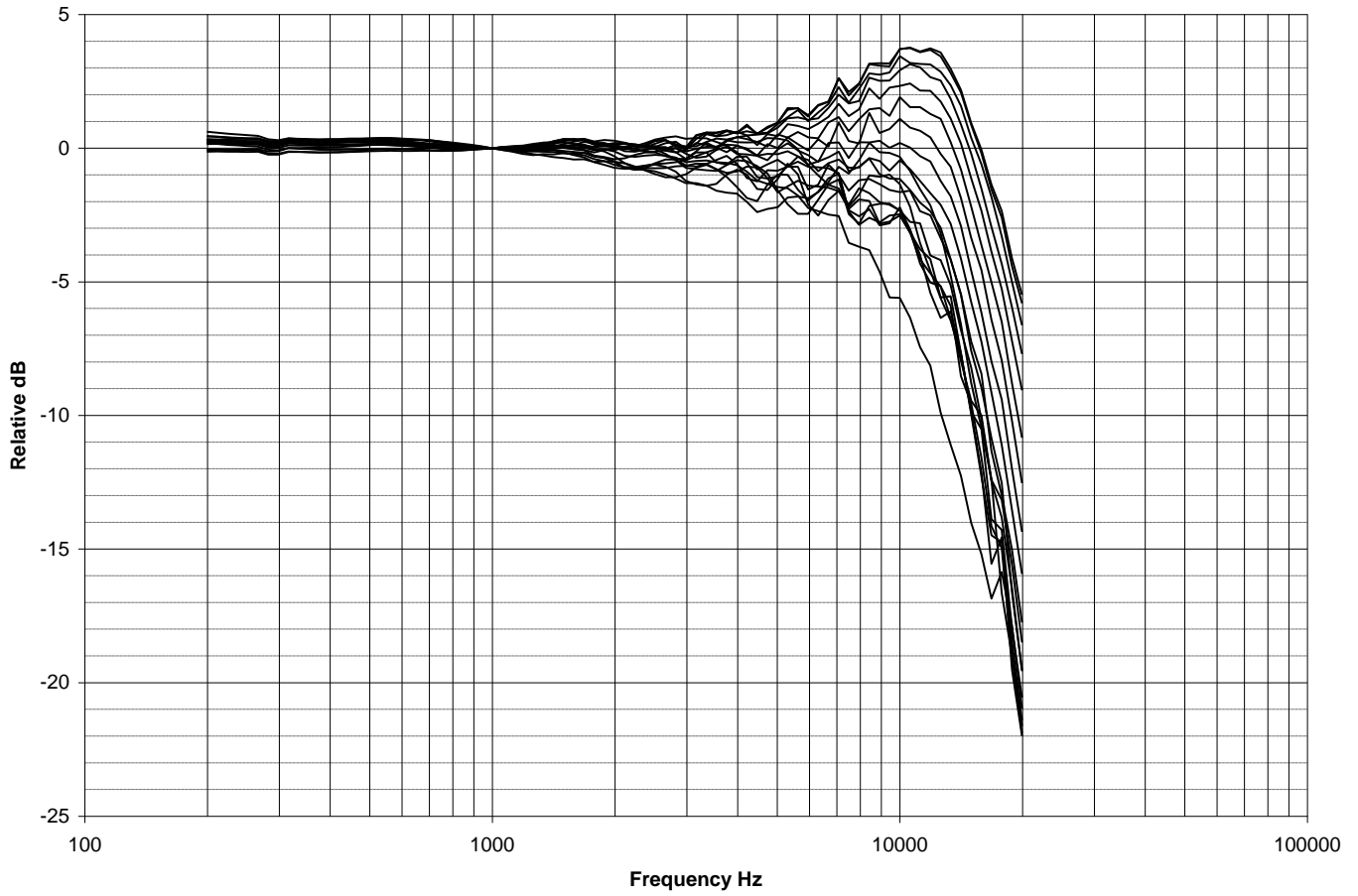


Figure J.8- 0-180 degree incidence angles



Random Incidence

Figure J.9 - Frequency Response

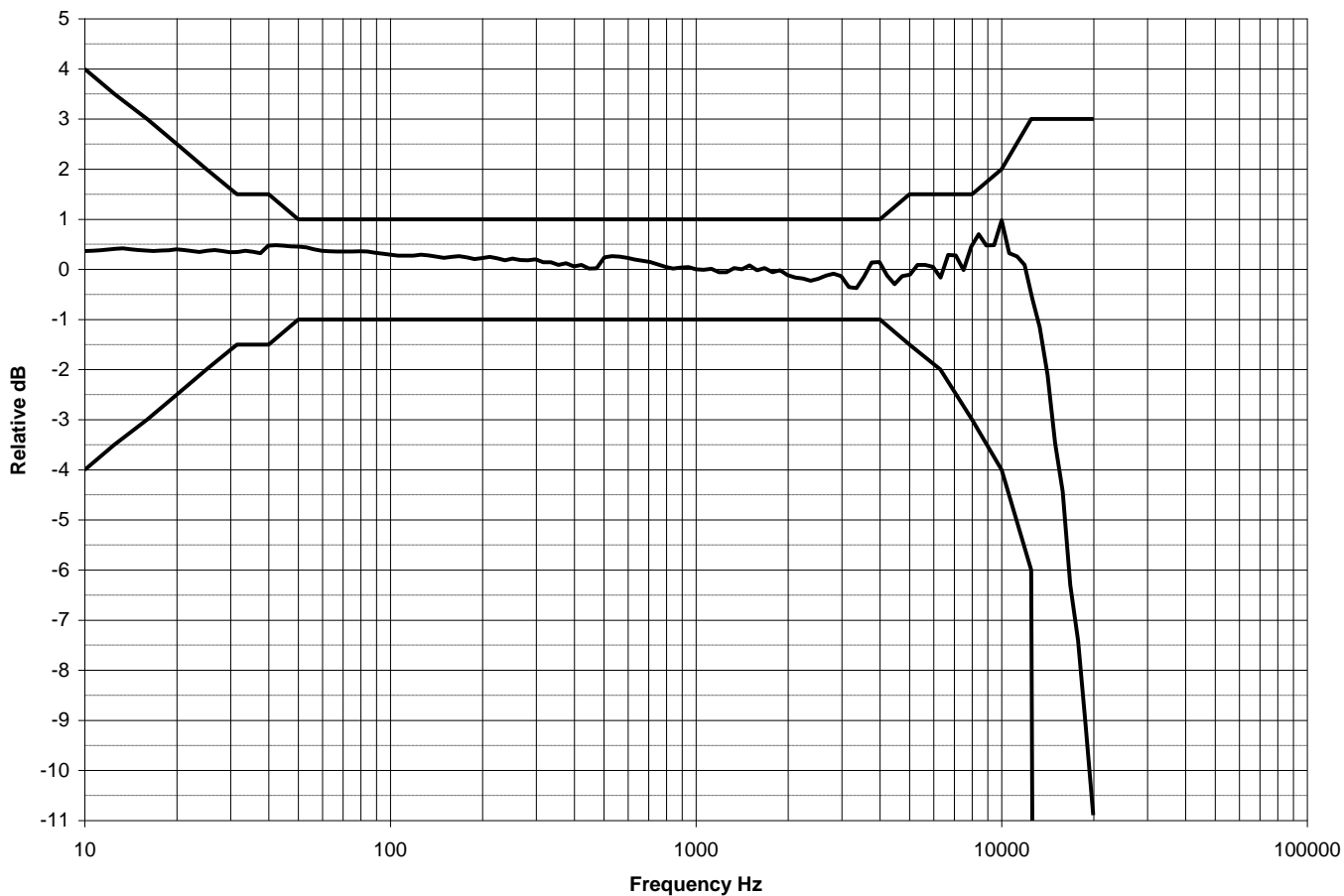


Table J.10 - Reflection, Diffraction, Microphone Frequency Response, and Windscreen

1/12 OCTAVE FREQUENCY in Hz	Local Microphone Acoustic Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Local Microphone Acoustic Corrections in dB
199.53	-0.3	2238.72	-0.2
211.35	-0.3	2371.37	-0.2
223.87	-0.3	2511.89	-0.4
237.14	-0.3	2660.73	-0.5
251.19	-0.3	2818.38	-0.4
266.07	-0.3	2985.38	-0.4
281.84	-0.3	3162.28	-0.5
298.54	-0.3	3349.65	-0.4
316.23	-0.3	3548.13	-0.8
334.97	-0.3	3758.37	-1.1
354.81	-0.3	3981.07	-1.1
375.84	-0.3	4216.97	-1.2
398.11	-0.3	4466.84	-0.8
421.70	-0.3	4731.51	-1.2
446.68	-0.3	5011.87	-1.3
473.15	-0.4	5308.84	-1.8
501.19	-0.4	5623.41	-1.9
530.88	-0.4	5956.62	-2.0
562.34	-0.4	6309.57	-2.0
595.66	-0.3	6683.44	-2.4
630.96	-0.2	7079.46	-3.0
668.34	-0.2	7498.94	-2.9
707.95	-0.2	7943.28	-3.4
749.89	-0.1	8413.95	-4.0
794.33	-0.1	8912.51	-4.1
841.40	-0.1	9440.61	-4.2
891.25	-0.1	10000.00	-5.1
944.06	-0.1	10592.54	-4.6
1000.00	-0.1	11220.19	-4.9
1059.25	-0.1	11885.02	-5.3
1122.02	-0.1	12589.25	-5.0
1188.50	0.0	13335.21	-4.7
1258.93	-0.1	14125.38	-4.2
1333.52	-0.3	14962.36	-3.1
1412.54	-0.3	15848.93	-2.5
1496.24	-0.5	16788.04	-1.0
1584.89	-0.4	17782.79	-0.4
1678.80	-0.4	18836.49	0.9
1778.28	-0.2	19952.62	2.1
1883.65	-0.3	2113.49	-0.3
1995.26	-0.3		

Table J.11 - Pressure Field to Free Field Corrections

Frequency in Hz	BK4936 R.I.C. Correction in dB
125	0.04
250	0.00
1000	-0.20
2000	0.26
4000	1.94

Table J.12 - Pressure Field to Random Incidence Corrections

Frequency in Hz	BK4936 R.I.C. Correction in dB
125	0.05
250	0.00
1000	-0.03
2000	0.07
4000	1.27

Self Generated Noise

Table J.13-Broadband

Range (dB)	SPL			LEQ		
	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting
Fast Response						
-20 to 70	22.9	30.1	37.4	22.8	30.1	37.0
-10 to 80	22.8	29.8	37.1	22.8	30.3	37.2
0 to 90	22.8	30.2	36.6	22.8	30.2	37.3
10 to 100	22.8	30.0	36.6	22.8	30.2	37.6
20 to 110	23.3	30.3	36.5	23.3	30.5	37.5
30 to 120	26.2	31.4	36.8	26.2	31.1	37.1
40 to 130	33.3	34.4	38.2	33.4	34.6	38.9
50 to 140	42.1	42.1	43.1	42.1	42.2	42.8
Slow Response						
-20 to 70	22.8	30.3	37.4	22.8	30.3	37.7
-10 to 80	22.8	30.3	37.4	22.7	30.3	37.7
0 to 90	22.8	30.2	37.5	22.8	30.2	37.5
10 to 100	22.8	30.2	37.9	22.7	30.2	37.6
20 to 110	23.3	30.2	37.5	23.3	30.3	37.3
30 to 120	26.2	31.0	37.6	26.2	31.0	37.9
40 to 130	33.4	34.6	38.6	33.4	34.6	38.5
50 to 140	42.2	42.1	43.0	42.2	42.1	42.9

Table J.14 – Octave Band

A Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.8	3.5	10.1	14.6	17.7	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.7	3.6	9.7	15.0	17.9	19.4	19.5	18.9	17.5	13.8
10 to 90	-15.1	-7.7	3.7	10.2	14.9	18.0	19.3	19.4	18.9	17.5	13.7
20 to 100	-6.6	-4.5	3.1	10.4	15.0	17.7	19.3	19.3	18.8	17.3	14.2
30 to 110	3.6	-0.1	3.5	10.0	15.1	17.8	19.1	19.1	18.3	18.3	18.3
40 to 120	12.8	10.7	7.5	10.7	14.9	16.8	19.3	22.3	25.3	28.3	28.3
50 to 130	23.6	19.3	17.2	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.4	28.8	27.6	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
A Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.1	3.2	9.9	15.1	18.0	19.4	19.5	19.1	17.6	13.9
0 to 80	-16.8	-7.0	3.4	10.0	14.9	18.0	19.4	19.5	18.9	17.6	13.8
10 to 90	-15.0	-6.6	3.0	9.8	14.8	17.8	19.3	19.4	18.9	17.5	13.8
20 to 100	-6.9	-5.9	3.0	9.8	14.8	17.8	19.2	19.3	18.9	17.3	14.2
30 to 110	3.1	0.0	4.1	10.1	14.8	17.7	19.2	19.2	18.3	18.3	18.3
40 to 120	12.6	9.3	8.0	11.1	15.3	16.9	19.3	22.3	25.3	28.3	28.3
50 to 130	22.9	18.5	17.4	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.5	28.7	27.3	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
A Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.2	3.4	9.8	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-7.3	3.2	9.9	14.8	17.9	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.6	-6.8	3.2	10.1	14.8	17.8	19.3	19.4	18.9	17.3	13.3
20 to 100	-7.0	-6.2	3.4	9.8	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.3	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	12.8	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	22.9	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	32.9	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
A Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.3	3.3	10.1	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.6	3.4	10.1	14.8	17.8	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.7	-7.1	3.4	10.0	14.8	17.8	19.2	19.4	18.8	17.3	13.3
20 to 100	-6.9	-6.3	3.5	9.9	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.2	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	13.0	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	23.2	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.2	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table J.14 - (Continued)

C Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.6	28.1	25.7	23.4	21.3	19.2	18.1	17.1	15.6	11.8
0 to 80	24.9	28.0	27.6	24.9	23.0	21.0	19.3	18.0	16.9	15.4	11.8
10 to 90	24.3	27.7	27.1	25.9	23.3	21.0	19.3	18.0	17.0	15.4	11.6
20 to 100	22.6	27.4	27.9	25.3	23.1	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	25.6	27.5	26.5	25.8	23.5	21.2	19.2	17.8	15.4	18.3	18.3
40 to 120	26.8	28.1	27.8	26.1	23.4	20.9	19.2	22.3	25.3	28.3	28.3
50 to 130	26.8	28.0	28.0	26.3	23.3	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	34.0	31.9	29.1	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3

C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.9	27.5	25.6	23.6	21.2	19.4	18.0	17.1	15.6	11.8
0 to 80	24.6	28.0	27.4	25.6	23.4	21.1	19.2	18.0	16.9	15.4	11.7
10 to 90	24.9	27.9	27.3	25.5	23.4	21.2	19.3	17.9	16.9	15.4	11.7
20 to 100	25.4	28.2	27.2	25.7	23.4	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	24.7	28.3	27.6	26.1	23.6	21.0	19.0	17.6	15.4	18.3	18.3
40 to 120	25.5	28.2	27.9	25.8	23.2	20.9	19.3	22.3	25.3	28.3	28.3
50 to 130	27.8	28.4	27.9	26.2	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.7	31.8	29.8	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3

C Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.2	27.9	27.8	25.8	23.6	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	24.9	27.8	27.5	25.6	23.4	21.1	19.3	17.9	17.0	15.4	11.6
10 to 90	25.0	27.9	27.7	25.5	23.4	21.1	19.3	17.9	16.8	15.1	12.0
20 to 100	25.4	27.9	27.7	25.8	23.3	21.0	19.2	17.3	17.3	17.3	17.3
30 to 110	25.4	27.6	27.6	25.5	23.1	20.9	18.3	21.3	24.3	27.3	27.3
40 to 120	25.4	28.4	27.6	25.6	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	27.0	28.6	28.0	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.9	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

C Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.0	27.9	27.6	25.8	23.5	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	25.1	28.1	27.5	25.9	23.4	21.2	19.2	18.0	17.0	15.4	11.6
10 to 90	25.2	27.9	27.6	25.7	23.4	21.1	19.3	17.9	16.8	15.1	12.1
20 to 100	25.2	27.8	27.4	25.6	23.3	21.1	19.2	17.3	17.3	17.3	17.3
30 to 110	25.3	27.3	27.4	25.7	23.2	21.1	18.3	21.3	24.3	27.3	27.3
40 to 120	25.2	27.8	27.7	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	26.9	28.8	28.1	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.3	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table J.14 - (Continued)

Z Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	32.9	30.0	27.5	26.0	23.4	21.2	19.4	18.2	18.0	18.6	19.8
0 to 80	32.9	31.2	28.8	25.9	23.5	21.3	19.5	18.1	17.9	18.4	19.7
10 to 90	33.2	30.5	27.8	25.4	23.5	21.4	19.3	18.3	17.9	18.4	19.7
20 to 100	31.7	30.2	28.2	25.9	23.2	21.4	19.4	18.0	17.8	18.3	19.7
30 to 110	32.9	30.9	27.9	25.9	23.3	21.1	19.1	18.2	18.3	18.3	18.3
40 to 120	31.9	31.6	27.9	25.6	23.1	21.3	19.2	22.3	25.3	28.3	28.3
50 to 130	33.8	30.5	28.1	26.0	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.7	32.5	30.3	30.3	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Fast Response, LEQ											
Range in dB	16 Hz in dB	31.5 Hz in dB	63 Hz in dB	125 Hz in dB	250 Hz in dB	500 Hz in dB	1000 Hz in dB	2000 Hz in dB	4000 Hz in dB	8000 Hz in dB	16 kHz in dB
-10 to 70	32.9	31.0	28.4	26.0	23.6	21.4	19.4	18.2	18.0	18.6	19.8
0 to 80	34.0	30.9	28.4	26.0	23.5	21.2	19.3	18.2	17.9	18.5	19.7
10 to 90	33.1	30.9	28.3	26.0	23.4	21.2	19.3	18.1	17.9	18.5	19.7
20 to 100	33.4	30.5	28.4	26.1	23.4	21.2	19.4	18.1	17.8	18.3	19.7
30 to 110	33.0	30.9	28.2	25.8	23.5	21.1	19.2	18.1	18.3	18.3	18.3
40 to 120	33.3	31.3	28.5	25.7	23.3	21.1	19.3	22.3	25.3	28.3	28.3
50 to 130	33.3	31.0	28.6	25.7	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.8	33.3	29.9	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.6	31.0	28.6	26.0	23.6	21.2	19.4	18.2	18.0	18.5	19.8
0 to 80	33.1	30.8	28.5	25.8	23.2	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.6	31.0	28.4	26.0	23.5	21.2	19.4	18.1	17.8	18.3	19.6
20 to 100	33.6	30.7	28.5	25.9	23.6	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.8	30.9	28.3	25.8	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	34.0	30.7	28.4	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.7	30.7	28.7	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
Z Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.3	31.2	28.6	26.0	23.5	21.3	19.5	18.2	18.0	18.5	19.8
0 to 80	33.1	30.9	28.3	25.9	23.4	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.8	30.9	28.5	25.8	23.3	21.2	19.3	18.1	17.7	18.3	19.6
20 to 100	33.3	30.8	28.3	25.9	23.5	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.6	30.9	28.5	25.9	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	33.5	31.3	28.3	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.6	31.0	28.9	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table J.15- 1/3 Octave Band

A Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	16.9	-16.9	-16.9	-13.7	-10.5	-6.0	-3.4	-1.6	1.6	3.9	6.5	7.3	9.4	9.8	10.8	11.8
0 to 80	-16.9	16.9	-16.9	-15.6	-13.3	-10.1	-6.7	-2.9	-0.9	3.4	4.0	6.0	7.5	8.1	9.8	10.8	11.8
10 to 90	-16.9	15.5	-16.8	-15.4	-13.7	-10.4	-6.3	-3.4	-1.2	3.7	3.6	5.9	6.7	9.3	10.3	10.7	11.6
20 to 100	-15.9	-6.2	-13.5	-9.2	-10.8	-9.1	-7.1	-3.7	-0.1	1.6	4.3	5.8	7.9	8.7	10.2	11.0	11.9
30 to 110	-6.4	4.2	-4.8	0.8	-3.8	-4.9	-3.8	-1.9	0.1	3.1	4.4	5.6	7.0	8.4	10.2	10.6	11.6
40 to 120	3.4	13.8	6.1	9.5	4.7	3.8	4.4	4.8	4.8	7.5	7.6	7.4	10.2	10.4	10.4	13.3	13.2
50 to 130	12.9	23.2	15.4	19.7	14.8	13.9	14.4	14.7	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	21.8	32.4	25.8	29.9	25.2	22.8	24.6	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
12.2 dB	12.9 dB	13.1 dB	13.3 dB	12.9 dB	12.8 dB	12.9 dB	12.8 dB	12.6 dB	12.4 dB	11.8 dB	11.5 dB	10.8 dB	9.4 dB	7.9 dB	5.8 dB		
12.6 dB	12.7 dB	12.9 dB	13.1 dB	13.0 dB	12.8 dB	12.7 dB	12.6 dB	12.2 dB	12.1 dB	11.8 dB	11.5 dB	10.6 dB	9.4 dB	7.8 dB	5.9 dB		
12.4 dB	12.8 dB	12.8 dB	13.1 dB	13.2 dB	12.8 dB	12.9 dB	12.8 dB	12.5 dB	12.4 dB	11.8 dB	11.3 dB	10.6 dB	9.2 dB	7.7 dB	5.9 dB		
12.5 dB	12.6 dB	12.7 dB	12.8 dB	12.6 dB	12.7 dB	12.8 dB	12.6 dB	12.3 dB	12.2 dB	11.4 dB	11.3 dB	10.1 dB	8.3 dB	8.3 dB	8.3 dB		
12.1 dB	12.0 dB	12.8 dB	12.9 dB	12.6 dB	12.3 dB	12.4 dB	12.3 dB	12.3 dB	12.3 dB	15.3 dB	15.3 dB	15.3 dB	18.3 dB	18.3 dB	18.3 dB		
13.3 dB	16.2 dB	16.2 dB	16.2 dB	19.2 dB	19.2 dB	19.2 dB	22.3 dB	22.3 dB	22.3 dB	25.3 dB	25.3 dB	25.3 dB	28.3 dB	28.3 dB	28.3 dB		
23.2 dB	26.2 dB	26.2 dB	26.2 dB	29.2 dB	29.2 dB	29.2 dB	32.3 dB	32.3 dB	32.3 dB	35.3 dB	35.3 dB	35.3 dB	38.3 dB	38.3 dB	38.3 dB		
33.2 dB	36.2 dB	36.2 dB	36.2 dB	39.2 dB	39.2 dB	39.2 dB	42.3 dB	42.3 dB	42.3 dB	45.3 dB	45.3 dB	45.3 dB	48.3 dB	48.3 dB	48.3 dB		

A Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.3	-13.9	-9.9	-6.6	-2.4	-0.4	3.7	3.9	5.9	7.6	9.4	10.2	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.4	-13.8	10.2	-6.5	-3.2	-0.5	3.7	4.0	6.0	7.5	8.8	10.2	11.2	11.8
10 to 90	-16.9	-15.9	-16.8	-15.3	-13.1	10.5	-6.8	-2.6	0.0	3.6	3.9	5.8	7.5	8.7	10.0	11.1	11.8
20 to 100	-15.8	-7.1	-13.6	-8.7	-10.3	-8.0	-6.2	-3.1	0.0	1.8	4.2	6.1	7.8	8.8	9.9	10.8	11.8
30 to 110	-5.5	3.6	-4.8	-0.8	-2.7	-4.4	-3.6	-1.9	0.6	3.6	4.2	6.2	7.6	9.1	10.0	11.0	11.6
40 to 120	3.2	13.3	4.4	9.7	6.7	3.7	4.7	5.1	4.7	7.2	7.4	7.6	10.3	10.4	10.4	13.2	13.2
50 to 130	12.6	23.5	14.5	19.5	16.8	14.1	14.4	14.6	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	24.4	33.8	25.1	30.1	27.0	23.5	24.2	24.5	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, LEQ																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
12.4 dB	12.6 dB	12.9 dB	13.1 dB	13.1 dB	13.0 dB	12.9 dB	12.8 dB	12.5 dB	12.4 dB	11.8 dB	11.5 dB	10.6 dB	9.4 dB	7.8 dB	5.9 dB		
12.5 dB	12.7 dB	13.0 dB	13.1 dB	13.0 dB	12.8 dB	12.9 dB	12.6 dB	12.4 dB	12.3 dB	11.8 dB	11.4 dB	10.6 dB	9.4 dB	7.8 dB	5.8 dB		
12.4 dB	12.6 dB	13.1 dB	13.2 dB	13.1 dB	13.0 dB	12.9 dB	12.6 dB	12.4 dB	12.3 dB	11.7 dB	11.4 dB	10.5 dB	9.2 dB	7.7 dB	5.9 dB		
12.4 dB	12.6 dB	12.9 dB	13.0 dB	13.0 dB	12.9 dB	12.7 dB	12.5 dB	12.3 dB	12.1 dB	11.4 dB	11.3 dB	10.1 dB	8.3 dB	8.3 dB	8.3 dB		
12.2 dB	12.2 dB	12.8 dB	13.1 dB	12.6 dB	12.5 dB	12.4 dB	12.3 dB	12.3 dB	12.3 dB	15.3 dB	15.3 dB	15.3 dB	18.3 dB	18.3 dB	18.3 dB		
13.3 dB	16.2 dB	16.2 dB	16.2 dB	19.2 dB	19.2 dB	19.2 dB	22.3 dB	22.3 dB	22.3 dB	25.3 dB	25.3 dB	25.3 dB	28.3 dB	28.3 dB	28.3 dB		
23.2 dB	26.2 dB	26.2 dB	26.2 dB	29.2 dB	29.2 dB	29.2 dB	32.3 dB	32.3 dB	32.3 dB	35.3 dB	35.3 dB	35.3 dB	38.3 dB	38.3 dB	38.3 dB		
33.2 dB	36.2 dB	36.2 dB	36.2 dB	39.2 dB	39.2 dB	39.2 dB	42.3 dB	42.3 dB	42.3 dB	45.3 dB	45.3 dB	45.3 dB	48.3 dB	48.3 dB	48.3 dB		

Table J.15 (Continued)

A Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-10.4	-6.1	-3.1	-0.7	3.6	3.8	5.7	7.6	8.9	10.2	11.2	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-14.1	-9.5	-6.3	-2.8	-0.6	3.7	4.0	6.0	7.2	8.8	10.0	11.1	11.9
10 to 90	-16.9	-16.9	-16.9	-16.6	-13.5	-9.6	-6.3	-3.0	-0.5	3.4	3.9	5.8	7.6	9.0	9.8	11.1	11.8
20 to 100	-12.7	-12.6	-12.6	-9.7	-9.6	-9.1	-6.2	-2.9	0.0	3.8	4.0	5.8	7.7	9.0	9.9	10.3	11.5
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.3	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	13.2	13.2	13.2	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.5	13.0	13.1	13.1	12.9	12.9	12.8	12.5	12.3	11.8	11.5	10.7	9.3	7.8	5.8
12.6	12.6	12.9	13.0	13.0	12.8	12.8	12.6	12.4	12.2	11.8	11.4	10.6	9.3	7.7	5.7
12.4	12.5	12.9	13.0	13.0	12.8	12.7	12.5	12.3	12.1	11.3	11.3	10.3	7.5	7.3	7.3
12.2	12.4	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

A Weighting, Slow Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-9.9	-6.6	-3.0	-0.6	3.8	3.7	5.8	7.7	8.9	10.0	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-13.8	-9.2	-5.9	-3.1	-0.6	3.8	3.9	6.0	7.5	8.9	10.1	10.9	11.8
10 to 90	-16.9	-16.9	-16.9	-16.6	-14.0	-9.5	-6.4	-3.2	-0.5	3.8	3.9	5.8	7.5	8.7	10.1	10.9	11.8
20 to 100	-12.7	-12.7	-12.7	-9.7	-9.7	-9.2	-6.1	-2.9	-0.3	3.6	4.2	5.6	7.4	8.8	10.0	10.8	11.6
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.2	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	2	2	13.2	2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.	23.	23.2	2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.	33.	33.2	2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.7	13.0	13.1	13.0	13.0	12.9	12.7	12.5	12.3	11.9	11.5	10.7	9.4	7.8	5.8
12.4	12.6	12.9	13.0	13.1	12.9	12.8	12.6	12.4	12.2	11.7	11.4	10.6	9.3	7.7	5.7
12.5	12.6	12.9	13.1	13.0	12.8	12.8	12.5	12.3	12.1	11.3	11.3	10.3	7.6	7.3	7.3
12.2	12.3	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Table J.15 (Continued)

C Weighting, Fast Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	14.3	17.2	20.5	21.8	21.2	21.6	22.2	22.0	20.9	20.3	20.1	19.4	18.2	17.8	16.8	15.7	14.6
0 to 80	13.7	18.4	21.9	21.2	22.4	22.8	21.0	21.7	20.7	20.1	20.1	19.4	17.9	17.9	16.6	15.8	15.1
10 to 90	15.2	16.8	21.2	21.8	20.9	21.7	21.5	21.6	21.2	20.7	19.2	19.0	18.2	17.4	16.3	15.7	14.6
20 to 100	17.1	17.5	19.9	22.0	20.7	22.9	21.9	21.3	21.3	20.5	19.2	19.0	18.2	17.1	16.3	15.4	15.0
30 to 110	18.2	19.5	19.1	20.0	18.8	22.2	22.0	22.5	20.4	20.1	19.4	18.2	17.8	16.8	16.4	15.4	14.8
40 to 120	18.4	18.0	19.9	22.4	22.9	22.8	22.7	22.3	20.5	19.6	19.7	19.2	18.2	17.3	16.2	15.3	13.9
50 to 130	15.0	19.0	20.2	21.6	23.9	22.9	22.5	22.2	21.1	20.3	19.9	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.0	22.6	24.7	25.6	26.2	24.6	24.6	26.0	24.7	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

C Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
14.4	13.2	12.5	12.3	11.7	11.2	11.2	10.8	10.6	10.4	9.9	9.5	8.6	7.3	5.7	3.9		
13.9	13.4	12.5	12.3	11.7	11.4	11.2	10.7	10.4	10.1	9.7	9.3	8.5	7.2	5.7	3.7		
14.0	13.2	12.8	12.3	11.8	11.2	11.2	10.7	10.5	10.2	9.6	9.2	8.5	7.2	5.4	3.2		
14.5	12.9	12.7	12.1	11.6	11.3	11.0	10.7	10.4	10.1	9.8	8.4	8.3	8.3	8.3	8.3		
13.8	13.0	13.0	12.4	12.0	10.8	10.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

C Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	16.7	18.3	20.3	20.9	22.4	22.4	22.3	21.8	21.2	19.5	19.4	19.0	18.0	17.6	16.4	15.8	15.0
0 to 80	16.5	18.8	20.7	22.0	22.3	23.1	22.3	21.5	21.3	20.1	19.4	18.9	18.4	17.7	16.5	15.6	14.8
10 to 90	18.0	19.4	20.3	22.1	22.9	22.4	22.4	21.5	21.0	20.0	19.6	18.9	18.1	17.2	16.3	15.6	14.8
20 to 100	17.6	18.9	22.1	20.9	21.3	22.5	22.2	21.1	21.1	20.4	19.6	19.2	17.9	17.3	16.6	15.6	14.9
30 to 110	17.1	18.8	21.0	22.3	21.2	22.0	22.0	22.2	20.9	20.7	19.5	18.9	18.1	17.6	16.5	15.5	14.7
40 to 120	18.2	18.6	20.8	22.7	22.9	22.1	22.1	22.3	22.1	20.6	20.0	19.1	18.1	17.6	16.4	15.1	14.2
50 to 130	18.9	20.6	23.1	22.3	22.9	24.0	23.2	23.6	22.0	21.0	20.3	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.6	23.9	24.7	25.8	25.9	24.5	25.7	26.1	24.9	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Table J.15 (Continued)

C Weighting, Fast Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.1	13.2	12.7	12.4	11.9	11.4	11.1	10.9	10.6	10.3	9.8	9.3	8.6	7.3	5.7	3.8
14.1	13.3	12.8	12.3	11.8	11.2	11.1	10.8	10.6	10.3	9.7	9.4	8.5	7.2	5.7	3.7
14.1	13.2	12.8	12.2	11.9	11.3	11.0	10.7	10.5	10.1	9.7	9.3	8.5	7.1	5.3	3.1
14.0	13.2	12.7	12.2	11.7	11.2	11.0	10.6	10.3	10.1	9.9	8.5	8.3	8.3	8.3	8.3
14.1	13.0	12.5	12.1	12.0	11.4	10.0	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

C Weighting, Slow Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.7	19.2	20.9	21.3	22.4	22.5	22.7	22.5	21.5	20.8	20.0	19.1	18.3	17.4	16.5	15.8	14.9
0 to 80	17.8	19.1	20.6	21.6	22.2	22.7	22.2	21.5	21.2	20.5	19.7	19.1	18.3	17.3	16.4	15.7	15.0
10 to 90	17.1	19.9	20.6	22.5	22.4	22.6	21.9	22.0	21.3	20.4	19.7	18.8	18.1	17.3	16.6	15.6	14.7
20 to 100	17.0	18.8	21.9	21.6	22.4	22.2	22.4	22.0	21.1	20.7	19.6	19.1	18.3	17.5	16.5	15.6	14.8
30 to 110	17.4	19.5	21.3	22.3	22.6	22.4	22.1	22.2	21.0	20.2	19.6	19.1	18.2	17.5	16.7	15.3	15.1
40 to 120	18.1	19.5	21.2	22.3	22.5	22.9	22.4	22.5	21.6	20.5	19.6	19.2	19.3	19.2	19.2	22.3	22.3
50 to 130	17.9	20.2	21.8	23.1	22.5	23.8	23.3	23.5	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.2	13.3	12.7	12.4	11.9	11.4	11.1	10.8	10.5	10.3	9.8	9.4	8.6	7.3	5.7	3.7
14.2	13.3	12.8	12.3	11.8	11.4	11.1	10.8	10.4	10.2	9.7	9.4	8.4	7.2	5.7	3.3
14.3	13.3	12.7	12.2	11.7	11.3	10.9	10.6	10.3	9.9	9.1	9.1	7.3	7.3	7.3	7.3
14.0	13.1	12.5	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Table J.15 (Continued)

C Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.6	19.2	21.4	22.4	22.4	22.6	22.7	22.1	21.6	20.7	19.8	19.2	18.3	17.6	16.5	15.6	14.8
0 to 80	17.9	19.0	21.4	22.0	22.4	22.4	22.5	22.0	21.1	20.3	19.6	18.9	18.2	17.5	16.5	15.6	14.9
10 to 90	16.8	19.8	21.2	22.4	22.0	22.6	21.9	22.2	21.5	20.4	19.7	19.0	18.2	17.4	16.5	15.5	14.9
20 to 100	17.7	19.6	21.8	22.2	21.9	22.8	22.4	22.0	21.1	20.6	19.6	19.3	18.2	17.5	16.6	15.5	14.8
30 to 110	17.0	19.4	21.3	22.1	22.5	22.7	22.5	21.9	21.4	20.5	19.5	19.1	18.1	17.5	16.3	15.3	15.2
40 to 120	18.0	19.7	21.4	21.9	22.9	23.0	22.3	22.1	21.0	20.3	19.6	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	18.1	19.8	21.3	21.9	22.8	23.4	23.3	23.4	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, LEQ																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.3	13.2	12.8	12.4	11.8	11.4	11.1	10.8	10.5	10.3	9.7	9.4	8.6	7.3	5.7	3.7	
	14.3	13.2	12.8	12.2	11.7	11.3	11.0	10.7	10.5	10.2	9.7	9.3	8.5	7.2	5.7	3.3	
	14.2	13.3	12.8	12.3	11.7	11.3	11.0	10.6	10.3	10.0	9.1	9.0	7.4	7.3	7.3	7.3	
	14.1	13.1	12.4	12.1	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
	12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
	42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

Z Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.9	25.5	26.9	25.2	24.3	23.4	23.1	21.9	20.7	21.0	18.9	18.9	17.9	16.9	17.1	15.2	14.9
0 to 80	29.2	26.7	26.9	26.0	24.2	22.4	23.2	23.2	21.3	20.5	20.0	19.1	18.1	17.4	16.3	15.8	14.9
10 to 90	26.4	28.2	24.8	26.6	24.7	24.1	23.0	22.0	21.2	20.5	20.0	18.3	17.8	17.8	16.8	15.4	14.9
20 to 100	26.3	26.7	25.3	25.4	24.6	23.0	24.1	22.0	21.3	20.2	20.2	18.7	18.0	17.4	16.3	15.6	14.8
30 to 110	25.0	26.1	24.1	26.2	23.5	24.0	23.9	23.3	21.9	20.1	19.6	18.7	18.5	17.3	16.6	15.2	15.0
40 to 120	28.4	28.7	27.0	24.8	25.1	24.3	22.1	24.0	21.1	20.3	19.3	18.9	18.2	16.5	16.1	15.4	14.4
50 to 130	27.0	27.0	26.8	26.0	25.7	24.4	24.0	22.8	21.1	20.2	19.3	18.8	20.2	20.3	20.2	23.2	23.2
60 to 140	28.9	27.5	26.8	27.0	27.9	26.6	24.9	25.8	24.5	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Table J.15 (Continued)

Z Weighting, Fast Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.5	13.3	12.9	12.3	12.0	11.4	11.6	11.2	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7
14.4	12.9	12.7	12.1	12.0	11.7	11.4	11.2	11.2	11.6	11.5	12.2	12.8	13.2	13.9	14.6
14.0	13.5	12.6	12.5	11.8	11.5	11.1	11.1	11.1	11.4	11.5	12.1	12.7	13.2	13.8	14.5
14.4	13.3	12.9	12.3	11.9	11.3	11.2	11.3	11.0	11.3	11.4	12.1	12.5	13.0	13.4	14.3
14.3	12.9	12.9	12.2	12.1	12.0	11.5	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.7	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

Z Weighting, Fast Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.2	27.6	27.2	25.8	25.3	24.3	23.8	22.7	21.5	20.8	20.0	19.0	18.3	17.6	16.5	15.7	14.8
0 to 80	28.7	28.1	27.1	25.8	25.7	24.8	23.1	22.7	21.0	20.6	19.7	19.1	18.6	17.6	16.5	15.6	14.8
10 to 90	28.2	28.3	26.8	26.3	25.2	24.4	23.8	22.7	21.4	20.4	19.6	19.2	18.3	17.3	16.5	15.5	14.8
20 to 100	27.7	26.6	27.6	26.0	25.2	24.1	22.9	22.1	21.2	20.7	19.6	19.0	18.2	17.5	16.7	15.8	14.9
30 to 110	27.6	26.9	26.7	25.7	25.5	24.4	23.4	22.4	21.8	20.8	19.7	18.8	18.4	17.3	16.5	15.5	14.6
40 to 120	29.0	27.1	27.1	26.2	25.2	24.1	23.2	22.8	21.3	20.1	19.4	19.2	18.0	17.1	16.2	15.4	14.7
50 to 130	29.7	28.0	27.2	25.0	25.6	24.8	23.5	23.1	21.5	20.9	19.7	19.0	20.3	20.2	20.2	23.2	23.2
60 to 140	29.7	29.6	27.8	25.6	26.8	26.4	25.5	26.0	24.6	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Z Weighting, Fast Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.3	13.5	12.8	12.5	11.9	11.6	11.5	11.3	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7
14.1	13.1	13.0	12.4	12.1	11.5	11.3	11.4	11.3	11.5	11.7	12.2	12.8	13.3	13.9	14.6
14.0	13.4	12.8	12.3	11.9	11.4	11.4	11.1	11.1	11.4	11.6	12.2	12.7	13.2	13.9	14.6
14.1	13.4	12.8	12.3	11.8	11.4	11.3	11.2	11.1	11.4	11.3	12.1	12.5	13.0	13.4	14.3
14.0	12.9	12.5	12.1	12.1	11.9	11.8	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.8	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

Table J.15 (Continued)

Z Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.1	27.8	26.8	26.9	25.4	24.8	23.7	23.1	21.8	21.1	20.0	19.1	18.4	17.6	16.7	15.7	15.0
0 to 80	28.6	27.7	27.0	26.7	24.8	24.7	23.4	22.6	21.9	20.6	19.7	19.0	18.2	17.5	16.7	15.6	15.0
10 to 90	27.1	27.2	26.5	25.7	25.2	24.0	23.9	22.6	21.5	20.4	19.7	19.1	18.2	17.3	16.5	15.6	14.7
20 to 100	28.9	27.3	27.1	25.9	25.6	23.9	23.6	22.9	21.7	20.8	19.8	19.0	18.0	17.6	16.5	15.5	14.8
30 to 110	28.3	27.8	27.4	25.4	25.1	24.6	23.3	22.5	21.8	20.8	19.8	18.8	18.1	17.1	16.3	15.4	15.2
40 to 120	28.7	27.4	26.3	26.7	25.6	24.6	23.5	22.5	21.6	19.8	19.4	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	27.8	28.8	26.9	26.0	25.2	24.1	23.3	23.5	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	28.3	28.6	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, SPL																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.2	13.3	12.8	12.4	11.9	11.6	11.5	11.4	11.4	11.5	11.7	12.3	12.8	13.3	13.9	14.6	
	14.2	13.2	12.8	12.2	11.8	11.5	11.3	11.3	11.2	11.5	11.6	12.2	12.7	13.2	13.8	14.5	
	14.1	13.3	12.7	12.2	11.9	11.4	11.2	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3	
	14.2	13.1	12.5	12.2	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
	12.9	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
	37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1	

Z Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.5	27.6	27.1	26.6	25.4	24.4	24.2	22.8	22.0	21.0	19.9	19.2	18.3	17.5	16.4	15.8	14.9
0 to 80	28.8	27.6	27.0	25.6	25.3	24.3	23.5	22.4	21.9	20.7	19.8	19.0	18.3	17.3	16.6	15.8	14.9
10 to 90	27.7	27.8	27.1	25.6	24.6	23.8	23.9	22.8	21.6	20.8	19.8	19.3	18.4	17.5	16.5	15.6	14.9
20 to 100	28.2	27.4	26.7	26.4	24.8	24.0	23.8	22.7	21.5	20.7	19.9	18.8	18.1	17.5	16.5	15.6	14.9
30 to 110	28.1	28.4	26.8	25.1	25.4	24.2	23.2	22.6	21.6	20.9	19.6	18.8	18.0	17.1	16.3	15.3	15.2
40 to 120	28.4	27.5	26.8	26.0	25.0	24.7	23.5	22.6	21.4	20.1	19.3	19.1	19.2	19.2	19.2	22.3	22.3
50 to 130	28.5	28.1	27.0	26.2	24.8	24.6	23.5	23.3	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	29.1	28.3	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, LEQ																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.2	13.3	13.0	12.5	12.0	11.6	11.5	11.4	11.4	11.6	11.7	12.3	12.8	13.2	13.9	14.6	
	14.2	13.4	12.8	12.4	11.9	11.5	11.4	11.3	11.3	11.5	11.6	12.2	12.7	13.1	13.8	14.5	
	14.1	13.3	12.8	12.4	11.8	11.4	11.4	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3	
	14.1	13.0	12.6	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
	13.0	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
	37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1	

BK4936 microphone using random incidence corrector and windscreen (Figures/Tables "K")

Tolerance: IEC 61672 class 1

Directional frequency response using side toward speaker

Figure K.1- 0-30degree incidence angles

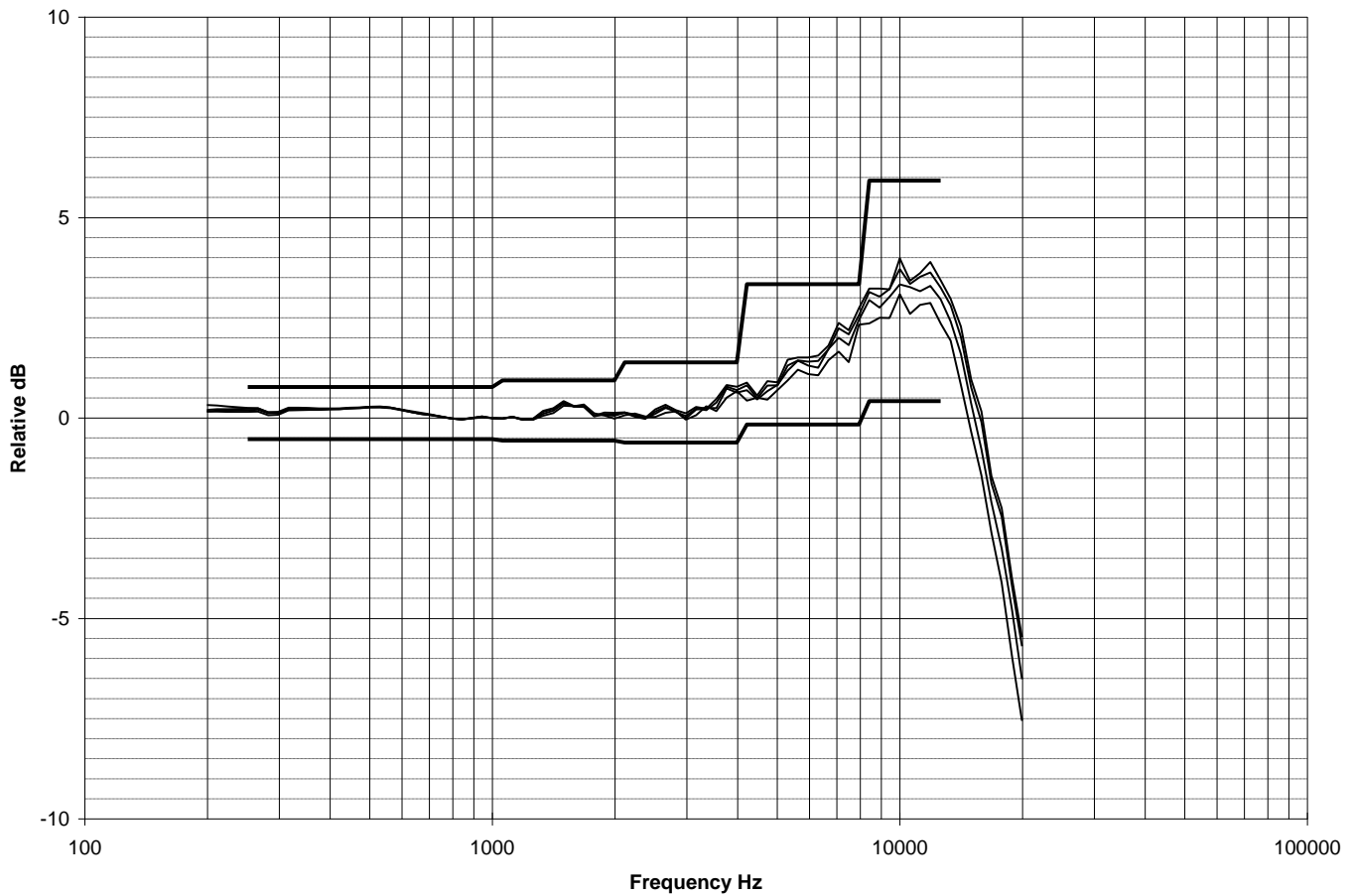


Figure K.2- 0-90 degree incidence angles

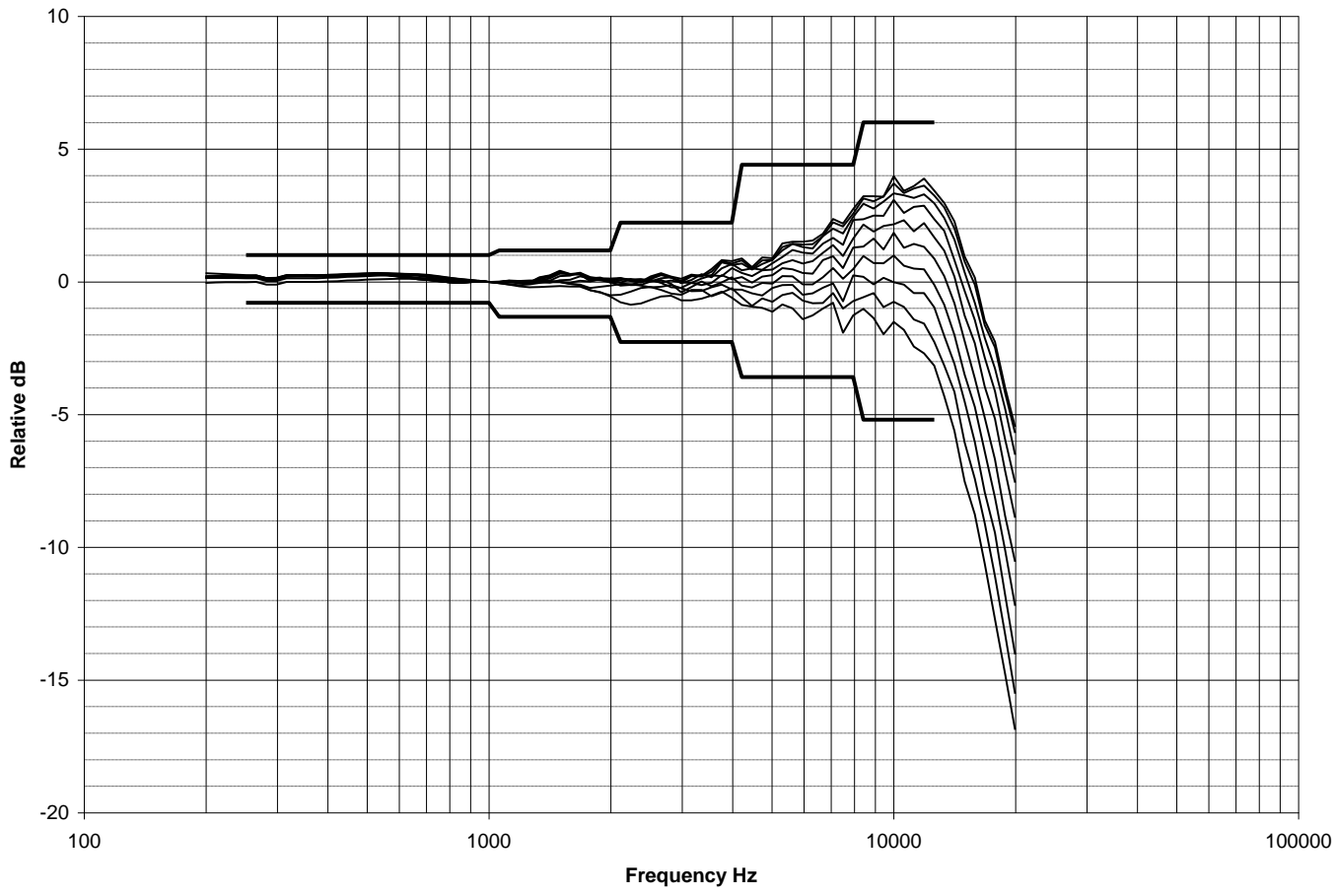
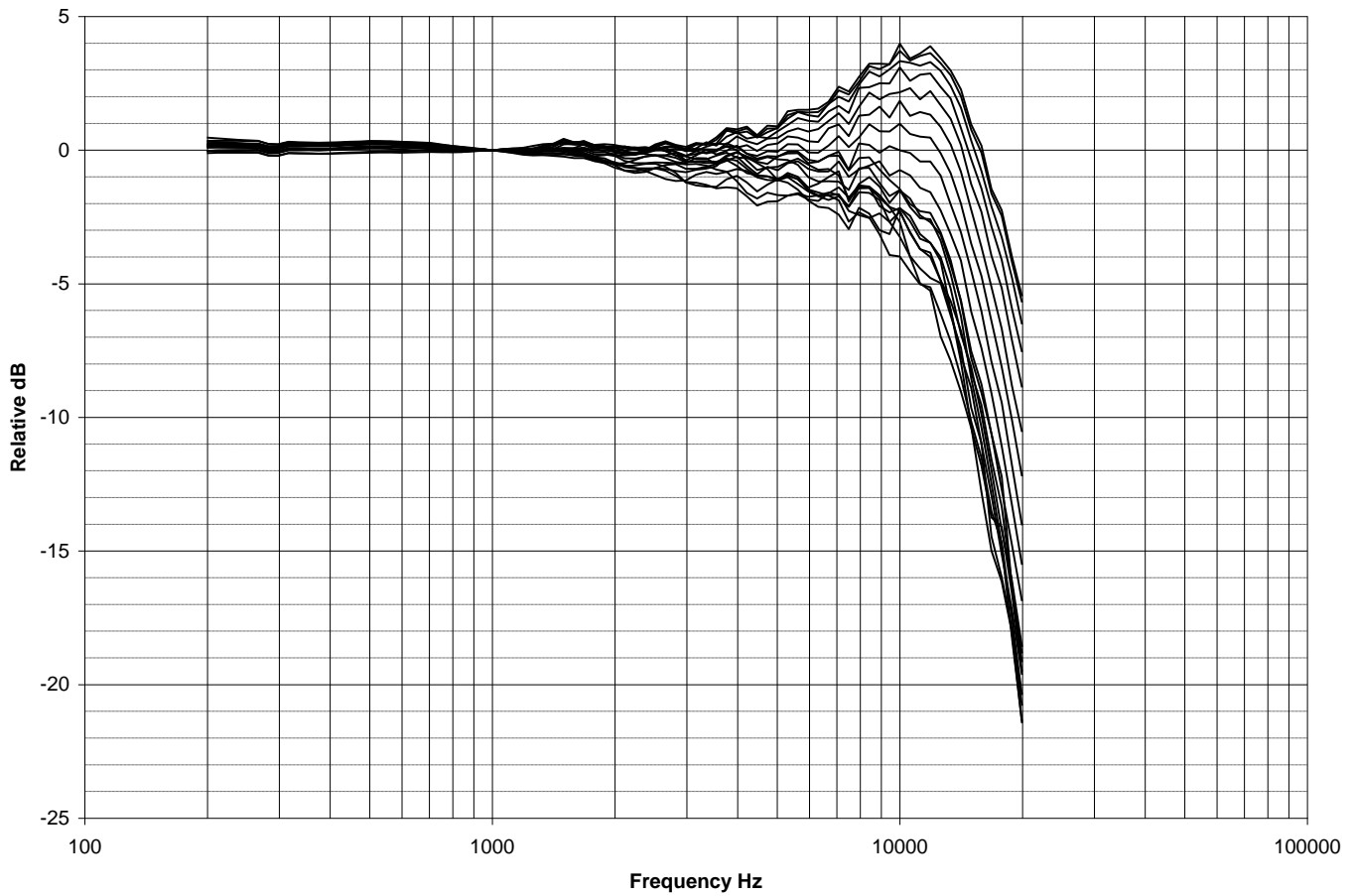


Figure K.3 - 0-150 degree incidence angles



Figure K.4 - 0-180 degree incidence angles



Directional frequency response using face toward speaker

Figure K.5 - 0-30 degree incidence angles

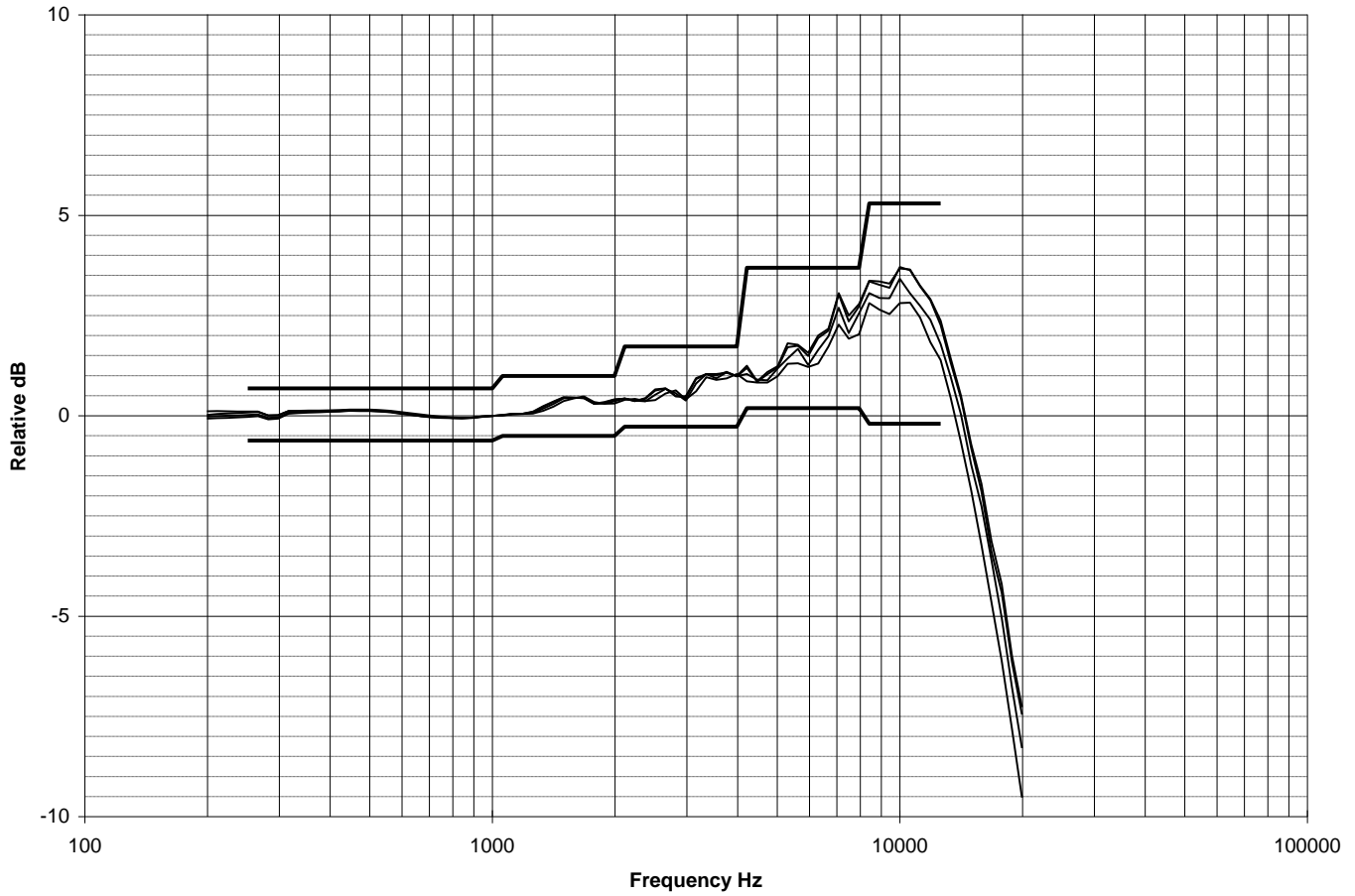


Figure K.6 - 0-90 degree incidence angles

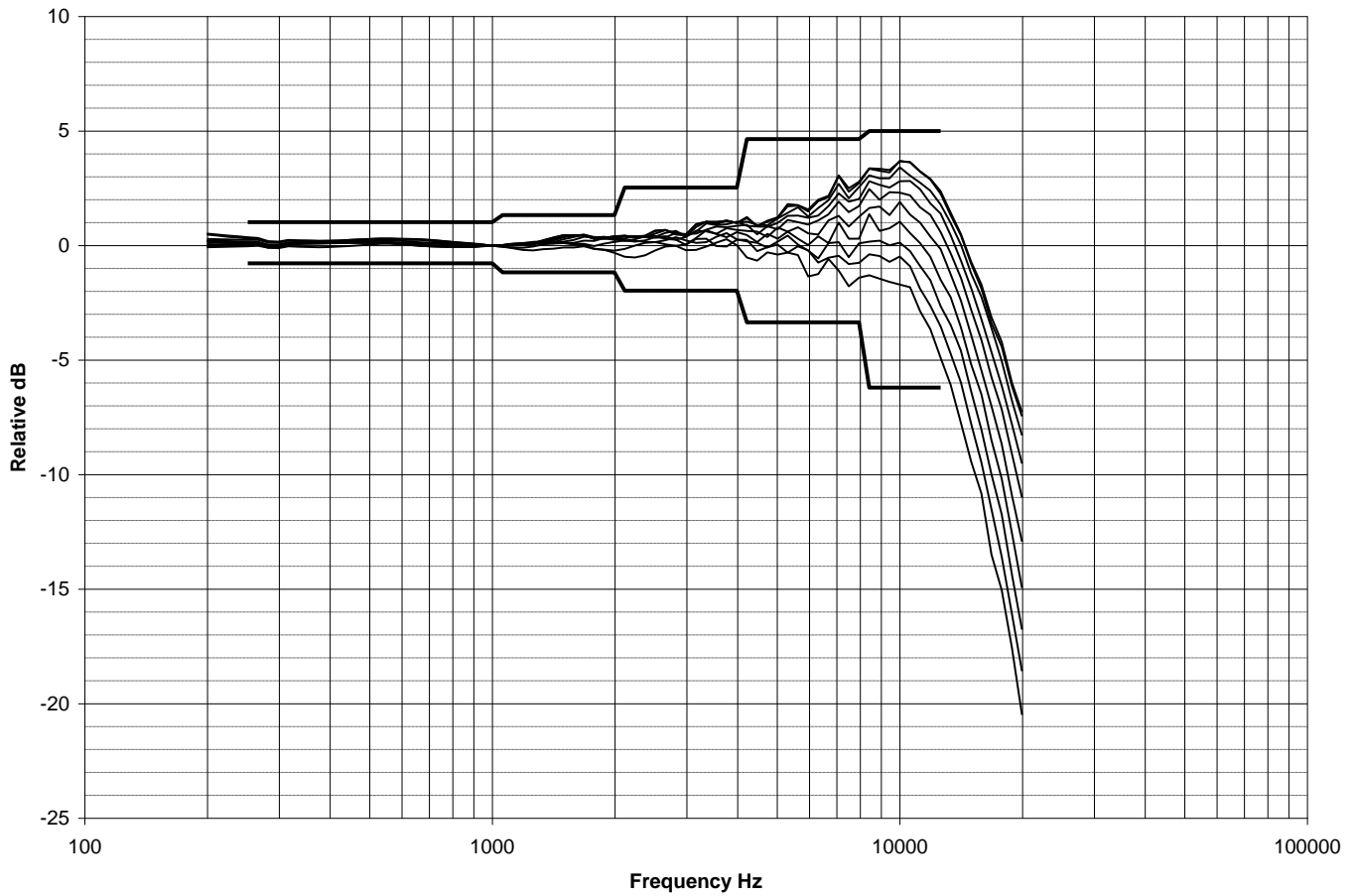


Figure K.7 - 0-150 degree incidence angles

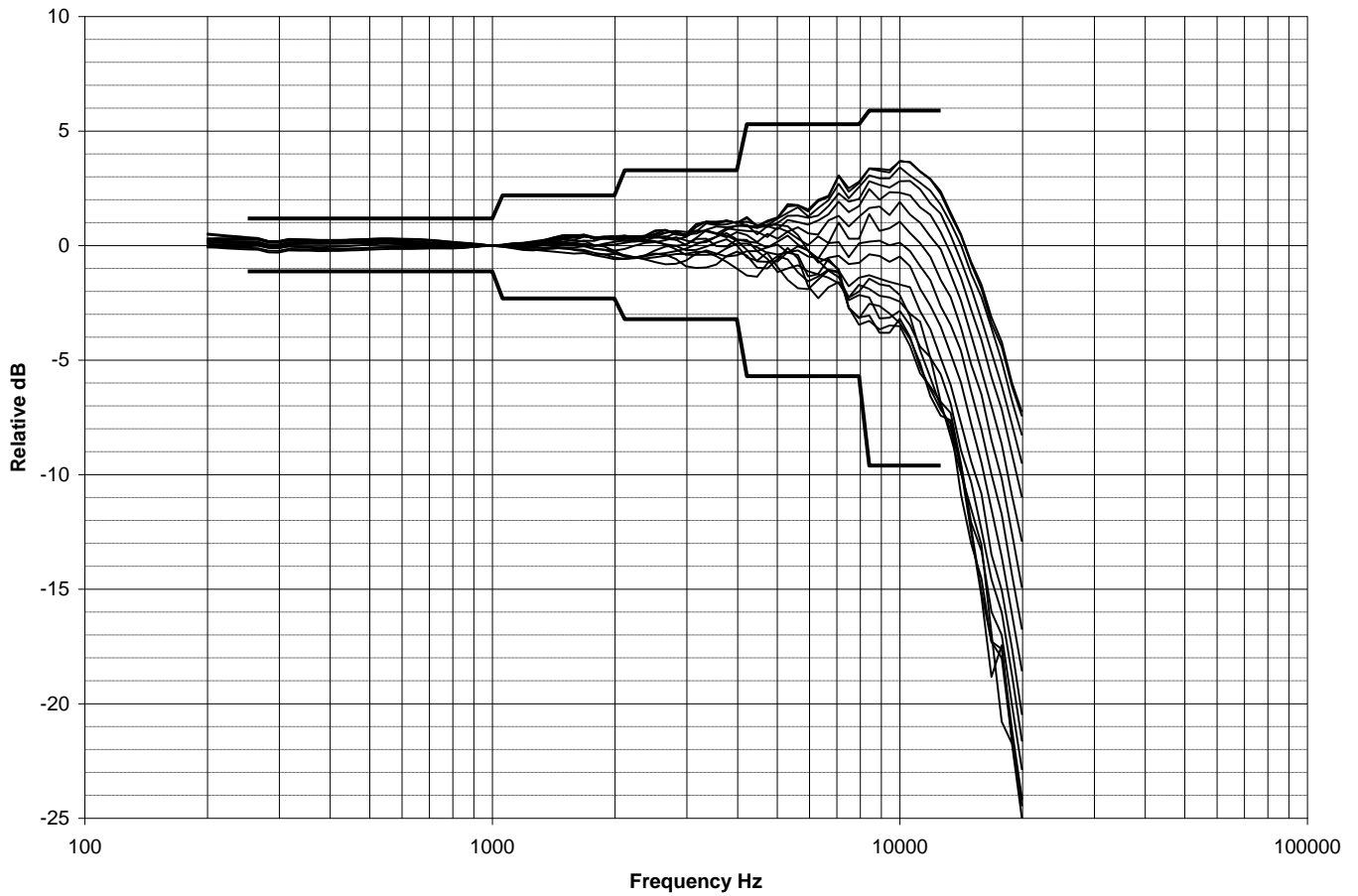
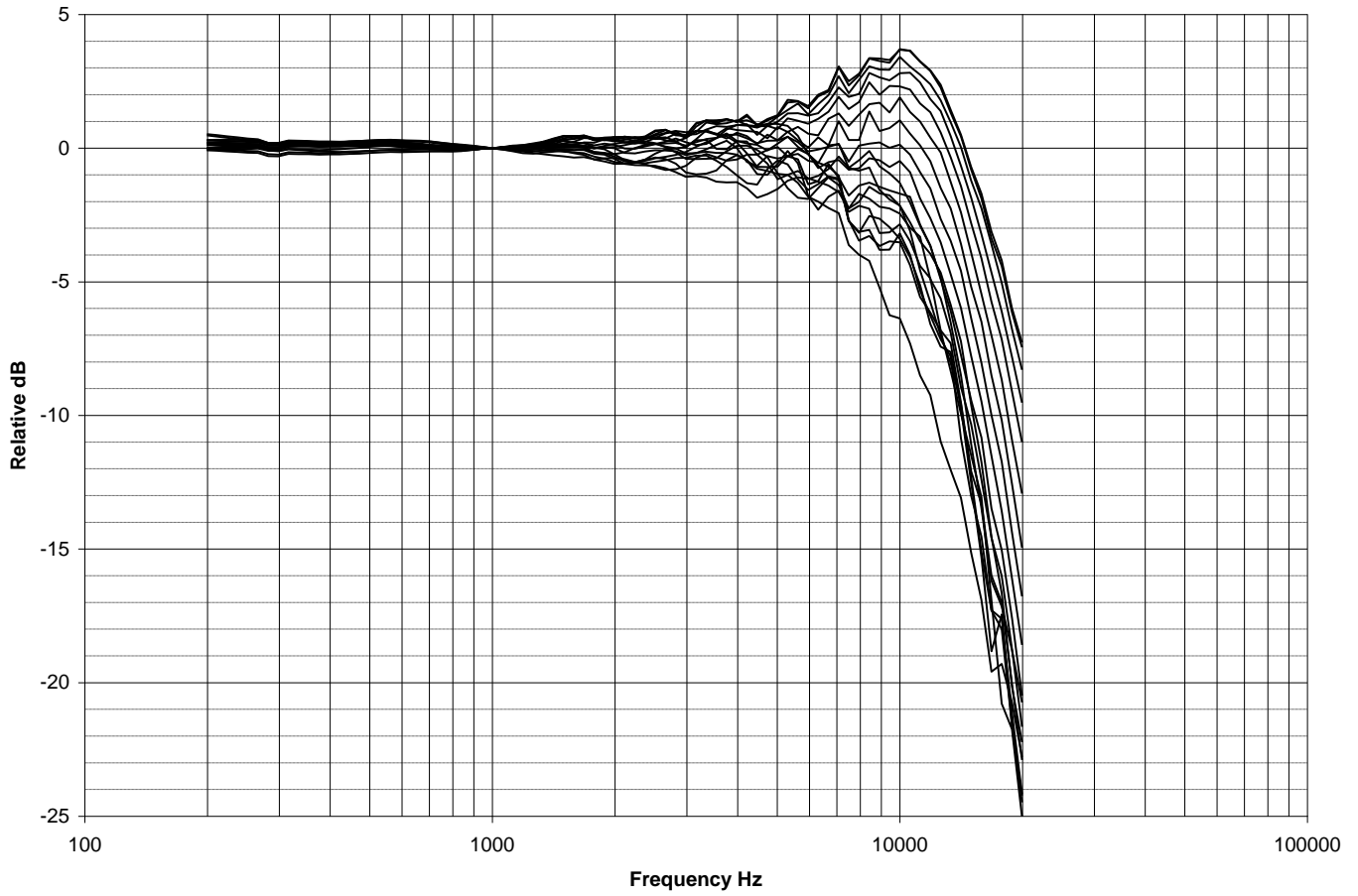
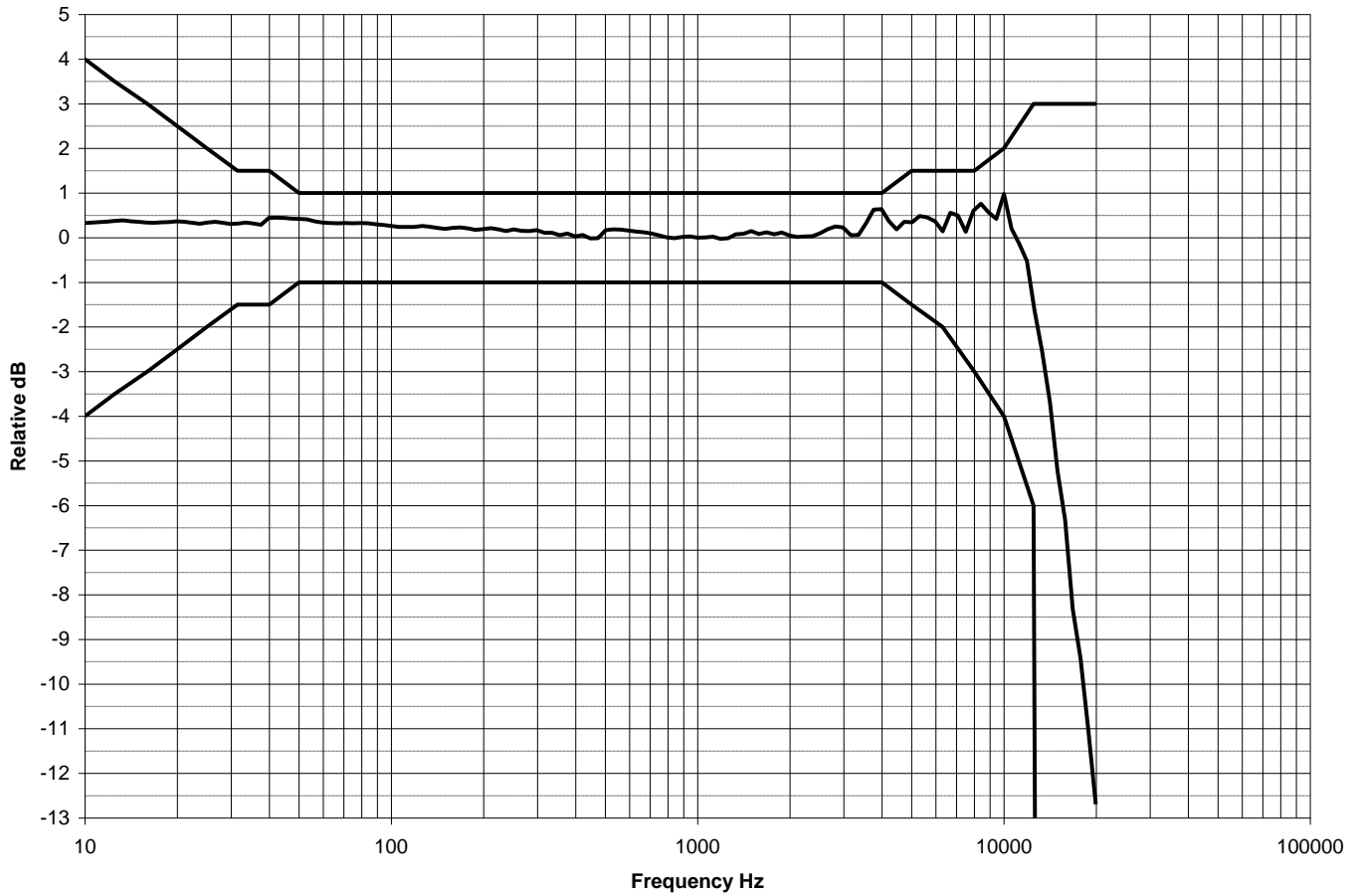


Figure K.8 -0-180 degree incidence angles



Random Incidence

Figure K.9 - Frequency Response



Corrections

Figure K.10 - Reflection, Diffraction, and Microphone Frequency Response

1/12 OCTAVE FREQUENCY in Hz	Local Microphone Acoustic Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Local Microphone Acoustic Corrections in dB
199.53	-0.3	2371.37	-0.2
211.35	-0.3	2511.89	-0.4
223.87	-0.3	2660.73	-0.5
237.14	-0.3	2818.38	-0.4
251.19	-0.3	2985.38	-0.4
266.07	-0.3	3162.28	-0.5
281.84	-0.3	3349.65	-0.4
298.54	-0.3	3548.13	-0.8
316.23	-0.3	3758.37	-1.1
334.97	-0.3	3981.07	-1.1
354.81	-0.3	4216.97	-1.2
375.84	-0.3	4466.84	-0.8
398.11	-0.3	4731.51	-1.2
421.70	-0.3	5011.87	-1.3
446.68	-0.3	5308.84	-1.8
473.15	-0.4	5623.41	-1.9
501.19	-0.4	5956.62	-2.0
530.88	-0.4	6309.57	-2.0
562.34	-0.4	6683.44	-2.4
595.66	-0.3	7079.46	-3.0
630.96	-0.2	7498.94	-2.9
668.34	-0.2	7943.28	-3.4
707.95	-0.2	8413.95	-4.0
749.89	-0.1	8912.51	-4.1
794.33	-0.1	9440.61	-4.2
841.40	-0.1	10000.00	-5.1
891.25	-0.1	10592.54	-4.6
944.06	-0.1	11220.19	-4.9
1000.00	-0.1	11885.02	-5.3
1059.25	-0.1	12589.25	-5.0
1122.02	-0.1	13335.21	-4.7
1188.50	0.0	14125.38	-4.2
1258.93	-0.1	14962.36	-3.1
1333.52	-0.3	15848.93	-2.5
1412.54	-0.3	16788.04	-1.0
1496.24	-0.5	17782.79	-0.4
1584.89	-0.4	18836.49	0.9
1678.80	-0.4	19952.62	2.1
1778.28	-0.2	2238.72	-0.2
1883.65	-0.3	2113.49	-0.3
1995.26	-0.3		

Figure K.11 -Reflection, Diffraction, and Microphone Frequency Response

1/12 OCTAVE FREQUENCY in Hz	Microphone Windscreen Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Microphone Windscreen Corrections in dB
199.53	-0.2	2238.72	0.5
211.35	-0.2	2371.37	0.5
223.87	-0.1	2511.89	0.6
237.14	0.0	2660.73	0.7
251.19	0.0	2818.38	0.7
266.07	0.1	2985.38	0.7
281.84	0.1	3162.28	0.6
298.54	0.2	3349.65	0.5
316.23	0.2	3548.13	0.6
334.97	0.2	3758.37	0.7
354.81	0.2	3981.07	0.8
375.84	0.2	4216.97	0.6
398.11	0.2	4466.84	0.5
421.70	0.2	4731.51	0.6
446.68	0.2	5011.87	0.4
473.15	0.3	5308.84	0.5
501.19	0.3	5623.41	0.6
530.88	0.3	5956.62	0.6
562.34	0.3	6309.57	0.5
595.66	0.3	6683.44	0.5
630.96	0.3	7079.46	0.7
668.34	0.3	7498.94	0.7
707.95	0.3	7943.28	0.4
749.89	0.3	8413.95	0.6
794.33	0.3	8912.51	0.5
841.40	0.2	9440.61	0.1
891.25	0.3	10000.00	0.3
944.06	0.3	10592.54	0.1
1000.00	0.3	11220.19	-0.4
1059.25	0.3	11885.02	-0.5
1122.02	0.3	12589.25	-0.8
1188.50	0.3	13335.21	-1.2
1258.93	0.3	14125.38	-1.3
1333.52	0.3	14962.36	-1.5
1412.54	0.3	15848.93	-1.3
1496.24	0.4	16788.04	-1.5
1584.89	0.3	17782.79	-1.6
1678.80	0.4	18836.49	-1.4
1778.28	0.4	19952.62	-1.5
1883.65	0.5		
1995.26	0.4		
2113.49	0.5		

Self Generated Noise

Table K.12-Broadband

Range (dB)	SPL			LEQ		
	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting
Fast Response						
-20 to 70	22.9	30.1	37.4	22.8	30.1	37.0
-10 to 80	22.8	29.8	37.1	22.8	30.3	37.2
0 to 90	22.8	30.2	36.6	22.8	30.2	37.3
10 to 100	22.8	30.0	36.6	22.8	30.2	37.6
20 to 110	23.3	30.3	36.5	23.3	30.5	37.5
30 to 120	26.2	31.4	36.8	26.2	31.1	37.1
40 to 130	33.3	34.4	38.2	33.4	34.6	38.9
50 to 140	42.1	42.1	43.1	42.1	42.2	42.8
Slow Response						
Range (dB)	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting
-20 to 70	22.8	30.3	37.4	22.8	30.3	37.7
-10 to 80	22.8	30.3	37.4	22.7	30.3	37.7
0 to 90	22.8	30.2	37.5	22.8	30.2	37.5
10 to 100	22.8	30.2	37.9	22.7	30.2	37.6
20 to 110	23.3	30.2	37.5	23.3	30.3	37.3
30 to 120	26.2	31.0	37.6	26.2	31.0	37.9
40 to 130	33.4	34.6	38.6	33.4	34.6	38.5
50 to 140	42.2	42.1	43.0	42.2	42.1	42.9

Table K.13 – Octave Band

A Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.8	3.5	10.1	14.6	17.7	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.7	3.6	9.7	15.0	17.9	19.4	19.5	18.9	17.5	13.8
10 to 90	-15.1	-7.7	3.7	10.2	14.9	18.0	19.3	19.4	18.9	17.5	13.7
20 to 100	-6.6	-4.5	3.1	10.4	15.0	17.7	19.3	19.3	18.8	17.3	14.2
30 to 110	3.6	-0.1	3.5	10.0	15.1	17.8	19.1	19.1	18.3	18.3	18.3
40 to 120	12.8	10.7	7.5	10.7	14.9	16.8	19.3	22.3	25.3	28.3	28.3
50 to 130	23.6	19.3	17.2	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.4	28.8	27.6	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
A Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.1	3.2	9.9	15.1	18.0	19.4	19.5	19.1	17.6	13.9
0 to 80	-16.8	-7.0	3.4	10.0	14.9	18.0	19.4	19.5	18.9	17.6	13.8
10 to 90	-15.0	-6.6	3.0	9.8	14.8	17.8	19.3	19.4	18.9	17.5	13.8
20 to 100	-6.9	-5.9	3.0	9.8	14.8	17.8	19.2	19.3	18.9	17.3	14.2
30 to 110	3.1	0.0	4.1	10.1	14.8	17.7	19.2	19.2	18.3	18.3	18.3
40 to 120	12.6	9.3	8.0	11.1	15.3	16.9	19.3	22.3	25.3	28.3	28.3
50 to 130	22.9	18.5	17.4	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.5	28.7	27.3	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
A Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.2	3.4	9.8	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-7.3	3.2	9.9	14.8	17.9	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.6	-6.8	3.2	10.1	14.8	17.8	19.3	19.4	18.9	17.3	13.3
20 to 100	-7.0	-6.2	3.4	9.8	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.3	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	12.8	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	22.9	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	32.9	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
A Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.3	3.3	10.1	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.6	3.4	10.1	14.8	17.8	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.7	-7.1	3.4	10.0	14.8	17.8	19.2	19.4	18.8	17.3	13.3
20 to 100	-6.9	-6.3	3.5	9.9	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.2	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	13.0	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	23.2	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.2	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table K.13- (Continued)

C Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.6	28.1	25.7	23.4	21.3	19.2	18.1	17.1	15.6	11.8
0 to 80	24.9	28.0	27.6	24.9	23.0	21.0	19.3	18.0	16.9	15.4	11.8
10 to 90	24.3	27.7	27.1	25.9	23.3	21.0	19.3	18.0	17.0	15.4	11.6
20 to 100	22.6	27.4	27.9	25.3	23.1	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	25.6	27.5	26.5	25.8	23.5	21.2	19.2	17.8	15.4	18.3	18.3
40 to 120	26.8	28.1	27.8	26.1	23.4	20.9	19.2	22.3	25.3	28.3	28.3
50 to 130	26.8	28.0	28.0	26.3	23.3	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	34.0	31.9	29.1	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.9	27.5	25.6	23.6	21.2	19.4	18.0	17.1	15.6	11.8
0 to 80	24.6	28.0	27.4	25.6	23.4	21.1	19.2	18.0	16.9	15.4	11.7
10 to 90	24.9	27.9	27.3	25.5	23.4	21.2	19.3	17.9	16.9	15.4	11.7
20 to 100	25.4	28.2	27.2	25.7	23.4	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	24.7	28.3	27.6	26.1	23.6	21.0	19.0	17.6	15.4	18.3	18.3
40 to 120	25.5	28.2	27.9	25.8	23.2	20.9	19.3	22.3	25.3	28.3	28.3
50 to 130	27.8	28.4	27.9	26.2	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.7	31.8	29.8	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
C Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.2	27.9	27.8	25.8	23.6	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	24.9	27.8	27.5	25.6	23.4	21.1	19.3	17.9	17.0	15.4	11.6
10 to 90	25.0	27.9	27.7	25.5	23.4	21.1	19.3	17.9	16.8	15.1	12.0
20 to 100	25.4	27.9	27.7	25.8	23.3	21.0	19.2	17.3	17.3	17.3	17.3
30 to 110	25.4	27.6	27.6	25.5	23.1	20.9	18.3	21.3	24.3	27.3	27.3
40 to 120	25.4	28.4	27.6	25.6	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	27.0	28.6	28.0	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.9	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
C Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.0	27.9	27.6	25.8	23.5	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	25.1	28.1	27.5	25.9	23.4	21.2	19.2	18.0	17.0	15.4	11.6
10 to 90	25.2	27.9	27.6	25.7	23.4	21.1	19.3	17.9	16.8	15.1	12.1
20 to 100	25.2	27.8	27.4	25.6	23.3	21.1	19.2	17.3	17.3	17.3	17.3
30 to 110	25.3	27.3	27.4	25.7	23.2	21.1	18.3	21.3	24.3	27.3	27.3
40 to 120	25.2	27.8	27.7	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	26.9	28.8	28.1	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.3	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table K.13- (Continued)

Z Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	32.9	30.0	27.5	26.0	23.4	21.2	19.4	18.2	18.0	18.6	19.8
0 to 80	32.9	31.2	28.8	25.9	23.5	21.3	19.5	18.1	17.9	18.4	19.7
10 to 90	33.2	30.5	27.8	25.4	23.5	21.4	19.3	18.3	17.9	18.4	19.7
20 to 100	31.7	30.2	28.2	25.9	23.2	21.4	19.4	18.0	17.8	18.3	19.7
30 to 110	32.9	30.9	27.9	25.9	23.3	21.1	19.1	18.2	18.3	18.3	18.3
40 to 120	31.9	31.6	27.9	25.6	23.1	21.3	19.2	22.3	25.3	28.3	28.3
50 to 130	33.8	30.5	28.1	26.0	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.7	32.5	30.3	30.3	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Fast Response, LEQ											
Range in dB	16 Hz in dB	31.5 Hz in dB	63 Hz in dB	125 Hz in dB	250 Hz in dB	500 Hz in dB	1000 Hz in dB	2000 Hz in dB	4000 Hz in dB	8000 Hz in dB	16 kHz in dB
-10 to 70	32.9	31.0	28.4	26.0	23.6	21.4	19.4	18.2	18.0	18.6	19.8
0 to 80	34.0	30.9	28.4	26.0	23.5	21.2	19.3	18.2	17.9	18.5	19.7
10 to 90	33.1	30.9	28.3	26.0	23.4	21.2	19.3	18.1	17.9	18.5	19.7
20 to 100	33.4	30.5	28.4	26.1	23.4	21.2	19.4	18.1	17.8	18.3	19.7
30 to 110	33.0	30.9	28.2	25.8	23.5	21.1	19.2	18.1	18.3	18.3	18.3
40 to 120	33.3	31.3	28.5	25.7	23.3	21.1	19.3	22.3	25.3	28.3	28.3
50 to 130	33.3	31.0	28.6	25.7	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.8	33.3	29.9	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.6	31.0	28.6	26.0	23.6	21.2	19.4	18.2	18.0	18.5	19.8
0 to 80	33.1	30.8	28.5	25.8	23.2	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.6	31.0	28.4	26.0	23.5	21.2	19.4	18.1	17.8	18.3	19.6
20 to 100	33.6	30.7	28.5	25.9	23.6	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.8	30.9	28.3	25.8	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	34.0	30.7	28.4	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.7	30.7	28.7	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
Z Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.3	31.2	28.6	26.0	23.5	21.3	19.5	18.2	18.0	18.5	19.8
0 to 80	33.1	30.9	28.3	25.9	23.4	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.8	30.9	28.5	25.8	23.3	21.2	19.3	18.1	17.7	18.3	19.6
20 to 100	33.3	30.8	28.3	25.9	23.5	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.6	30.9	28.5	25.9	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	33.5	31.3	28.3	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.6	31.0	28.9	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table K.14- 1/3 Octave Band

A Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	16.9	-16.9	-16.9	-13.7	-10.5	-6.0	-3.4	-1.6	1.6	3.9	6.5	7.3	9.4	9.8	10.8	11.8
0 to 80	-16.9	16.9	-16.9	-15.6	-13.3	-10.1	-6.7	-2.9	-0.9	3.4	4.0	6.0	7.5	8.1	9.8	10.8	11.8
10 to 90	-16.9	15.5	-16.8	-15.4	-13.7	-10.4	-6.3	-3.4	-1.2	3.7	3.6	5.9	6.7	9.3	10.3	10.7	11.6
20 to 100	-15.9	-6.2	-13.5	-9.2	-10.8	-9.1	-7.1	-3.7	-0.1	1.6	4.3	5.8	7.9	8.7	10.2	11.0	11.9
30 to 110	-6.4	4.2	-4.8	0.8	-3.8	-4.9	-3.8	-1.9	0.1	3.1	4.4	5.6	7.0	8.4	10.2	10.6	11.6
40 to 120	3.4	13.8	6.1	9.5	4.7	3.8	4.4	4.8	4.8	7.5	7.6	7.4	10.2	10.4	10.4	13.3	13.2
50 to 130	12.9	23.2	15.4	19.7	14.8	13.9	14.4	14.7	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	21.8	32.4	25.8	29.9	25.2	22.8	24.6	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
12.2	12.9	13.1	13.3	12.9	12.8	12.9	12.8	12.6	12.4	11.8	11.5	10.8	9.4	7.9	5.8		
12.6	12.7	12.9	13.1	13.0	12.8	12.7	12.6	12.2	12.1	11.8	11.5	10.6	9.4	7.8	5.9		
12.4	12.8	12.8	13.1	13.2	12.8	12.9	12.8	12.5	12.4	11.8	11.3	10.6	9.2	7.7	5.9		
12.5	12.6	12.7	12.8	12.6	12.7	12.8	12.6	12.3	12.2	11.4	11.3	10.1	8.3	8.3	8.3		
12.1	12.0	12.8	12.9	12.6	12.3	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

A Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.3	-13.9	-9.9	-6.6	-2.4	-0.4	3.7	3.9	5.9	7.6	9.4	10.2	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.4	-13.8	10.2	-6.5	-3.2	-0.5	3.7	4.0	6.0	7.5	8.8	10.2	11.2	11.8
10 to 90	-16.9	-15.9	-16.8	-15.3	-13.1	10.5	-6.8	-2.6	0.0	3.6	3.9	5.8	7.5	8.7	10.0	11.1	11.8
20 to 100	-15.8	-7.1	-13.6	-8.7	-10.3	-8.0	-6.2	-3.1	0.0	1.8	4.2	6.1	7.8	8.8	9.9	10.8	11.8
30 to 110	-5.5	3.6	-4.8	-0.8	-2.7	-4.4	-3.6	-1.9	0.6	3.6	4.2	6.2	7.6	9.1	10.0	11.0	11.6
40 to 120	3.2	13.3	4.4	9.7	6.7	3.7	4.7	5.1	4.7	7.2	7.4	7.6	10.3	10.4	10.4	13.2	13.2
50 to 130	12.6	23.5	14.5	19.5	16.8	14.1	14.4	14.6	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	24.4	33.8	25.1	30.1	27.0	23.5	24.2	24.5	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, LEQ																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
12.4	12.6	12.9	13.1	13.1	13.0	12.9	12.8	12.5	12.4	11.8	11.5	10.6	9.4	7.8	5.9		
12.5	12.7	13.0	13.1	13.0	12.8	12.9	12.6	12.4	12.3	11.8	11.4	10.6	9.4	7.8	5.8		
12.4	12.6	13.1	13.2	13.1	13.0	12.9	12.6	12.4	12.3	11.7	11.4	10.5	9.2	7.7	5.9		
12.4	12.6	12.9	13.0	13.0	12.9	12.7	12.5	12.3	12.1	11.4	11.3	10.1	8.3	8.3	8.3		
12.2	12.2	12.8	13.1	12.6	12.5	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

Table K.14 (Continued)

A Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-10.4	-6.1	-3.1	-0.7	3.6	3.8	5.7	7.6	8.9	10.2	11.2	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-14.1	-9.5	-6.3	-2.8	-0.6	3.7	4.0	6.0	7.2	8.8	10.0	11.1	11.9
10 to 90	-16.9	-16.9	-16.9	-16.6	-13.5	-9.6	-6.3	-3.0	-0.5	3.4	3.9	5.8	7.6	9.0	9.8	11.1	11.8
20 to 100	-12.7	-12.6	-12.6	-9.7	-9.6	-9.1	-6.2	-2.9	0.0	3.8	4.0	5.8	7.7	9.0	9.9	10.3	11.5
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.3	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	13.2	13.2	13.2	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, SPL																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.5	13.0	13.1	13.1	12.9	12.9	12.8	12.5	12.3	11.8	11.5	10.7	9.3	7.8	5.8	
12.6	12.6	12.9	13.0	13.0	12.8	12.8	12.6	12.4	12.2	11.8	11.4	10.6	9.3	7.7	5.7	
12.4	12.5	12.9	13.0	13.0	12.8	12.7	12.5	12.3	12.1	11.3	11.3	10.3	7.5	7.3	7.3	
12.2	12.4	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

A Weighting, Slow Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-9.9	-6.6	-3.0	-0.6	3.8	3.7	5.8	7.7	8.9	10.0	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-13.8	-9.2	-5.9	-3.1	-0.6	3.8	3.9	6.0	7.5	8.9	10.1	10.9	11.8
10 to 90	-16.9	-16.9	-16.9	-16.6	-14.0	-9.5	-6.4	-3.2	-0.5	3.8	3.9	5.8	7.5	8.7	10.1	10.9	11.8
20 to 100	-12.7	-12.7	-12.7	-9.7	-9.7	-9.2	-6.1	-2.9	-0.3	3.6	4.2	5.6	7.4	8.8	10.0	10.8	11.6
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.2	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	2	2	13.2	2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.	23.	23.2	2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.	33.	33.2	2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, LEQ																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.7	13.0	13.1	13.0	13.0	12.9	12.7	12.5	12.3	11.9	11.5	10.7	9.4	7.8	5.8	
12.4	12.6	12.9	13.0	13.1	12.9	12.8	12.6	12.4	12.2	11.7	11.4	10.6	9.3	7.7	5.7	
12.5	12.6	12.9	13.1	13.0	12.8	12.8	12.5	12.3	12.1	11.3	11.3	10.3	7.6	7.3	7.3	
12.2	12.3	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

Table K.14 (Continued)

C Weighting, Fast Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	14.3	17.2	20.5	21.8	21.2	21.6	22.2	22.0	20.9	20.3	20.1	19.4	18.2	17.8	16.8	15.7	14.6
0 to 80	13.7	18.4	21.9	21.2	22.4	22.8	21.0	21.7	20.7	20.1	20.1	19.4	17.9	17.9	16.6	15.8	15.1
10 to 90	15.2	16.8	21.2	21.8	20.9	21.7	21.5	21.6	21.2	20.7	19.2	19.0	18.2	17.4	16.3	15.7	14.6
20 to 100	17.1	17.5	19.9	22.0	20.7	22.9	21.9	21.3	21.3	20.5	19.2	19.0	18.2	17.1	16.3	15.4	15.0
30 to 110	18.2	19.5	19.1	20.0	18.8	22.2	22.0	22.5	20.4	20.1	19.4	18.2	17.8	16.8	16.4	15.4	14.8
40 to 120	18.4	18.0	19.9	22.4	22.9	22.8	22.7	22.3	20.5	19.6	19.7	19.2	18.2	17.3	16.2	15.3	13.9
50 to 130	15.0	19.0	20.2	21.6	23.9	22.9	22.5	22.2	21.1	20.3	19.9	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.0	22.6	24.7	25.6	26.2	24.6	24.6	26.0	24.7	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

C Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.2	12.5	12.3	11.7	11.2	11.2	10.8	10.6	10.4	9.9	9.5	8.6	7.3	5.7	3.9		
13.9	13.4	12.5	12.3	11.7	11.4	11.2	10.7	10.4	10.1	9.7	9.3	8.5	7.2	5.7	3.7		
14.0	13.2	12.8	12.3	11.8	11.2	11.2	10.7	10.5	10.2	9.6	9.2	8.5	7.2	5.4	3.2		
14.5	12.9	12.7	12.1	11.6	11.3	11.0	10.7	10.4	10.1	9.8	8.4	8.3	8.3	8.3	8.3		
13.8	13.0	13.0	12.4	12.0	10.8	10.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

C Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	16.7	18.3	20.3	20.9	22.4	22.4	22.3	21.8	21.2	19.5	19.4	19.0	18.0	17.6	16.4	15.8	15.0
0 to 80	16.5	18.8	20.7	22.0	22.3	23.1	22.3	21.5	21.3	20.1	19.4	18.9	18.4	17.7	16.5	15.6	14.8
10 to 90	18.0	19.4	20.3	22.1	22.9	22.4	22.4	21.5	21.0	20.0	19.6	18.9	18.1	17.2	16.3	15.6	14.8
20 to 100	17.6	18.9	22.1	20.9	21.3	22.5	22.2	21.1	21.1	20.4	19.6	19.2	17.9	17.3	16.6	15.6	14.9
30 to 110	17.1	18.8	21.0	22.3	21.2	22.0	22.0	22.2	20.9	20.7	19.5	18.9	18.1	17.6	16.5	15.5	14.7
40 to 120	18.2	18.6	20.8	22.7	22.9	22.1	22.1	22.3	22.1	20.6	20.0	19.1	18.1	17.6	16.4	15.1	14.2
50 to 130	18.9	20.6	23.1	22.3	22.9	24.0	23.2	23.6	22.0	21.0	20.3	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.6	23.9	24.7	25.8	25.9	24.5	25.7	26.1	24.9	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Table K.14 (Continued)

C Weighting, Fast Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.1	13.2	12.7	12.4	11.9	11.4	11.1	10.9	10.6	10.3	9.8	9.3	8.6	7.3	5.7	3.8
14.1	13.3	12.8	12.3	11.8	11.2	11.1	10.8	10.6	10.3	9.7	9.4	8.5	7.2	5.7	3.7
14.1	13.2	12.8	12.2	11.9	11.3	11.0	10.7	10.5	10.1	9.7	9.3	8.5	7.1	5.3	3.1
14.0	13.2	12.7	12.2	11.7	11.2	11.0	10.6	10.3	10.1	9.9	8.5	8.3	8.3	8.3	8.3
14.1	13.0	12.5	12.1	12.0	11.4	10.0	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

C Weighting, Slow Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.7	19.2	20.9	21.3	22.4	22.5	22.7	22.5	21.5	20.8	20.0	19.1	18.3	17.4	16.5	15.8	14.9
0 to 80	17.8	19.1	20.6	21.6	22.2	22.7	22.2	21.5	21.2	20.5	19.7	19.1	18.3	17.3	16.4	15.7	15.0
10 to 90	17.1	19.9	20.6	22.5	22.4	22.6	21.9	22.0	21.3	20.4	19.7	18.8	18.1	17.3	16.6	15.6	14.7
20 to 100	17.0	18.8	21.9	21.6	22.4	22.2	22.4	22.0	21.1	20.7	19.6	19.1	18.3	17.5	16.5	15.6	14.8
30 to 110	17.4	19.5	21.3	22.3	22.6	22.4	22.1	22.2	21.0	20.2	19.6	19.1	18.2	17.5	16.7	15.3	15.1
40 to 120	18.1	19.5	21.2	22.3	22.5	22.9	22.4	22.5	21.6	20.5	19.6	19.2	19.3	19.2	19.2	22.3	22.3
50 to 130	17.9	20.2	21.8	23.1	22.5	23.8	23.3	23.5	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.2	13.3	12.7	12.4	11.9	11.4	11.1	10.8	10.5	10.3	9.8	9.4	8.6	7.3	5.7	3.7
14.2	13.3	12.8	12.3	11.8	11.4	11.1	10.8	10.4	10.2	9.7	9.4	8.4	7.2	5.7	3.3
14.3	13.3	12.7	12.2	11.7	11.3	10.9	10.6	10.3	9.9	9.1	9.1	7.3	7.3	7.3	7.3
14.0	13.1	12.5	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Table K.14 (Continued)

C Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.6	19.2	21.4	22.4	22.4	22.6	22.7	22.1	21.6	20.7	19.8	19.2	18.3	17.6	16.5	15.6	14.8
0 to 80	17.9	19.0	21.4	22.0	22.4	22.4	22.5	22.0	21.1	20.3	19.6	18.9	18.2	17.5	16.5	15.6	14.9
10 to 90	16.8	19.8	21.2	22.4	22.0	22.6	21.9	22.2	21.5	20.4	19.7	19.0	18.2	17.4	16.5	15.5	14.9
20 to 100	17.7	19.6	21.8	22.2	21.9	22.8	22.4	22.0	21.1	20.6	19.6	19.3	18.2	17.5	16.6	15.5	14.8
30 to 110	17.0	19.4	21.3	22.1	22.5	22.7	22.5	21.9	21.4	20.5	19.5	19.1	18.1	17.5	16.3	15.3	15.2
40 to 120	18.0	19.7	21.4	21.9	22.9	23.0	22.3	22.1	21.0	20.3	19.6	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	18.1	19.8	21.3	21.9	22.8	23.4	23.3	23.4	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, LEQ																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.3	13.2	12.8	12.4	11.8	11.4	11.1	10.8	10.5	10.3	9.7	9.4	8.6	7.3	5.7	3.7	
	14.3	13.2	12.8	12.2	11.7	11.3	11.0	10.7	10.5	10.2	9.7	9.3	8.5	7.2	5.7	3.3	
	14.2	13.3	12.8	12.3	11.7	11.3	11.0	10.6	10.3	10.0	9.1	9.0	7.4	7.3	7.3	7.3	
	14.1	13.1	12.4	12.1	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
	12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
	42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

Z Weighting, Fast Response, SPL																	
Range (dB)	12. 5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28. 9	25.5	26.9	25.2	24.3	23.4	23.1	21.9	20.7	21.0	18.9	18.9	17.9	16.9	17.1	15.2	14.9
0 to 80	29. 2	26.7	26.9	26.0	24.2	22.4	23.2	23.2	21.3	20.5	20.0	19.1	18.1	17.4	16.3	15.8	14.9
10 to 90	26. 4	28.2	24.8	26.6	24.7	24.1	23.0	22.0	21.2	20.5	20.0	18.3	17.8	17.8	16.8	15.4	14.9
20 to 100	26. 3	26.7	25.3	25.4	24.6	23.0	24.1	22.0	21.3	20.2	20.2	18.7	18.0	17.4	16.3	15.6	14.8
30 to 110	25. 0	26.1	24.1	26.2	23.5	24.0	23.9	23.3	21.9	20.1	19.6	18.7	18.5	17.3	16.6	15.2	15.0
40 to 120	28. 4	28.7	27.0	24.8	25.1	24.3	22.1	24.0	21.1	20.3	19.3	18.9	18.2	16.5	16.1	15.4	14.4
50 to 130	27. 0	27.0	26.8	26.0	25.7	24.4	24.0	22.8	21.1	20.2	19.3	18.8	20.2	20.3	20.2	23.2	23.2
60 to 140	28. 9	27.5	26.8	27.0	27.9	26.6	24.9	25.8	24.5	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Table K.14 (Continued)

Z Weighting, Fast Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.5	13.3	12.9	12.3	12.0	11.4	11.6	11.2	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7
14.4	12.9	12.7	12.1	12.0	11.7	11.4	11.2	11.2	11.6	11.5	12.2	12.8	13.2	13.9	14.6
14.0	13.5	12.6	12.5	11.8	11.5	11.1	11.1	11.1	11.4	11.5	12.1	12.7	13.2	13.8	14.5
14.4	13.3	12.9	12.3	11.9	11.3	11.2	11.3	11.0	11.3	11.4	12.1	12.5	13.0	13.4	14.3
14.3	12.9	12.9	12.2	12.1	12.0	11.5	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.7	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

Z Weighting, Fast Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.2	27.6	27.2	25.8	25.3	24.3	23.8	22.7	21.5	20.8	20.0	19.0	18.3	17.6	16.5	15.7	14.8
0 to 80	28.7	28.1	27.1	25.8	25.7	24.8	23.1	22.7	21.0	20.6	19.7	19.1	18.6	17.6	16.5	15.6	14.8
10 to 90	28.2	28.3	26.8	26.3	25.2	24.4	23.8	22.7	21.4	20.4	19.6	19.2	18.3	17.3	16.5	15.5	14.8
20 to 100	27.7	26.6	27.6	26.0	25.2	24.1	22.9	22.1	21.2	20.7	19.6	19.0	18.2	17.5	16.7	15.8	14.9
30 to 110	27.6	26.9	26.7	25.7	25.5	24.4	23.4	22.4	21.8	20.8	19.7	18.8	18.4	17.3	16.5	15.5	14.6
40 to 120	29.0	27.1	27.1	26.2	25.2	24.1	23.2	22.8	21.3	20.1	19.4	19.2	18.0	17.1	16.2	15.4	14.7
50 to 130	29.7	28.0	27.2	25.0	25.6	24.8	23.5	23.1	21.5	20.9	19.7	19.0	20.3	20.2	20.2	23.2	23.2
60 to 140	29.7	29.6	27.8	25.6	26.8	26.4	25.5	26.0	24.6	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Z Weighting, Fast Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.3	13.5	12.8	12.5	11.9	11.6	11.5	11.3	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7
14.1	13.1	13.0	12.4	12.1	11.5	11.3	11.4	11.3	11.5	11.7	12.2	12.8	13.3	13.9	14.6
14.0	13.4	12.8	12.3	11.9	11.4	11.4	11.1	11.1	11.4	11.6	12.2	12.7	13.2	13.9	14.6
14.1	13.4	12.8	12.3	11.8	11.4	11.3	11.2	11.1	11.4	11.3	12.1	12.5	13.0	13.4	14.3
14.0	12.9	12.5	12.1	12.1	11.9	11.8	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.8	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

Z Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.1	27.8	26.8	26.9	25.4	24.8	23.7	23.1	21.8	21.1	20.0	19.1	18.4	17.6	16.7	15.7	15.0
0 to 80	28.6	27.7	27.0	26.7	24.8	24.7	23.4	22.6	21.9	20.6	19.7	19.0	18.2	17.5	16.7	15.6	15.0
10 to 90	27.1	27.2	26.5	25.7	25.2	24.0	23.9	22.6	21.5	20.4	19.7	19.1	18.2	17.3	16.5	15.6	14.7
20 to 100	28.9	27.3	27.1	25.9	25.6	23.9	23.6	22.9	21.7	20.8	19.8	19.0	18.0	17.6	16.5	15.5	14.8
30 to 110	28.3	27.8	27.4	25.4	25.1	24.6	23.3	22.5	21.8	20.8	19.8	18.8	18.1	17.1	16.3	15.4	15.2
40 to 120	28.7	27.4	26.3	26.7	25.6	24.6	23.5	22.5	21.6	19.8	19.4	19.2	19.2	19.2	22.3	22.3	22.3
50 to 130	27.8	28.8	26.9	26.0	25.2	24.1	23.3	23.5	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	28.3	28.6	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Table K.14 (Continued)

Z Weighting, Slow Response, SPL															
630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
14.2	13.3	12.8	12.4	11.9	11.6	11.5	11.4	11.4	11.5	11.7	12.3	12.8	13.3	13.9	14.6
14.2	13.2	12.8	12.2	11.8	11.5	11.3	11.3	11.2	11.5	11.6	12.2	12.7	13.2	13.8	14.5
14.1	13.3	12.7	12.2	11.9	11.4	11.2	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3
14.2	13.1	12.5	12.2	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
12.9	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1

Z Weighting, Slow Response, LEQ																	
Range (dB)	12.5	16	20	25	31.5	40	50	63	80	100	125	160	200	250	315	400	500
	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz
-10 to 70	28.5	27.6	27.1	26.6	25.4	24.4	24.2	22.8	22.0	21.0	19.9	19.2	18.3	17.5	16.4	15.8	14.9
0 to 80	28.8	27.6	27.0	25.6	25.3	24.3	23.5	22.4	21.9	20.7	19.8	19.0	18.3	17.3	16.6	15.8	14.9
10 to 90	27.7	27.8	27.1	25.6	24.6	23.8	23.9	22.8	21.6	20.8	19.8	19.3	18.4	17.5	16.5	15.6	14.9
20 to 100	28.2	27.4	26.7	26.4	24.8	24.0	23.8	22.7	21.5	20.7	19.9	18.8	18.1	17.5	16.5	15.6	14.9
30 to 110	28.1	28.4	26.8	25.1	25.4	24.2	23.2	22.6	21.6	20.9	19.6	18.8	18.0	17.1	16.3	15.3	15.2
40 to 120	28.4	27.5	26.8	26.0	25.0	24.7	23.5	22.6	21.4	20.1	19.3	19.1	19.2	19.2	19.2	22.3	22.3
50 to 130	28.5	28.1	27.0	26.2	24.8	24.6	23.5	23.3	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	29.1	28.3	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, LEQ															
630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10	12.5	16	20
Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz	kHz
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.2	13.3	13.0	12.5	12.0	11.6	11.5	11.4	11.4	11.6	11.7	12.3	12.8	13.2	13.9	14.6
14.2	13.4	12.8	12.4	11.9	11.5	11.4	11.3	11.3	11.5	11.6	12.2	12.7	13.1	13.8	14.5
14.1	13.3	12.8	12.4	11.8	11.4	11.4	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3
14.1	13.0	12.6	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
13.0	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1

BK4936 microphone with random incidence corrector using a remote preamp (Figures/Tables "L")

Tolerance: IEC 61672 class 1

Directional Frequency response

Figure L.1- 0-30 degree incidence angles

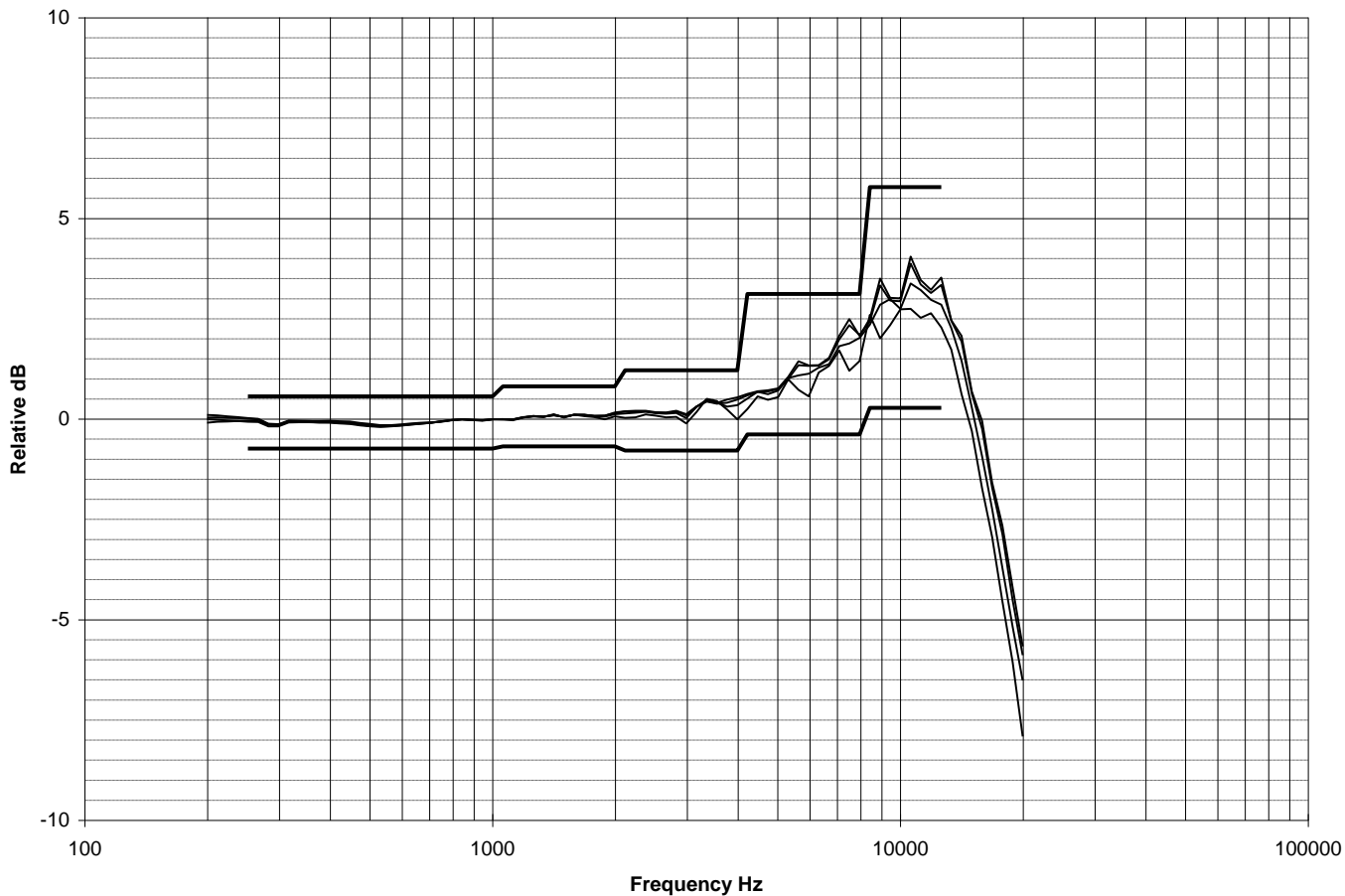


Figure L.2 - 0-90 degree incidence angles

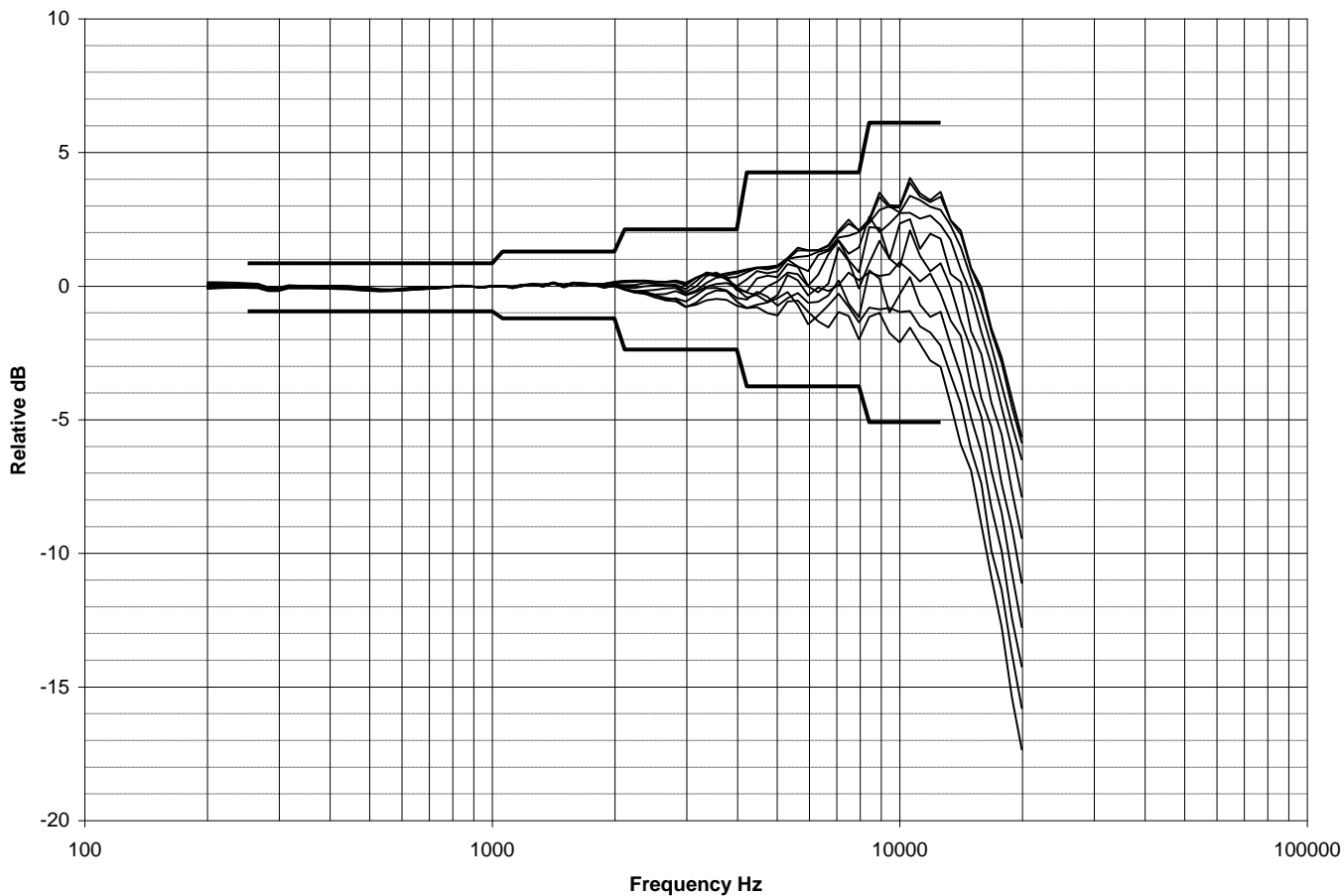


Figure L.3 - 0-150 degree incidence angles

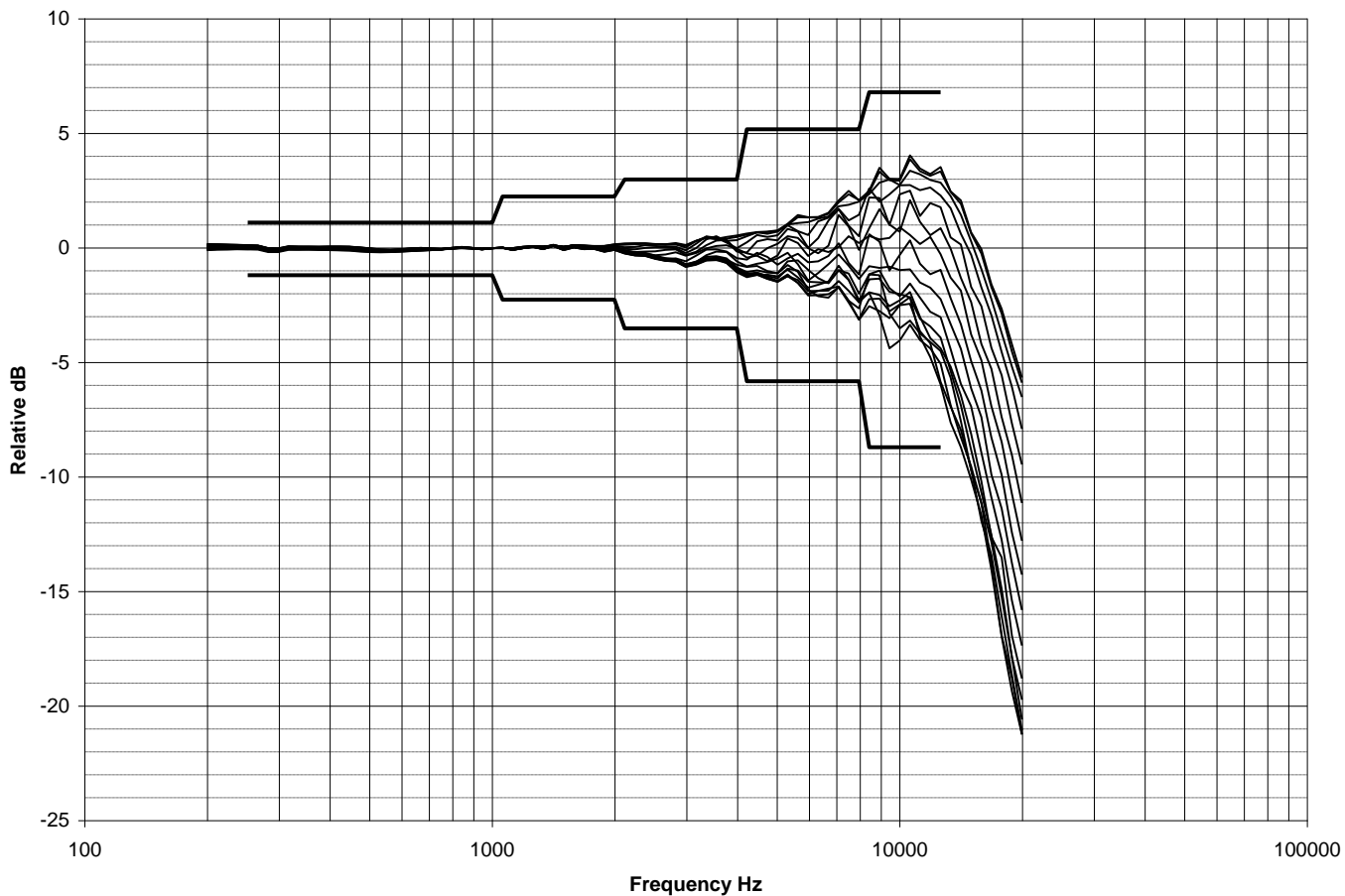
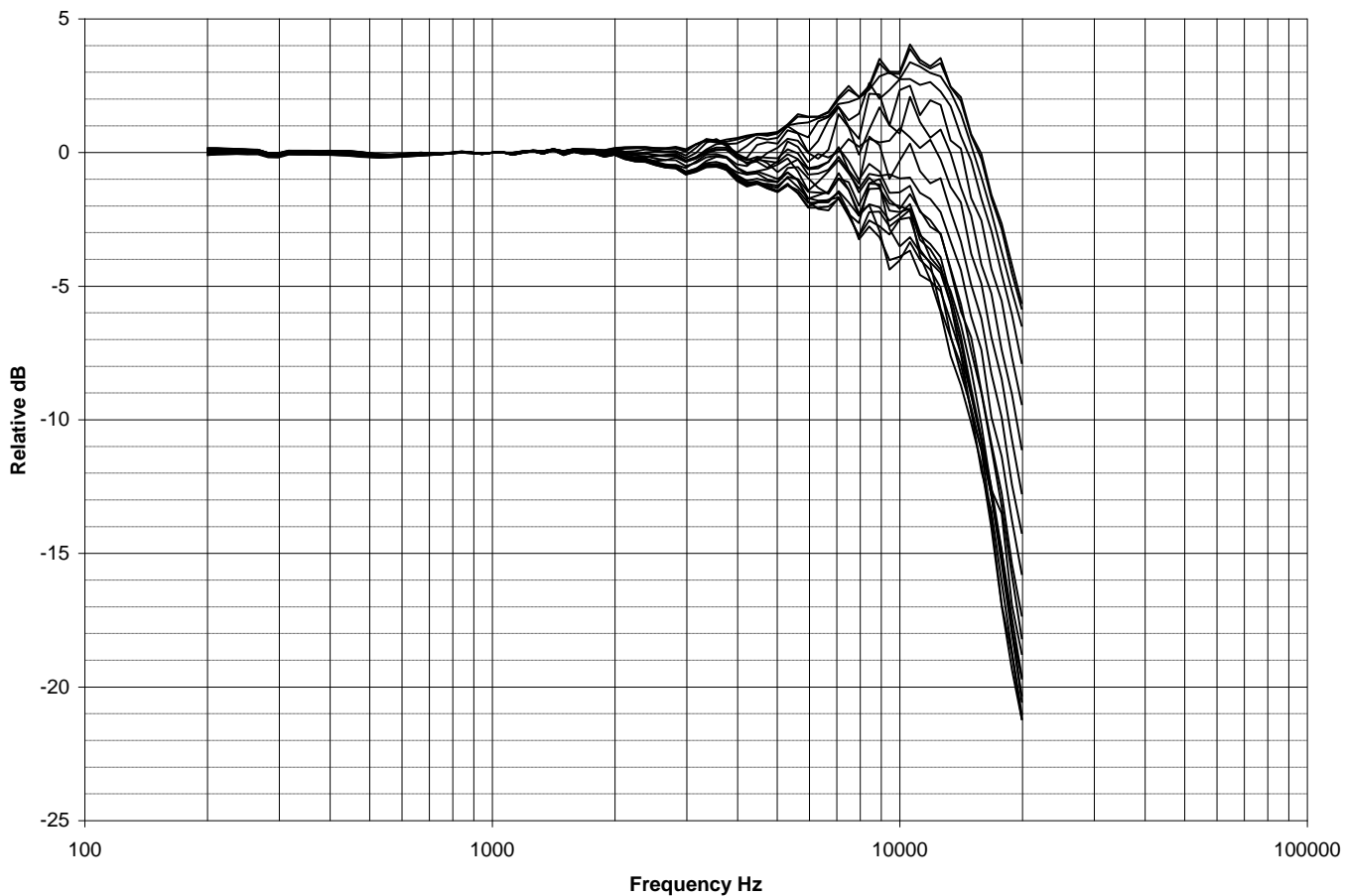
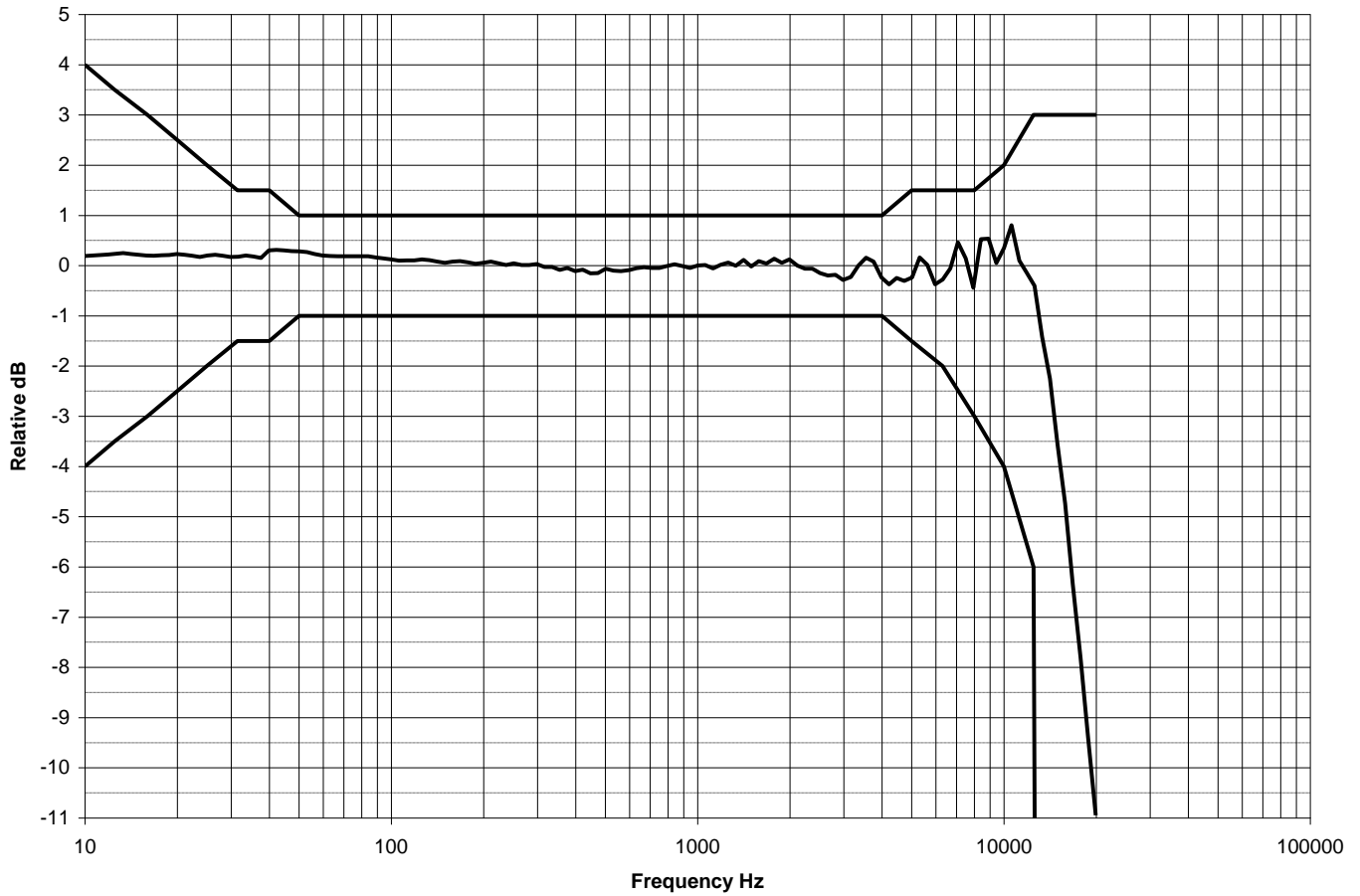


Figure L.4 - 0-180 degree incidence angles



Random Incidence

Figure L.5 - Frequency Response



Corrections

Figure L.6 - Reflection, Diffraction, and Microphone Frequency Response

1/12 OCTAVE FREQUENCY in Hz	Remote Microphone Acoustic Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Remote Microphone Acoustic Corrections in dB
199.53	-0.1	2371.37	-0.4
211.35	0.0	2511.89	-0.3
223.87	0.0	2660.73	-0.3
237.14	0.0	2818.38	-0.4
251.19	0.0	2985.38	-0.4
266.07	0.0	3162.28	-0.5
281.84	0.0	3349.65	-0.6
298.54	0.0	3548.13	-0.7
316.23	0.0	3758.37	-0.7
334.97	0.0	3981.07	-0.8
354.81	0.0	4216.97	-0.9
375.84	0.0	4466.84	-1.0
398.11	0.0	4731.51	-1.0
421.70	0.0	5011.87	-1.1
446.68	0.0	5308.84	-1.4
473.15	0.1	5623.41	-1.8
501.19	0.1	5956.62	-1.8
530.88	0.1	6309.57	-1.8
562.34	0.1	6683.44	-2.1
595.66	0.1	7079.46	-2.6
630.96	0.1	7498.94	-3.2
668.34	0.0	7943.28	-2.7
707.95	0.0	8413.95	-3.3
749.89	0.0	8912.51	-4.4
794.33	0.0	9440.61	-4.0
841.40	-0.1	10000.00	-4.1
891.25	0.0	10592.54	-5.2
944.06	0.0	11220.19	-4.7
1000.00	-0.1	11885.02	-4.6
1059.25	-0.1	12589.25	-5.1
1122.02	-0.1	13335.21	-4.1
1188.50	-0.1	14125.38	-3.9
1258.93	-0.1	14962.36	-2.8
1333.52	-0.1	15848.93	-2.2
1412.54	-0.2	16788.04	-0.9
1496.24	-0.1	17782.79	0.0
1584.89	-0.2	18836.49	1.1
1678.80	-0.2	19952.62	2.3
1778.28	-0.2	2113.49	-0.4
1883.65	-0.3	2238.72	-0.4
1995.26	-0.3		

Figure L.7- Pressure Field to Free Field Corrections

BK4936 R.I.C.	
Frequency in Hz	Correction in dB
125	0.04
250	0.00
1000	0.20
2000	0.69
4000	2.09

Figure L.8 -Pressure Field to Random Incidence Corrections

BK4936 R.I.C.	
Frequency in Hz	Correction in dB
125	0.05
250	0.00
1000	0.14
2000	0.49
4000	1.05

Self Generated Noise

Table L.9 -Broadband

Range (dB)	SPL			LEQ		
	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting
Fast Response						
-20 to 70	22.9	30.1	37.4	22.8	30.1	37.0
-10 to 80	22.8	29.8	37.1	22.8	30.3	37.2
0 to 90	22.8	30.2	36.6	22.8	30.2	37.3
10 to 100	22.8	30.0	36.6	22.8	30.2	37.6
20 to 110	23.3	30.3	36.5	23.3	30.5	37.5
30 to 120	26.2	31.4	36.8	26.2	31.1	37.1
40 to 130	33.3	34.4	38.2	33.4	34.6	38.9
50 to 140	42.1	42.1	43.1	42.1	42.2	42.8
Slow Response						
-20 to 70	22.8	30.3	37.4	22.8	30.3	37.7
-10 to 80	22.8	30.3	37.4	22.7	30.3	37.7
0 to 90	22.8	30.2	37.5	22.8	30.2	37.5
10 to 100	22.8	30.2	37.9	22.7	30.2	37.6
20 to 110	23.3	30.2	37.5	23.3	30.3	37.3
30 to 120	26.2	31.0	37.6	26.2	31.0	37.9
40 to 130	33.4	34.6	38.6	33.4	34.6	38.5
50 to 140	42.2	42.1	43.0	42.2	42.1	42.9

Table L.10 – Octave Band

A Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.8	3.5	10.1	14.6	17.7	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.7	3.6	9.7	15.0	17.9	19.4	19.5	18.9	17.5	13.8
10 to 90	-15.1	-7.7	3.7	10.2	14.9	18.0	19.3	19.4	18.9	17.5	13.7
20 to 100	-6.6	-4.5	3.1	10.4	15.0	17.7	19.3	19.3	18.8	17.3	14.2
30 to 110	3.6	-0.1	3.5	10.0	15.1	17.8	19.1	19.1	18.3	18.3	18.3
40 to 120	12.8	10.7	7.5	10.7	14.9	16.8	19.3	22.3	25.3	28.3	28.3
50 to 130	23.6	19.3	17.2	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.4	28.8	27.6	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
A Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.1	3.2	9.9	15.1	18.0	19.4	19.5	19.1	17.6	13.9
0 to 80	-16.8	-7.0	3.4	10.0	14.9	18.0	19.4	19.5	18.9	17.6	13.8
10 to 90	-15.0	-6.6	3.0	9.8	14.8	17.8	19.3	19.4	18.9	17.5	13.8
20 to 100	-6.9	-5.9	3.0	9.8	14.8	17.8	19.2	19.3	18.9	17.3	14.2
30 to 110	3.1	0.0	4.1	10.1	14.8	17.7	19.2	19.2	18.3	18.3	18.3
40 to 120	12.6	9.3	8.0	11.1	15.3	16.9	19.3	22.3	25.3	28.3	28.3
50 to 130	22.9	18.5	17.4	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.5	28.7	27.3	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
A Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.2	3.4	9.8	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-7.3	3.2	9.9	14.8	17.9	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.6	-6.8	3.2	10.1	14.8	17.8	19.3	19.4	18.9	17.3	13.3
20 to 100	-7.0	-6.2	3.4	9.8	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.3	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	12.8	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	22.9	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	32.9	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
A Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.3	3.3	10.1	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.6	3.4	10.1	14.8	17.8	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.7	-7.1	3.4	10.0	14.8	17.8	19.2	19.4	18.8	17.3	13.3
20 to 100	-6.9	-6.3	3.5	9.9	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.2	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	13.0	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	23.2	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.2	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table L.10 - (Continued)

C Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.6	28.1	25.7	23.4	21.3	19.2	18.1	17.1	15.6	11.8
0 to 80	24.9	28.0	27.6	24.9	23.0	21.0	19.3	18.0	16.9	15.4	11.8
10 to 90	24.3	27.7	27.1	25.9	23.3	21.0	19.3	18.0	17.0	15.4	11.6
20 to 100	22.6	27.4	27.9	25.3	23.1	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	25.6	27.5	26.5	25.8	23.5	21.2	19.2	17.8	15.4	18.3	18.3
40 to 120	26.8	28.1	27.8	26.1	23.4	20.9	19.2	22.3	25.3	28.3	28.3
50 to 130	26.8	28.0	28.0	26.3	23.3	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	34.0	31.9	29.1	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.9	27.5	25.6	23.6	21.2	19.4	18.0	17.1	15.6	11.8
0 to 80	24.6	28.0	27.4	25.6	23.4	21.1	19.2	18.0	16.9	15.4	11.7
10 to 90	24.9	27.9	27.3	25.5	23.4	21.2	19.3	17.9	16.9	15.4	11.7
20 to 100	25.4	28.2	27.2	25.7	23.4	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	24.7	28.3	27.6	26.1	23.6	21.0	19.0	17.6	15.4	18.3	18.3
40 to 120	25.5	28.2	27.9	25.8	23.2	20.9	19.3	22.3	25.3	28.3	28.3
50 to 130	27.8	28.4	27.9	26.2	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.7	31.8	29.8	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
C Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.2	27.9	27.8	25.8	23.6	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	24.9	27.8	27.5	25.6	23.4	21.1	19.3	17.9	17.0	15.4	11.6
10 to 90	25.0	27.9	27.7	25.5	23.4	21.1	19.3	17.9	16.8	15.1	12.0
20 to 100	25.4	27.9	27.7	25.8	23.3	21.0	19.2	17.3	17.3	17.3	17.3
30 to 110	25.4	27.6	27.6	25.5	23.1	20.9	18.3	21.3	24.3	27.3	27.3
40 to 120	25.4	28.4	27.6	25.6	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	27.0	28.6	28.0	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.9	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
C Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.0	27.9	27.6	25.8	23.5	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	25.1	28.1	27.5	25.9	23.4	21.2	19.2	18.0	17.0	15.4	11.6
10 to 90	25.2	27.9	27.6	25.7	23.4	21.1	19.3	17.9	16.8	15.1	12.1
20 to 100	25.2	27.8	27.4	25.6	23.3	21.1	19.2	17.3	17.3	17.3	17.3
30 to 110	25.3	27.3	27.4	25.7	23.2	21.1	18.3	21.3	24.3	27.3	27.3
40 to 120	25.2	27.8	27.7	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	26.9	28.8	28.1	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.3	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table L.10 - (Continued)

Z Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	32.9	30.0	27.5	26.0	23.4	21.2	19.4	18.2	18.0	18.6	19.8
0 to 80	32.9	31.2	28.8	25.9	23.5	21.3	19.5	18.1	17.9	18.4	19.7
10 to 90	33.2	30.5	27.8	25.4	23.5	21.4	19.3	18.3	17.9	18.4	19.7
20 to 100	31.7	30.2	28.2	25.9	23.2	21.4	19.4	18.0	17.8	18.3	19.7
30 to 110	32.9	30.9	27.9	25.9	23.3	21.1	19.1	18.2	18.3	18.3	18.3
40 to 120	31.9	31.6	27.9	25.6	23.1	21.3	19.2	22.3	25.3	28.3	28.3
50 to 130	33.8	30.5	28.1	26.0	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.7	32.5	30.3	30.3	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Fast Response, LEQ											
Range in dB	16 Hz in dB	31.5 Hz in dB	63 Hz in dB	125 Hz in dB	250 Hz in dB	500 Hz in dB	1000 Hz in dB	2000 Hz in dB	4000 Hz in dB	8000 Hz in dB	16 kHz in dB
-10 to 70	32.9	31.0	28.4	26.0	23.6	21.4	19.4	18.2	18.0	18.6	19.8
0 to 80	34.0	30.9	28.4	26.0	23.5	21.2	19.3	18.2	17.9	18.5	19.7
10 to 90	33.1	30.9	28.3	26.0	23.4	21.2	19.3	18.1	17.9	18.5	19.7
20 to 100	33.4	30.5	28.4	26.1	23.4	21.2	19.4	18.1	17.8	18.3	19.7
30 to 110	33.0	30.9	28.2	25.8	23.5	21.1	19.2	18.1	18.3	18.3	18.3
40 to 120	33.3	31.3	28.5	25.7	23.3	21.1	19.3	22.3	25.3	28.3	28.3
50 to 130	33.3	31.0	28.6	25.7	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.8	33.3	29.9	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.6	31.0	28.6	26.0	23.6	21.2	19.4	18.2	18.0	18.5	19.8
0 to 80	33.1	30.8	28.5	25.8	23.2	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.6	31.0	28.4	26.0	23.5	21.2	19.4	18.1	17.8	18.3	19.6
20 to 100	33.6	30.7	28.5	25.9	23.6	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.8	30.9	28.3	25.8	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	34.0	30.7	28.4	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.7	30.7	28.7	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
Z Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.3	31.2	28.6	26.0	23.5	21.3	19.5	18.2	18.0	18.5	19.8
0 to 80	33.1	30.9	28.3	25.9	23.4	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.8	30.9	28.5	25.8	23.3	21.2	19.3	18.1	17.7	18.3	19.6
20 to 100	33.3	30.8	28.3	25.9	23.5	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.6	30.9	28.5	25.9	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	33.5	31.3	28.3	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.6	31.0	28.9	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table L.11- 1/3 Octave Band

A Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	16.9	-16.9	-16.9	-13.7	-10.5	-6.0	-3.4	-1.6	1.6	3.9	6.5	7.3	9.4	9.8	10.8	11.8
0 to 80	-16.9	16.9	-16.9	-15.6	-13.3	-10.1	-6.7	-2.9	-0.9	3.4	4.0	6.0	7.5	8.1	9.8	10.8	11.8
10 to 90	-16.9	15.5	-16.8	-15.4	-13.7	-10.4	-6.3	-3.4	-1.2	3.7	3.6	5.9	6.7	9.3	10.3	10.7	11.6
20 to 100	-15.9	-6.2	-13.5	-9.2	-10.8	-9.1	-7.1	-3.7	-0.1	1.6	4.3	5.8	7.9	8.7	10.2	11.0	11.9
30 to 110	-6.4	4.2	-4.8	0.8	-3.8	-4.9	-3.8	-1.9	0.1	3.1	4.4	5.6	7.0	8.4	10.2	10.6	11.6
40 to 120	3.4	13.8	6.1	9.5	4.7	3.8	4.4	4.8	4.8	7.5	7.6	7.4	10.2	10.4	10.4	13.3	13.2
50 to 130	12.9	23.2	15.4	19.7	14.8	13.9	14.4	14.7	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	21.8	32.4	25.8	29.9	25.2	22.8	24.6	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
12.2	12.9	13.1	13.3	12.9	12.8	12.9	12.8	12.6	12.4	11.8	11.5	10.8	9.4	7.9	5.8		
12.6	12.7	12.9	13.1	13.0	12.8	12.7	12.6	12.2	12.1	11.8	11.5	10.6	9.4	7.8	5.9		
12.4	12.8	12.8	13.1	13.2	12.8	12.9	12.8	12.5	12.4	11.8	11.3	10.6	9.2	7.7	5.9		
12.5	12.6	12.7	12.8	12.6	12.7	12.8	12.6	12.3	12.2	11.4	11.3	10.1	8.3	8.3	8.3		
12.1	12.0	12.8	12.9	12.6	12.3	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

A Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.3	-13.9	-9.9	-6.6	-2.4	-0.4	3.7	3.9	5.9	7.6	9.4	10.2	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.4	-13.8	10.2	-6.5	-3.2	-0.5	3.7	4.0	6.0	7.5	8.8	10.2	11.2	11.8
10 to 90	-16.9	-15.9	-16.8	-15.3	-13.1	10.5	-6.8	-2.6	0.0	3.6	3.9	5.8	7.5	8.7	10.0	11.1	11.8
20 to 100	-15.8	-7.1	-13.6	-8.7	-10.3	-8.0	-6.2	-3.1	0.0	1.8	4.2	6.1	7.8	8.8	9.9	10.8	11.8
30 to 110	-5.5	3.6	-4.8	-0.8	-2.7	-4.4	-3.6	-1.9	0.6	3.6	4.2	6.2	7.6	9.1	10.0	11.0	11.6
40 to 120	3.2	13.3	4.4	9.7	6.7	3.7	4.7	5.1	4.7	7.2	7.4	7.6	10.3	10.4	10.4	13.2	13.2
50 to 130	12.6	23.5	14.5	19.5	16.8	14.1	14.4	14.6	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	24.4	33.8	25.1	30.1	27.0	23.5	24.2	24.5	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, LEQ																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
12.4	12.6	12.9	13.1	13.1	13.0	12.9	12.8	12.5	12.4	11.8	11.5	10.6	9.4	7.8	5.9		
12.5	12.7	13.0	13.1	13.0	12.8	12.9	12.6	12.4	12.3	11.8	11.4	10.6	9.4	7.8	5.8		
12.4	12.6	13.1	13.2	13.1	13.0	12.9	12.6	12.4	12.3	11.7	11.4	10.5	9.2	7.7	5.9		
12.4	12.6	12.9	13.0	13.0	12.9	12.7	12.5	12.3	12.1	11.4	11.3	10.1	8.3	8.3	8.3		
12.2	12.2	12.8	13.1	12.6	12.5	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

Table L.11 (Continued)

A Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-10.4	-6.1	-3.1	-0.7	3.6	3.8	5.7	7.6	8.9	10.2	11.2	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-14.1	-9.5	-6.3	-2.8	-0.6	3.7	4.0	6.0	7.2	8.8	10.0	11.1	11.9
10 to 90	-16.9	-16.9	-16.9	-16.6	-13.5	-9.6	-6.3	-3.0	-0.5	3.4	3.9	5.8	7.6	9.0	9.8	11.1	11.8
20 to 100	-12.7	-12.6	-12.6	-9.7	-9.6	-9.1	-6.2	-2.9	0.0	3.8	4.0	5.8	7.7	9.0	9.9	10.3	11.5
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.3	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	13.2	13.2	13.2	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, SPL																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.5	13.0	13.1	13.1	12.9	12.9	12.8	12.5	12.3	11.8	11.5	10.7	9.3	7.8	5.8	
12.6	12.6	12.9	13.0	13.0	12.8	12.8	12.6	12.4	12.2	11.8	11.4	10.6	9.3	7.7	5.7	
12.4	12.5	12.9	13.0	13.0	12.8	12.7	12.5	12.3	12.1	11.3	11.3	10.3	7.5	7.3	7.3	
12.2	12.4	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

A Weighting, Slow Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-9.9	-6.6	-3.0	-0.6	3.8	3.7	5.8	7.7	8.9	10.0	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-13.8	-9.2	-5.9	-3.1	-0.6	3.8	3.9	6.0	7.5	8.9	10.1	10.9	11.8
10 to 90	-16.9	-16.9	-16.9	-16.6	-14.0	-9.5	-6.4	-3.2	-0.5	3.8	3.9	5.8	7.5	8.7	10.1	10.9	11.8
20 to 100	-12.7	-12.7	-12.7	-9.7	-9.7	-9.2	-6.1	-2.9	-0.3	3.6	4.2	5.6	7.4	8.8	10.0	10.8	11.6
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.2	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	2	2	13.2	2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.	23.	23.2	2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.	33.	33.2	2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, LEQ																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.7	13.0	13.1	13.0	13.0	12.9	12.7	12.5	12.3	11.9	11.5	10.7	9.4	7.8	5.8	
12.4	12.6	12.9	13.0	13.1	12.9	12.8	12.6	12.4	12.2	11.7	11.4	10.6	9.3	7.7	5.7	
12.5	12.6	12.9	13.1	13.0	12.8	12.8	12.5	12.3	12.1	11.3	11.3	10.3	7.6	7.3	7.3	
12.2	12.3	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

Table L.11 (Continued)

C Weighting, Fast Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	14.3	17.2	20.5	21.8	21.2	21.6	22.2	22.0	20.9	20.3	20.1	19.4	18.2	17.8	16.8	15.7	14.6
0 to 80	13.7	18.4	21.9	21.2	22.4	22.8	21.0	21.7	20.7	20.1	20.1	19.4	17.9	17.9	16.6	15.8	15.1
10 to 90	15.2	16.8	21.2	21.8	20.9	21.7	21.5	21.6	21.2	20.7	19.2	19.0	18.2	17.4	16.3	15.7	14.6
20 to 100	17.1	17.5	19.9	22.0	20.7	22.9	21.9	21.3	21.3	20.5	19.2	19.0	18.2	17.1	16.3	15.4	15.0
30 to 110	18.2	19.5	19.1	20.0	18.8	22.2	22.0	22.5	20.4	20.1	19.4	18.2	17.8	16.8	16.4	15.4	14.8
40 to 120	18.4	18.0	19.9	22.4	22.9	22.8	22.7	22.3	20.5	19.6	19.7	19.2	18.2	17.3	16.2	15.3	13.9
50 to 130	15.0	19.0	20.2	21.6	23.9	22.9	22.5	22.2	21.1	20.3	19.9	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.0	22.6	24.7	25.6	26.2	24.6	24.6	26.0	24.7	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

C Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
14.4	13.2	12.5	12.3	11.7	11.2	11.2	10.8	10.6	10.4	9.9	9.5	8.6	7.3	5.7	3.9		
13.9	13.4	12.5	12.3	11.7	11.4	11.2	10.7	10.4	10.1	9.7	9.3	8.5	7.2	5.7	3.7		
14.0	13.2	12.8	12.3	11.8	11.2	11.2	10.7	10.5	10.2	9.6	9.2	8.5	7.2	5.4	3.2		
14.5	12.9	12.7	12.1	11.6	11.3	11.0	10.7	10.4	10.1	9.8	8.4	8.3	8.3	8.3	8.3		
13.8	13.0	13.0	12.4	12.0	10.8	10.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

C Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	16.7	18.3	20.3	20.9	22.4	22.4	22.3	21.8	21.2	19.5	19.4	19.0	18.0	17.6	16.4	15.8	15.0
0 to 80	16.5	18.8	20.7	22.0	22.3	23.1	22.3	21.5	21.3	20.1	19.4	18.9	18.4	17.7	16.5	15.6	14.8
10 to 90	18.0	19.4	20.3	22.1	22.9	22.4	22.4	21.5	21.0	20.0	19.6	18.9	18.1	17.2	16.3	15.6	14.8
20 to 100	17.6	18.9	22.1	20.9	21.3	22.5	22.2	21.1	21.1	20.4	19.6	19.2	17.9	17.3	16.6	15.6	14.9
30 to 110	17.1	18.8	21.0	22.3	21.2	22.0	22.0	22.2	20.9	20.7	19.5	18.9	18.1	17.6	16.5	15.5	14.7
40 to 120	18.2	18.6	20.8	22.7	22.9	22.1	22.1	22.3	22.1	20.6	20.0	19.1	18.1	17.6	16.4	15.1	14.2
50 to 130	18.9	20.6	23.1	22.3	22.9	24.0	23.2	23.6	22.0	21.0	20.3	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.6	23.9	24.7	25.8	25.9	24.5	25.7	26.1	24.9	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Table L.11 (Continued)

C Weighting, Fast Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.1	13.2	12.7	12.4	11.9	11.4	11.1	10.9	10.6	10.3	9.8	9.3	8.6	7.3	5.7	3.8
14.1	13.3	12.8	12.3	11.8	11.2	11.1	10.8	10.6	10.3	9.7	9.4	8.5	7.2	5.7	3.7
14.1	13.2	12.8	12.2	11.9	11.3	11.0	10.7	10.5	10.1	9.7	9.3	8.5	7.1	5.3	3.1
14.0	13.2	12.7	12.2	11.7	11.2	11.0	10.6	10.3	10.1	9.9	8.5	8.3	8.3	8.3	8.3
14.1	13.0	12.5	12.1	12.0	11.4	10.0	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

C Weighting, Slow Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.7	19.2	20.9	21.3	22.4	22.5	22.7	22.5	21.5	20.8	20.0	19.1	18.3	17.4	16.5	15.8	14.9
0 to 80	17.8	19.1	20.6	21.6	22.2	22.7	22.2	21.5	21.2	20.5	19.7	19.1	18.3	17.3	16.4	15.7	15.0
10 to 90	17.1	19.9	20.6	22.5	22.4	22.6	21.9	22.0	21.3	20.4	19.7	18.8	18.1	17.3	16.6	15.6	14.7
20 to 100	17.0	18.8	21.9	21.6	22.4	22.2	22.4	22.0	21.1	20.7	19.6	19.1	18.3	17.5	16.5	15.6	14.8
30 to 110	17.4	19.5	21.3	22.3	22.6	22.4	22.1	22.2	21.0	20.2	19.6	19.1	18.2	17.5	16.7	15.3	15.1
40 to 120	18.1	19.5	21.2	22.3	22.5	22.9	22.4	22.5	21.6	20.5	19.6	19.2	19.3	19.2	19.2	22.3	22.3
50 to 130	17.9	20.2	21.8	23.1	22.5	23.8	23.3	23.5	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.2	13.3	12.7	12.4	11.9	11.4	11.1	10.8	10.5	10.3	9.8	9.4	8.6	7.3	5.7	3.7
14.2	13.3	12.8	12.3	11.8	11.4	11.1	10.8	10.4	10.2	9.7	9.4	8.4	7.2	5.7	3.3
14.3	13.3	12.7	12.2	11.7	11.3	10.9	10.6	10.3	9.9	9.1	9.1	7.3	7.3	7.3	7.3
14.0	13.1	12.5	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Table L.11 (Continued)

C Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.6	19.2	21.4	22.4	22.4	22.6	22.7	22.1	21.6	20.7	19.8	19.2	18.3	17.6	16.5	15.6	14.8
0 to 80	17.9	19.0	21.4	22.0	22.4	22.4	22.5	22.0	21.1	20.3	19.6	18.9	18.2	17.5	16.5	15.6	14.9
10 to 90	16.8	19.8	21.2	22.4	22.0	22.6	21.9	22.2	21.5	20.4	19.7	19.0	18.2	17.4	16.5	15.5	14.9
20 to 100	17.7	19.6	21.8	22.2	21.9	22.8	22.4	22.0	21.1	20.6	19.6	19.3	18.2	17.5	16.6	15.5	14.8
30 to 110	17.0	19.4	21.3	22.1	22.5	22.7	22.5	21.9	21.4	20.5	19.5	19.1	18.1	17.5	16.3	15.3	15.2
40 to 120	18.0	19.7	21.4	21.9	22.9	23.0	22.3	22.1	21.0	20.3	19.6	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	18.1	19.8	21.3	21.9	22.8	23.4	23.3	23.4	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, LEQ																
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
14.3	13.2	12.8	12.4	11.8	11.4	11.1	10.8	10.5	10.3	9.7	9.4	8.6	7.3	5.7	3.7	
14.3	13.2	12.8	12.2	11.7	11.3	11.0	10.7	10.5	10.2	9.7	9.3	8.5	7.2	5.7	3.3	
14.2	13.3	12.8	12.3	11.7	11.3	11.0	10.6	10.3	10.0	9.1	9.0	7.4	7.3	7.3	7.3	
14.1	13.1	12.4	12.1	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

Table L.11(Continued)

Z Weighting, Fast Response, SPL																		
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	
-10 to 70	28.9	25.5	26.9	25.2	24.3	23.4	23.1	21.9	20.7	21.0	18.9	18.9	17.9	16.9	17.1	15.2	14.9	
0 to 80	29.2	26.7	26.9	26.0	24.2	22.4	23.2	23.2	21.3	20.5	20.0	19.1	18.1	17.4	16.3	15.8	14.9	
10 to 90	26.4	28.2	24.8	26.6	24.7	24.1	23.0	22.0	21.2	20.5	20.0	18.3	17.8	17.8	16.8	15.4	14.9	
20 to 100	26.3	26.7	25.3	25.4	24.6	23.0	24.1	22.0	21.3	20.2	20.2	18.7	18.0	17.4	16.3	15.6	14.8	
30 to 110	25.0	0	26.1	24.1	26.2	23.5	24.0	23.9	23.3	21.9	20.1	19.6	18.7	18.5	17.3	16.6	15.2	15.0
40 to 120	28.4	28.7	27.0	24.8	25.1	24.3	22.1	24.0	21.1	20.3	19.3	18.9	18.2	16.5	16.1	15.4	14.4	
50 to 130	27.0	0	27.0	26.8	26.0	25.7	24.4	24.0	22.8	21.1	20.2	19.3	18.8	20.2	20.3	20.2	23.2	23.2
60 to 140	28.9	27.5	26.8	27.0	27.9	26.6	24.9	25.8	24.5	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	

Z Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
14.5	13.3	12.9	12.3	12.0	11.4	11.6	11.2	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7		
14.4	12.9	12.7	12.1	12.0	11.7	11.4	11.2	11.2	11.6	11.5	12.2	12.8	13.2	13.9	14.6		
14.0	13.5	12.6	12.5	11.8	11.5	11.1	11.1	11.1	11.4	11.5	12.1	12.7	13.2	13.8	14.5		
14.4	13.3	12.9	12.3	11.9	11.3	11.2	11.3	11.0	11.3	11.4	12.1	12.5	13.0	13.4	14.3		
14.3	12.9	12.9	12.2	12.1	12.0	11.5	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.7	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

Z Weighting, Fast Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.2	27.6	27.2	25.8	25.3	24.3	23.8	22.7	21.5	20.8	20.0	19.0	18.3	17.6	16.5	15.7	14.8
0 to 80	28.7	28.1	27.1	25.8	25.7	24.8	23.1	22.7	21.0	20.6	19.7	19.1	18.6	17.6	16.5	15.6	14.8
10 to 90	28.2	28.3	26.8	26.3	25.2	24.4	23.8	22.7	21.4	20.4	19.6	19.2	18.3	17.3	16.5	15.5	14.8
20 to 100	27.7	26.6	27.6	26.0	25.2	24.1	22.9	22.1	21.2	20.7	19.6	19.0	18.2	17.5	16.7	15.8	14.9
30 to 110	27.6	26.9	26.7	25.7	25.5	24.4	23.4	22.4	21.8	20.8	19.7	18.8	18.4	17.3	16.5	15.5	14.6
40 to 120	29.0	27.1	27.1	26.2	25.2	24.1	23.2	22.8	21.3	20.1	19.4	19.2	18.0	17.1	16.2	15.4	14.7
50 to 130	29.7	28.0	27.2	25.0	25.6	24.8	23.5	23.1	21.5	20.9	19.7	19.0	20.3	20.2	20.2	23.2	23.2
60 to 140	29.7	29.6	27.8	25.6	26.8	26.4	25.5	26.0	24.6	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Z Weighting, Fast Response, LEQ																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
14.3	13.5	12.8	12.5	11.9	11.6	11.5	11.3	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7		
14.1	13.1	13.0	12.4	12.1	11.5	11.3	11.4	11.3	11.5	11.7	12.2	12.8	13.3	13.9	14.6		
14.0	13.4	12.8	12.3	11.9	11.4	11.4	11.1	11.1	11.4	11.6	12.2	12.7	13.2	13.9	14.6		
14.1	13.4	12.8	12.3	11.8	11.4	11.3	11.2	11.1	11.4	11.3	12.1	12.5	13.0	13.4	14.3		
14.0	12.9	12.5	12.1	12.1	11.9	11.8	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.8	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

Table L.11 (Continued)

Z Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.1	27.8	26.8	26.9	25.4	24.8	23.7	23.1	21.8	21.1	20.0	19.1	18.4	17.6	16.7	15.7	15.0
0 to 80	28.6	27.7	27.0	26.7	24.8	24.7	23.4	22.6	21.9	20.6	19.7	19.0	18.2	17.5	16.7	15.6	15.0
10 to 90	27.1	27.2	26.5	25.7	25.2	24.0	23.9	22.6	21.5	20.4	19.7	19.1	18.2	17.3	16.5	15.6	14.7
20 to 100	28.9	27.3	27.1	25.9	25.6	23.9	23.6	22.9	21.7	20.8	19.8	19.0	18.0	17.6	16.5	15.5	14.8
30 to 110	28.3	27.8	27.4	25.4	25.1	24.6	23.3	22.5	21.8	20.8	19.8	18.8	18.1	17.1	16.3	15.4	15.2
40 to 120	28.7	27.4	26.3	26.7	25.6	24.6	23.5	22.5	21.6	19.8	19.4	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	27.8	28.8	26.9	26.0	25.2	24.1	23.3	23.5	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	28.3	28.6	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, SPL																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.2	13.3	12.8	12.4	11.9	11.6	11.5	11.4	11.4	11.5	11.7	12.3	12.8	13.3	13.9	14.6	
	14.2	13.2	12.8	12.2	11.8	11.5	11.3	11.3	11.2	11.5	11.6	12.2	12.7	13.2	13.8	14.5	
	14.1	13.3	12.7	12.2	11.9	11.4	11.2	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3	
	14.2	13.1	12.5	12.2	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
	12.9	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
	37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1	

Z Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.5	27.6	27.1	26.6	25.4	24.4	24.2	22.8	22.0	21.0	19.9	19.2	18.3	17.5	16.4	15.8	14.9
0 to 80	28.8	27.6	27.0	25.6	25.3	24.3	23.5	22.4	21.9	20.7	19.8	19.0	18.3	17.3	16.6	15.8	14.9
10 to 90	27.7	27.8	27.1	25.6	24.6	23.8	23.9	22.8	21.6	20.8	19.8	19.3	18.4	17.5	16.5	15.6	14.9
20 to 100	28.2	27.4	26.7	26.4	24.8	24.0	23.8	22.7	21.5	20.7	19.9	18.8	18.1	17.5	16.5	15.6	14.9
30 to 110	28.1	28.4	26.8	25.1	25.4	24.2	23.2	22.6	21.6	20.9	19.6	18.8	18.0	17.1	16.3	15.3	15.2
40 to 120	28.4	27.5	26.8	26.0	25.0	24.7	23.5	22.6	21.4	20.1	19.3	19.1	19.2	19.2	19.2	22.3	22.3
50 to 130	28.5	28.1	27.0	26.2	24.8	24.6	23.5	23.3	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	29.1	28.3	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, LEQ																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.2	13.3	13.0	12.5	12.0	11.6	11.5	11.4	11.4	11.6	11.7	12.3	12.8	13.2	13.9	14.6	
	14.2	13.4	12.8	12.4	11.9	11.5	11.4	11.3	11.3	11.5	11.6	12.2	12.7	13.1	13.8	14.5	
	14.1	13.3	12.8	12.4	11.8	11.4	11.4	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3	
	14.1	13.0	12.6	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
	13.0	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
	37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1	

BK4936 microphone using random incidence corrector, windscreen & remote preamp (Figures/Tables "M")

Tolerance: IEC 61672 class 1

Directional Frequency Response

Figure M.1 - 0-30 degree incidence angles

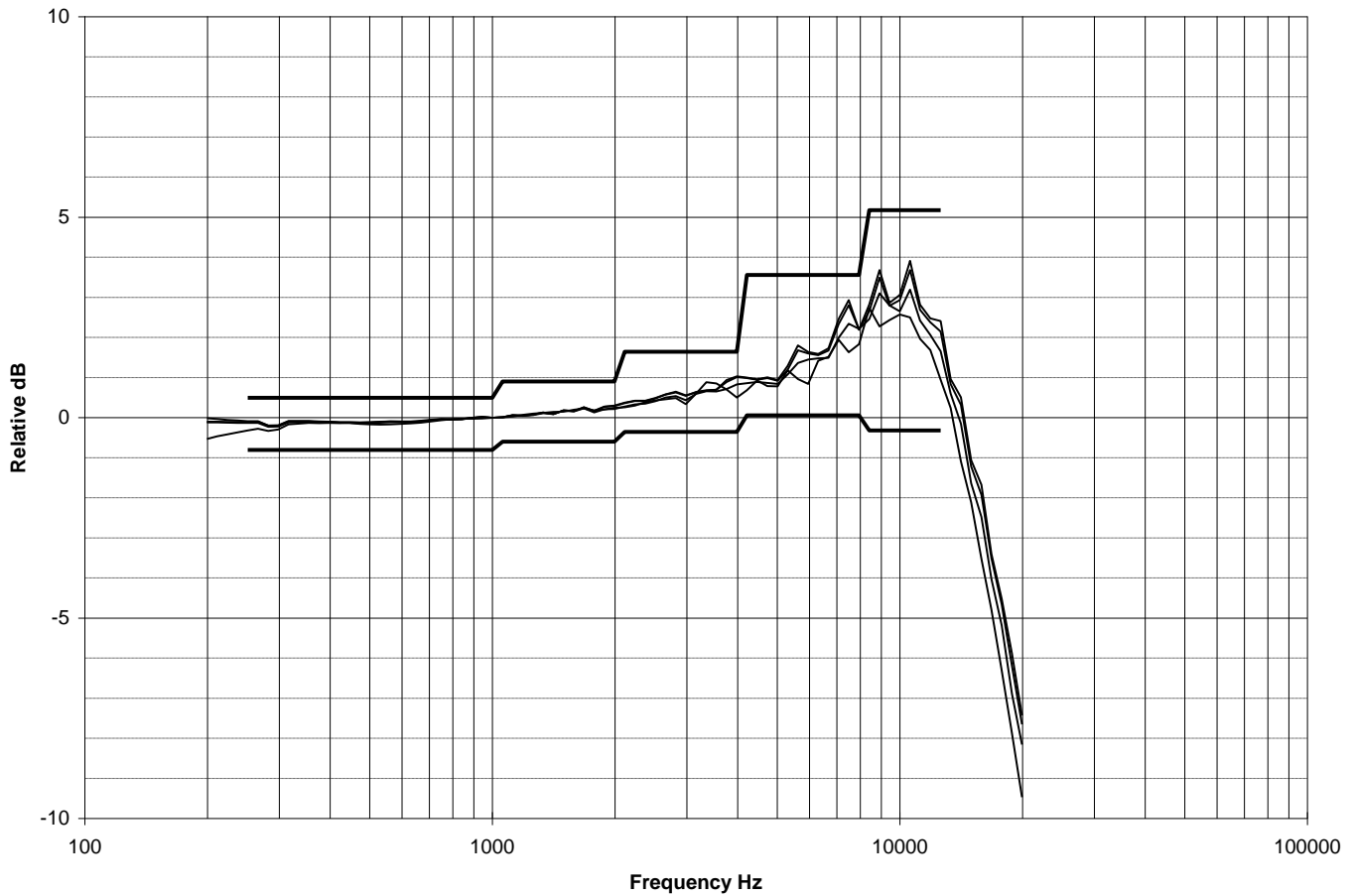


Figure M.2 -0-90 degree incidence angles

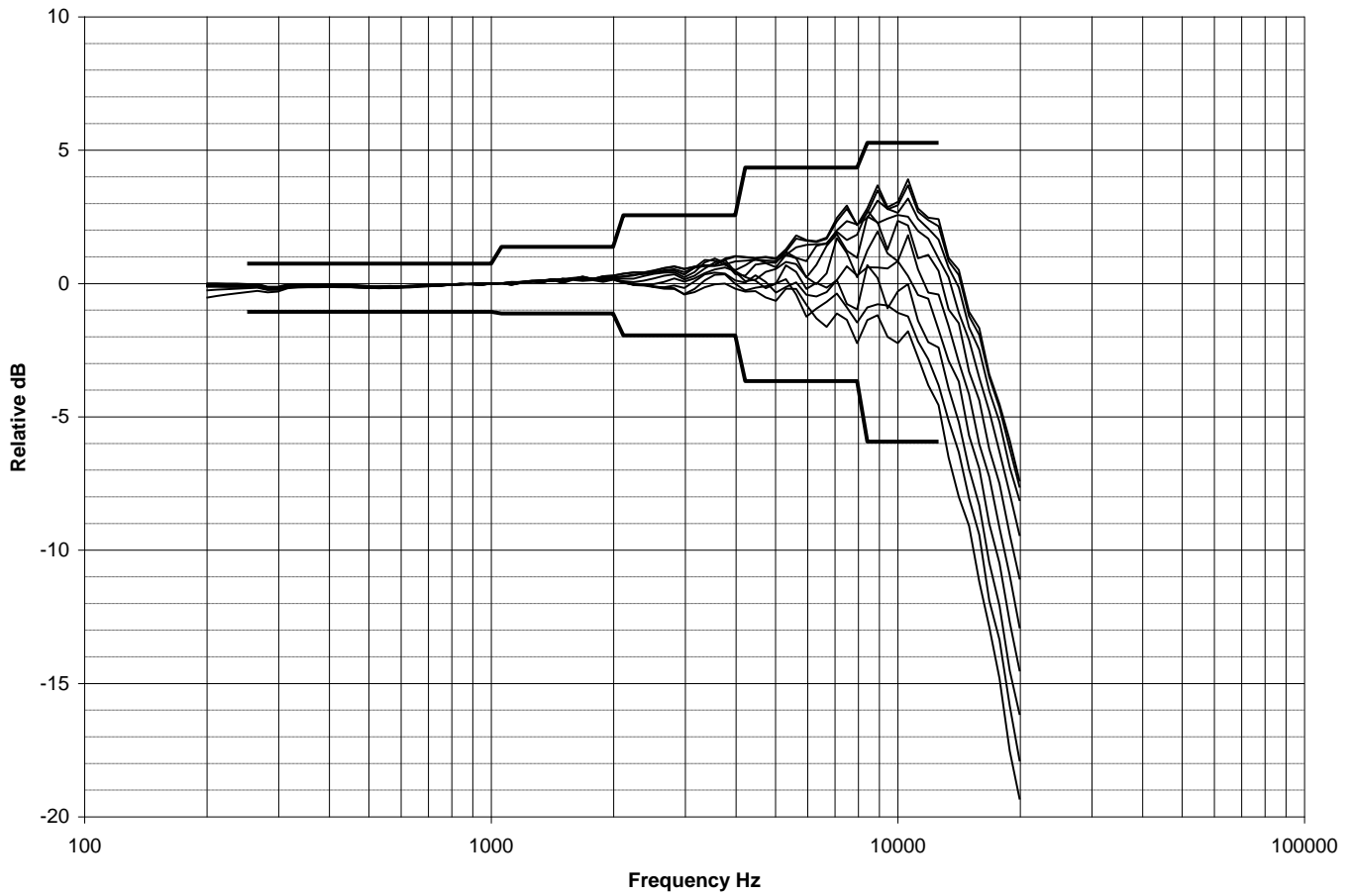


Figure M.3 - 0-150 degree incidence angles

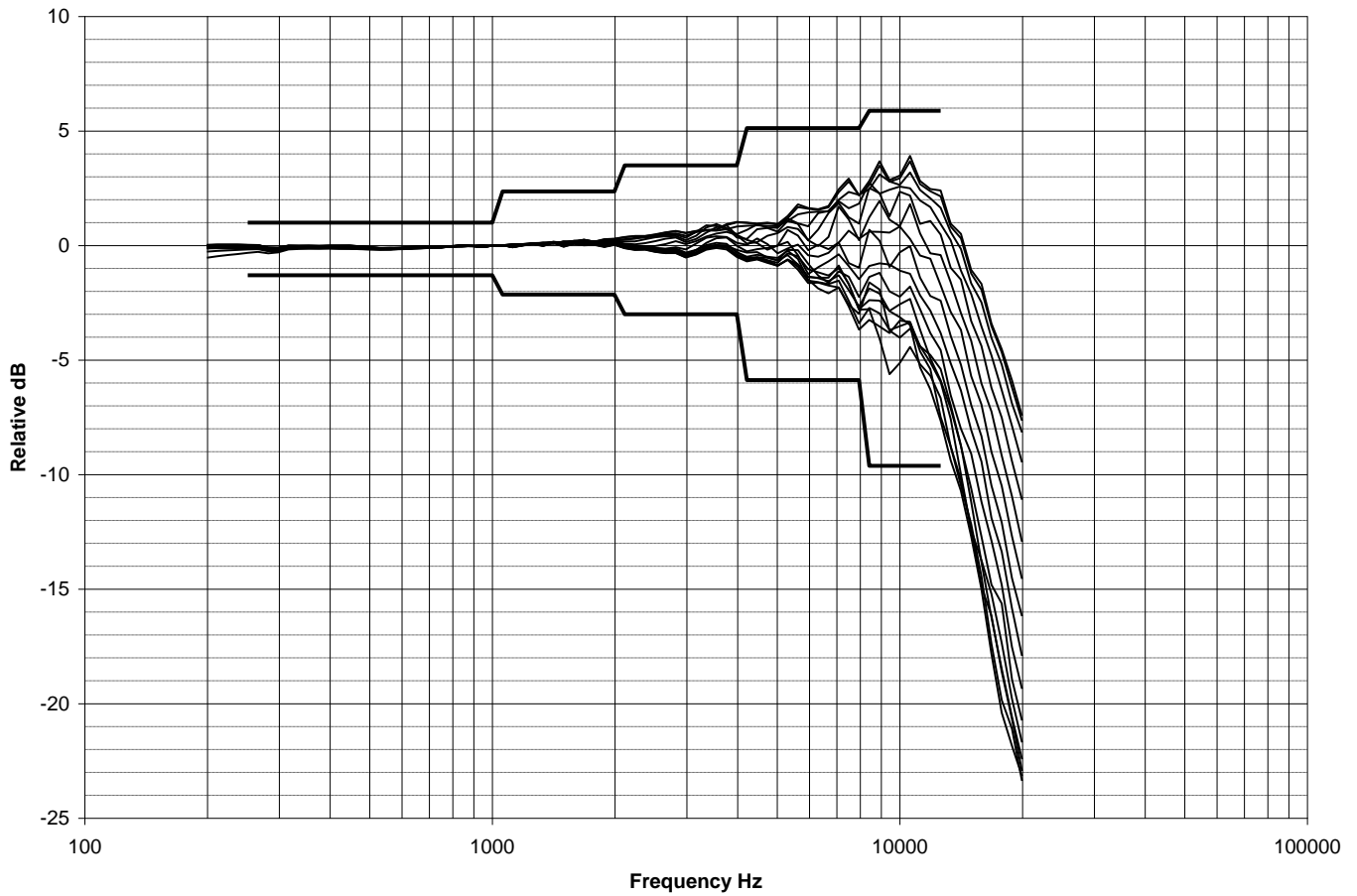
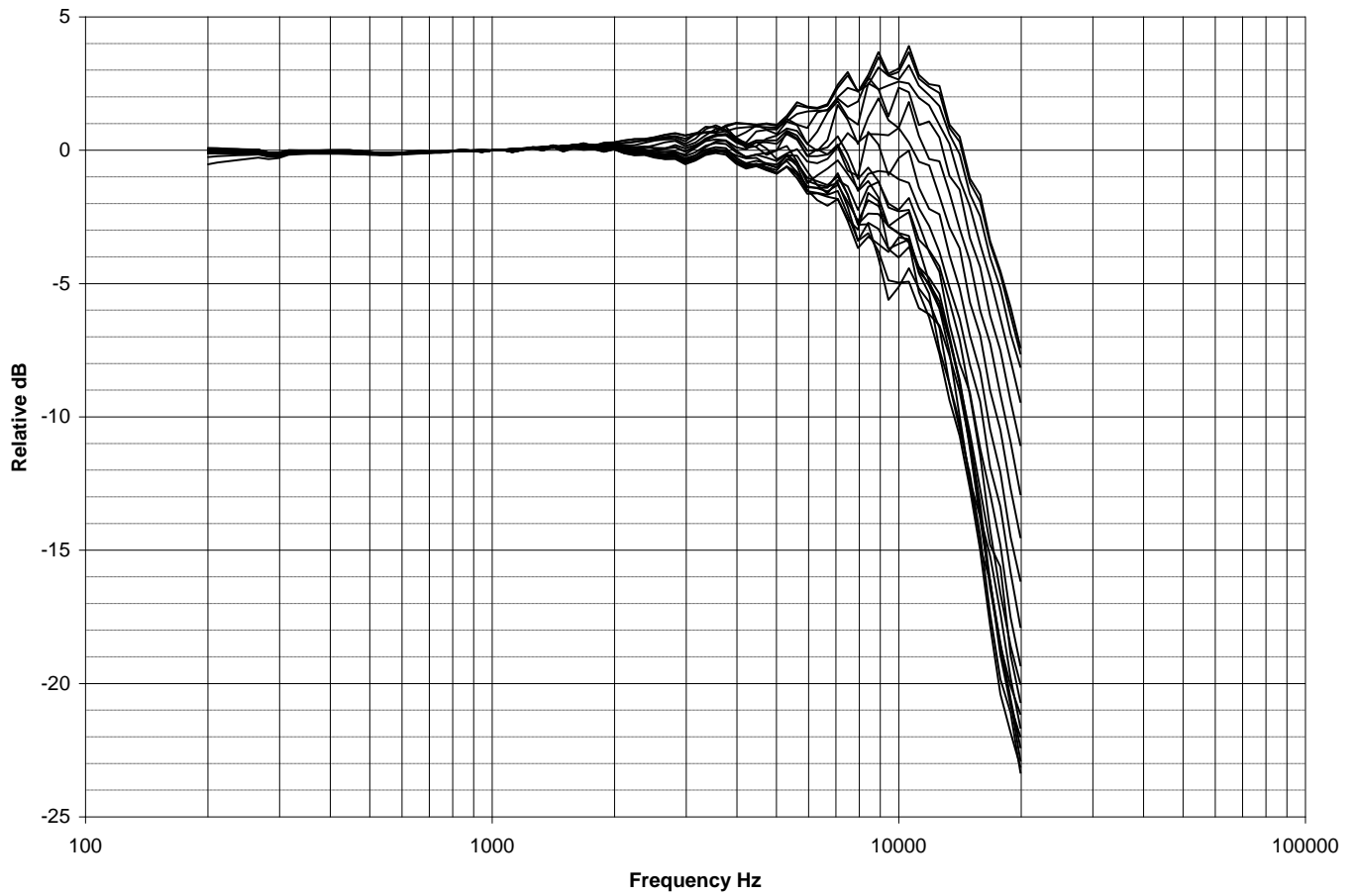
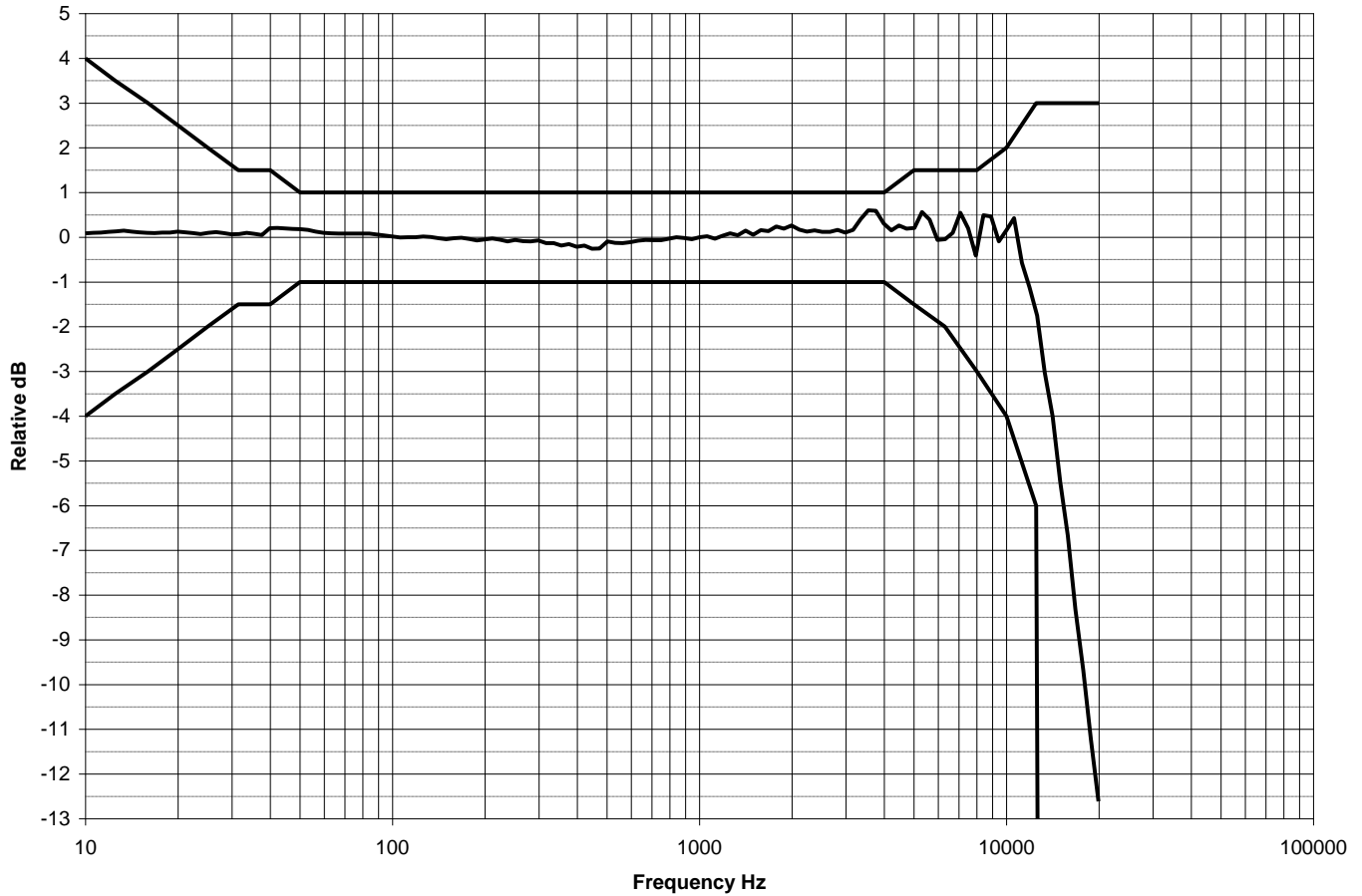


Figure M.4 - 0-180 degree incidence angles



Random Incidence

Figure M.5 - Frequency Response



Corrections

Figure M.6 - Reflection, Diffraction, and Microphone Frequency Response

1/12 OCTAVE FREQUENCY in Hz	Remote Microphone Acoustic Corrections in dB	1/12 OCTAVE FREQUENCY in Hz	Remote Microphone Acoustic Corrections in dB
199.53	-0.1	2238.72	-0.4
211.35	0.0	2371.37	-0.4
223.87	0.0	2511.89	-0.3
237.14	0.0	2660.73	-0.3
251.19	0.0	2818.38	-0.4
266.07	0.0	2985.38	-0.4
281.84	0.0	3162.28	-0.5
298.54	0.0	3349.65	-0.6
316.23	0.0	3548.13	-0.7
334.97	0.0	3758.37	-0.7
354.81	0.0	3981.07	-0.8
375.84	0.0	4216.97	-0.9
398.11	0.0	4466.84	-1.0
421.70	0.0	4731.51	-1.0
446.68	0.0	5011.87	-1.1
473.15	0.1	5308.84	-1.4
501.19	0.1	5623.41	-1.8
530.88	0.1	5956.62	-1.8
562.34	0.1	6309.57	-1.8
595.66	0.1	6683.44	-2.1
630.96	0.1	7079.46	-2.6
668.34	0.0	7498.94	-3.2
707.95	0.0	7943.28	-2.7
749.89	0.0	8413.95	-3.3
794.33	0.0	8912.51	-4.4
841.40	-0.1	9440.61	-4.0
891.25	0.0	10000.00	-4.1
944.06	0.0	10592.54	-5.2
1000.00	-0.1	11220.19	-4.7
1059.25	-0.1	11885.02	-4.6
1122.02	-0.1	12589.25	-5.1
1188.50	-0.1	13335.21	-4.1
1258.93	-0.1	14125.38	-3.9
1333.52	-0.1	14962.36	-2.8
1412.54	-0.2	15848.93	-2.2
1496.24	-0.1	16788.04	-0.9
1584.89	-0.2	17782.79	0.0
1678.80	-0.2	18836.49	1.1
1778.28	-0.2	19952.62	2.3
1883.65	-0.3	2113.49	-0.4
1995.26	-0.3		

Figure M.7 -Reflection, Diffraction, and Microphone Frequency Response

1/12 OCTAVE FREQUENCY in Hz	Microphone Windscreen Corrections In dB in dB	1/12 OCTAVE FREQUENCY in Hz	Microphone Windscreen Corrections In dB in dB
199.53	-0.2	2238.72	0.5
211.35	-0.2	2371.37	0.5
223.87	-0.1	2511.89	0.6
237.14	0.0	2660.73	0.7
251.19	0.0	2818.38	0.7
266.07	0.1	2985.38	0.7
281.84	0.1	3162.28	0.6
298.54	0.2	3349.65	0.5
316.23	0.2	3548.13	0.6
334.97	0.2	3758.37	0.7
354.81	0.2	3981.07	0.8
375.84	0.2	4216.97	0.6
398.11	0.2	4466.84	0.5
421.70	0.2	4731.51	0.6
446.68	0.2	5011.87	0.4
473.15	0.3	5308.84	0.5
501.19	0.3	5623.41	0.6
530.88	0.3	5956.62	0.6
562.34	0.3	6309.57	0.5
595.66	0.3	6683.44	0.5
630.96	0.3	7079.46	0.7
668.34	0.3	7498.94	0.7
707.95	0.3	7943.28	0.4
749.89	0.3	8413.95	0.6
794.33	0.3	8912.51	0.5
841.40	0.2	9440.61	0.1
891.25	0.3	10000.00	0.3
944.06	0.3	10592.54	0.1
1000.00	0.3	11220.19	-0.4
1059.25	0.3	11885.02	-0.5
1122.02	0.3	12589.25	-0.8
1188.50	0.3	13335.21	-1.2
1258.93	0.3	14125.38	-1.3
1333.52	0.3	14962.36	-1.5
1412.54	0.3	15848.93	-1.3
1496.24	0.4	16788.04	-1.5
1584.89	0.3	17782.79	-1.6
1678.80	0.4	18836.49	-1.4
1778.28	0.4	19952.62	-1.5
1883.65	0.5		
1995.26	0.4		
2113.49	0.5		

Self Generated Noise**Table M.8 - Broadband**

SPL				LEQ		
Fast Response						
Range (dB)	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting
-20 to 70	22.9	30.1	37.4	22.8	30.1	37.0
-10 to 80	22.8	29.8	37.1	22.8	30.3	37.2
0 to 90	22.8	30.2	36.6	22.8	30.2	37.3
10 to 100	22.8	30.0	36.6	22.8	30.2	37.6
20 to 110	23.3	30.3	36.5	23.3	30.5	37.5
30 to 120	26.2	31.4	36.8	26.2	31.1	37.1
40 to 130	33.3	34.4	38.2	33.4	34.6	38.9
50 to 140	42.1	42.1	43.1	42.1	42.2	42.8
Slow Response						
Range (dB)	A Weighting	C Weighting	Z Weighting	A Weighting	C Weighting	Z Weighting
-20 to 70	22.8	30.3	37.4	22.8	30.3	37.7
-10 to 80	22.8	30.3	37.4	22.7	30.3	37.7
0 to 90	22.8	30.2	37.5	22.8	30.2	37.5
10 to 100	22.8	30.2	37.9	22.7	30.2	37.6
20 to 110	23.3	30.2	37.5	23.3	30.3	37.3
30 to 120	26.2	31.0	37.6	26.2	31.0	37.9
40 to 130	33.4	34.6	38.6	33.4	34.6	38.5
50 to 140	42.2	42.1	43.0	42.2	42.1	42.9

Table M.9 – Octave Band

A Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-6.8	3.5	10.1	14.6	17.7	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.7	3.6	9.7	15.0	17.9	19.4	19.5	18.9	17.5	13.8
10 to 90	-15.1	-7.7	3.7	10.2	14.9	18.0	19.3	19.4	18.9	17.5	13.7
20 to 100	-6.6	-4.5	3.1	10.4	15.0	17.7	19.3	19.3	18.8	17.3	14.2
30 to 110	3.6	-0.1	3.5	10.0	15.1	17.8	19.1	19.1	18.3	18.3	18.3
40 to 120	12.8	10.7	7.5	10.7	14.9	16.8	19.3	22.3	25.3	28.3	28.3
50 to 130	23.6	19.3	17.2	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.4	28.8	27.6	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3

A Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.1	3.2	9.9	15.1	18.0	19.4	19.5	19.1	17.6	13.9
0 to 80	-16.8	-7.0	3.4	10.0	14.9	18.0	19.4	19.5	18.9	17.6	13.8
10 to 90	-15.0	-6.6	3.0	9.8	14.8	17.8	19.3	19.4	18.9	17.5	13.8
20 to 100	-6.9	-5.9	3.0	9.8	14.8	17.8	19.2	19.3	18.9	17.3	14.2
30 to 110	3.1	0.0	4.1	10.1	14.8	17.7	19.2	19.2	18.3	18.3	18.3
40 to 120	12.6	9.3	8.0	11.1	15.3	16.9	19.3	22.3	25.3	28.3	28.3
50 to 130	22.9	18.5	17.4	20.2	23.2	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.5	28.7	27.3	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3

A Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.2	3.4	9.8	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-7.3	3.2	9.9	14.8	17.9	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.6	-6.8	3.2	10.1	14.8	17.8	19.3	19.4	18.9	17.3	13.3
20 to 100	-7.0	-6.2	3.4	9.8	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.3	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	12.8	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	22.9	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	32.9	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

A Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	-16.9	-7.3	3.3	10.1	14.9	17.9	19.4	19.5	19.0	17.6	13.9
0 to 80	-16.9	-6.6	3.4	10.1	14.8	17.8	19.3	19.4	18.9	17.5	13.8
10 to 90	-15.7	-7.1	3.4	10.0	14.8	17.8	19.2	19.4	18.8	17.3	13.3
20 to 100	-6.9	-6.3	3.5	9.9	14.6	17.7	19.1	19.1	19.0	17.3	17.3
30 to 110	3.4	3.2	6.2	9.4	15.2	18.3	18.3	21.3	24.3	27.3	27.3
40 to 120	13.0	13.2	16.2	19.2	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	23.2	23.2	26.2	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.2	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table M.9 - (Continued)

C Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.6	28.1	25.7	23.4	21.3	19.2	18.1	17.1	15.6	11.8
0 to 80	24.9	28.0	27.6	24.9	23.0	21.0	19.3	18.0	16.9	15.4	11.8
10 to 90	24.3	27.7	27.1	25.9	23.3	21.0	19.3	18.0	17.0	15.4	11.6
20 to 100	22.6	27.4	27.9	25.3	23.1	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	25.6	27.5	26.5	25.8	23.5	21.2	19.2	17.8	15.4	18.3	18.3
40 to 120	26.8	28.1	27.8	26.1	23.4	20.9	19.2	22.3	25.3	28.3	28.3
50 to 130	26.8	28.0	28.0	26.3	23.3	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	34.0	31.9	29.1	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
C Weighting, Fast Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	24.9	27.9	27.5	25.6	23.6	21.2	19.4	18.0	17.1	15.6	11.8
0 to 80	24.6	28.0	27.4	25.6	23.4	21.1	19.2	18.0	16.9	15.4	11.7
10 to 90	24.9	27.9	27.3	25.5	23.4	21.2	19.3	17.9	16.9	15.4	11.7
20 to 100	25.4	28.2	27.2	25.7	23.4	21.1	19.3	17.9	16.9	15.3	11.3
30 to 110	24.7	28.3	27.6	26.1	23.6	21.0	19.0	17.6	15.4	18.3	18.3
40 to 120	25.5	28.2	27.9	25.8	23.2	20.9	19.3	22.3	25.3	28.3	28.3
50 to 130	27.8	28.4	27.9	26.2	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	33.7	31.8	29.8	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
C Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.2	27.9	27.8	25.8	23.6	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	24.9	27.8	27.5	25.6	23.4	21.1	19.3	17.9	17.0	15.4	11.6
10 to 90	25.0	27.9	27.7	25.5	23.4	21.1	19.3	17.9	16.8	15.1	12.0
20 to 100	25.4	27.9	27.7	25.8	23.3	21.0	19.2	17.3	17.3	17.3	17.3
30 to 110	25.4	27.6	27.6	25.5	23.1	20.9	18.3	21.3	24.3	27.3	27.3
40 to 120	25.4	28.4	27.6	25.6	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	27.0	28.6	28.0	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.9	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
C Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	25.0	27.9	27.6	25.8	23.5	21.2	19.4	18.0	17.1	15.5	11.8
0 to 80	25.1	28.1	27.5	25.9	23.4	21.2	19.2	18.0	17.0	15.4	11.6
10 to 90	25.2	27.9	27.6	25.7	23.4	21.1	19.3	17.9	16.8	15.1	12.1
20 to 100	25.2	27.8	27.4	25.6	23.3	21.1	19.2	17.3	17.3	17.3	17.3
30 to 110	25.3	27.3	27.4	25.7	23.2	21.1	18.3	21.3	24.3	27.3	27.3
40 to 120	25.2	27.8	27.7	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	26.9	28.8	28.1	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	33.3	33.2	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table M.9 - (Continued)

Z Weighting, Fast Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	32.9	30.0	27.5	26.0	23.4	21.2	19.4	18.2	18.0	18.6	19.8
0 to 80	32.9	31.2	28.8	25.9	23.5	21.3	19.5	18.1	17.9	18.4	19.7
10 to 90	33.2	30.5	27.8	25.4	23.5	21.4	19.3	18.3	17.9	18.4	19.7
20 to 100	31.7	30.2	28.2	25.9	23.2	21.4	19.4	18.0	17.8	18.3	19.7
30 to 110	32.9	30.9	27.9	25.9	23.3	21.1	19.1	18.2	18.3	18.3	18.3
40 to 120	31.9	31.6	27.9	25.6	23.1	21.3	19.2	22.3	25.3	28.3	28.3
50 to 130	33.8	30.5	28.1	26.0	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.7	32.5	30.3	30.3	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Fast Response, LEQ											
Range in dB	16 Hz in dB	31.5 Hz in dB	63 Hz in dB	125 Hz in dB	250 Hz in dB	500 Hz in dB	1000 Hz in dB	2000 Hz in dB	4000 Hz in dB	8000 Hz in dB	16 kHz in dB
-10 to 70	32.9	31.0	28.4	26.0	23.6	21.4	19.4	18.2	18.0	18.6	19.8
0 to 80	34.0	30.9	28.4	26.0	23.5	21.2	19.3	18.2	17.9	18.5	19.7
10 to 90	33.1	30.9	28.3	26.0	23.4	21.2	19.3	18.1	17.9	18.5	19.7
20 to 100	33.4	30.5	28.4	26.1	23.4	21.2	19.4	18.1	17.8	18.3	19.7
30 to 110	33.0	30.9	28.2	25.8	23.5	21.1	19.2	18.1	18.3	18.3	18.3
40 to 120	33.3	31.3	28.5	25.7	23.3	21.1	19.3	22.3	25.3	28.3	28.3
50 to 130	33.3	31.0	28.6	25.7	23.4	26.2	29.2	32.3	35.3	38.3	38.3
60 to 140	35.8	33.3	29.9	30.2	33.2	36.2	39.2	42.3	45.3	48.3	48.3
Z Weighting, Slow Response, SPL											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.6	31.0	28.6	26.0	23.6	21.2	19.4	18.2	18.0	18.5	19.8
0 to 80	33.1	30.8	28.5	25.8	23.2	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.6	31.0	28.4	26.0	23.5	21.2	19.4	18.1	17.8	18.3	19.6
20 to 100	33.6	30.7	28.5	25.9	23.6	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.8	30.9	28.3	25.8	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	34.0	30.7	28.4	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.7	30.7	28.7	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3
Z Weighting, Slow Response, LEQ											
Range (dB)	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	16 kHz
-10 to 70	33.3	31.2	28.6	26.0	23.5	21.3	19.5	18.2	18.0	18.5	19.8
0 to 80	33.1	30.9	28.3	25.9	23.4	21.2	19.3	18.2	17.9	18.4	19.7
10 to 90	33.8	30.9	28.5	25.8	23.3	21.2	19.3	18.1	17.7	18.3	19.6
20 to 100	33.3	30.8	28.3	25.9	23.5	21.1	19.2	18.2	17.3	17.3	20.3
30 to 110	33.6	30.9	28.5	25.9	23.3	21.2	18.3	21.3	24.3	27.3	27.3
40 to 120	33.5	31.3	28.3	25.7	22.3	25.3	28.3	31.3	34.3	37.3	37.3
50 to 130	33.6	31.0	28.9	29.2	32.3	35.3	38.3	41.3	44.3	47.3	47.3
60 to 140	36.0	33.3	36.2	39.2	42.3	45.3	48.3	51.3	54.3	57.3	57.3

Table M.10 - 1/3 Octave Band

A Weighting, Fast Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	16.9	-16.9	-16.9	-13.7	-10.5	-6.0	-3.4	-1.6	1.6	3.9	6.5	7.3	9.4	9.8	10.8	11.8
0 to 80	-16.9	16.9	-16.9	-15.6	-13.3	-10.1	-6.7	-2.9	-0.9	3.4	4.0	6.0	7.5	8.1	9.8	10.8	11.8
10 to 90	-16.9	15.5	-16.8	-15.4	-13.7	-10.4	-6.3	-3.4	-1.2	3.7	3.6	5.9	6.7	9.3	10.3	10.7	11.6
20 to 100	-15.9	-6.2	-13.5	-9.2	-10.8	-9.1	-7.1	-3.7	-0.1	1.6	4.3	5.8	7.9	8.7	10.2	11.0	11.9
30 to 110	-6.4	4.2	-4.8	0.8	-3.8	-4.9	-3.8	-1.9	0.1	3.1	4.4	5.6	7.0	8.4	10.2	10.6	11.6
40 to 120	3.4	13.8	6.1	9.5	4.7	3.8	4.4	4.8	4.8	7.5	7.6	7.4	10.2	10.4	10.4	13.3	13.2
50 to 130	12.9	23.2	15.4	19.7	14.8	13.9	14.4	14.7	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	21.8	32.4	25.8	29.9	25.2	22.8	24.6	24.2	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
12.2	12.9	13.1	13.3	12.9	12.8	12.9	12.8	12.6	12.4	11.8	11.5	10.8	9.4	7.9	5.8		
12.6	12.7	12.9	13.1	13.0	12.8	12.7	12.6	12.2	12.1	11.8	11.5	10.6	9.4	7.8	5.9		
12.4	12.8	12.8	13.1	13.2	12.8	12.9	12.8	12.5	12.4	11.8	11.3	10.6	9.2	7.7	5.9		
12.5	12.6	12.7	12.8	12.6	12.7	12.8	12.6	12.3	12.2	11.4	11.3	10.1	8.3	8.3	8.3		
12.1	12.0	12.8	12.9	12.6	12.3	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

A Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.3	-13.9	-9.9	-6.6	-2.4	-0.4	3.7	3.9	5.9	7.6	9.4	10.2	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.4	-13.8	10.2	-6.5	-3.2	-0.5	3.7	4.0	6.0	7.5	8.8	10.2	11.2	11.8
10 to 90	-16.9	-15.9	-16.8	-15.3	-13.1	10.5	-6.8	-2.6	0.0	3.6	3.9	5.8	7.5	8.7	10.0	11.1	11.8
20 to 100	-15.8	-7.1	-13.6	-8.7	-10.3	-8.0	-6.2	-3.1	0.0	1.8	4.2	6.1	7.8	8.8	9.9	10.8	11.8
30 to 110	-5.5	3.6	-4.8	-0.8	-2.7	-4.4	-3.6	-1.9	0.6	3.6	4.2	6.2	7.6	9.1	10.0	11.0	11.6
40 to 120	3.2	13.3	4.4	9.7	6.7	3.7	4.7	5.1	4.7	7.2	7.4	7.6	10.3	10.4	10.4	13.2	13.2
50 to 130	12.6	23.5	14.5	19.5	16.8	14.1	14.4	14.6	14.2	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2
60 to 140	24.4	33.8	25.1	30.1	27.0	23.5	24.2	24.5	24.2	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

A Weighting, Fast Response, LEQ																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
12.4	12.6	12.9	13.1	13.1	13.0	12.9	12.8	12.5	12.4	11.8	11.5	10.6	9.4	7.8	5.9		
12.5	12.7	13.0	13.1	13.0	12.8	12.9	12.6	12.4	12.3	11.8	11.4	10.6	9.4	7.8	5.8		
12.4	12.6	13.1	13.2	13.1	13.0	12.9	12.6	12.4	12.3	11.7	11.4	10.5	9.2	7.7	5.9		
12.4	12.6	12.9	13.0	13.0	12.9	12.7	12.5	12.3	12.1	11.4	11.3	10.1	8.3	8.3	8.3		
12.2	12.2	12.8	13.1	12.6	12.5	12.4	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.3	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

Table M.10 (Continued)

A Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-10.4	-6.1	-3.1	-0.7	3.6	3.8	5.7	7.6	8.9	10.2	11.2	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-14.1	-9.5	-6.3	-2.8	-0.6	3.7	4.0	6.0	7.2	8.8	10.0	11.1	11.9
10 to 90	-16.9	-16.9	-16.9	-16.6	-13.5	-9.6	-6.3	-3.0	-0.5	3.4	3.9	5.8	7.6	9.0	9.8	11.1	11.8
20 to 100	-12.7	-12.6	-12.6	-9.7	-9.6	-9.1	-6.2	-2.9	0.0	3.8	4.0	5.8	7.7	9.0	9.9	10.3	11.5
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.3	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	13.2	13.2	13.2	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.2	23.2	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, SPL																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.5	13.0	13.1	13.1	12.9	12.9	12.8	12.5	12.3	11.8	11.5	10.7	9.3	7.8	5.8	
12.6	12.6	12.9	13.0	13.0	12.8	12.8	12.6	12.4	12.2	11.8	11.4	10.6	9.3	7.7	5.7	
12.4	12.5	12.9	13.0	13.0	12.8	12.7	12.5	12.3	12.1	11.3	11.3	10.3	7.5	7.3	7.3	
12.2	12.4	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

A Weighting, Slow Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	-16.9	-16.9	-16.9	-16.9	-14.0	-9.9	-6.6	-3.0	-0.6	3.8	3.7	5.8	7.7	8.9	10.0	11.1	11.8
0 to 80	-16.9	-16.9	-16.9	-16.9	-13.8	-9.2	-5.9	-3.1	-0.6	3.8	3.9	6.0	7.5	8.9	10.1	10.9	11.8
10 to 90	-16.9	-16.9	-16.9	-16.6	-14.0	-9.5	-6.4	-3.2	-0.5	3.8	3.9	5.8	7.5	8.7	10.1	10.9	11.8
20 to 100	-12.7	-12.7	-12.7	-9.7	-9.7	-9.2	-6.1	-2.9	-0.3	3.6	4.2	5.6	7.4	8.8	10.0	10.8	11.6
30 to 110	-2.7	-2.7	-2.7	0.3	0.3	0.3	3.2	3.2	3.2	6.2	6.2	6.3	9.2	9.2	9.3	12.3	12.3
40 to 120	7.2	7.2	7.2	10.2	10.2	10.2	2	2	13.2	2	16.2	16.2	19.2	19.2	19.2	22.3	22.3
50 to 130	17.2	17.2	17.2	20.2	20.2	20.2	23.	23.	23.2	2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.2	30.2	30.2	30.2	33.	33.	33.2	2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

A Weighting, Slow Response, LEQ																
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
12.5	12.7	13.0	13.1	13.0	13.0	12.9	12.7	12.5	12.3	11.9	11.5	10.7	9.4	7.8	5.8	
12.4	12.6	12.9	13.0	13.1	12.9	12.8	12.6	12.4	12.2	11.7	11.4	10.6	9.3	7.7	5.7	
12.5	12.6	12.9	13.1	13.0	12.8	12.8	12.5	12.3	12.1	11.3	11.3	10.3	7.6	7.3	7.3	
12.2	12.3	12.7	13.0	13.0	13.0	13.0	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
12.3	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

Table M.10 (Continued)

C Weighting, Fast Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	14.3	17.2	20.5	21.8	21.2	21.6	22.2	22.0	20.9	20.3	20.1	19.4	18.2	17.8	16.8	15.7	14.6
0 to 80	13.7	18.4	21.9	21.2	22.4	22.8	21.0	21.7	20.7	20.1	20.1	19.4	17.9	17.9	16.6	15.8	15.1
10 to 90	15.2	16.8	21.2	21.8	20.9	21.7	21.5	21.6	21.2	20.7	19.2	19.0	18.2	17.4	16.3	15.7	14.6
20 to 100	17.1	17.5	19.9	22.0	20.7	22.9	21.9	21.3	21.3	20.5	19.2	19.0	18.2	17.1	16.3	15.4	15.0
30 to 110	18.2	19.5	19.1	20.0	18.8	22.2	22.0	22.5	20.4	20.1	19.4	18.2	17.8	16.8	16.4	15.4	14.8
40 to 120	18.4	18.0	19.9	22.4	22.9	22.8	22.7	22.3	20.5	19.6	19.7	19.2	18.2	17.3	16.2	15.3	13.9
50 to 130	15.0	19.0	20.2	21.6	23.9	22.9	22.5	22.2	21.1	20.3	19.9	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.0	22.6	24.7	25.6	26.2	24.6	24.6	26.0	24.7	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

C Weighting, Fast Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
14.4	13.2	12.5	12.3	11.7	11.2	11.2	10.8	10.6	10.4	9.9	9.5	8.6	7.3	5.7	3.9		
13.9	13.4	12.5	12.3	11.7	11.4	11.2	10.7	10.4	10.1	9.7	9.3	8.5	7.2	5.7	3.7		
14.0	13.2	12.8	12.3	11.8	11.2	11.2	10.7	10.5	10.2	9.6	9.2	8.5	7.2	5.4	3.2		
14.5	12.9	12.7	12.1	11.6	11.3	11.0	10.7	10.4	10.1	9.8	8.4	8.3	8.3	8.3	8.3		
13.8	13.0	13.0	12.4	12.0	10.8	10.3	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3		
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3		
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3		
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3		

C Weighting, Fast Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	16.7	18.3	20.3	20.9	22.4	22.4	22.3	21.8	21.2	19.5	19.4	19.0	18.0	17.6	16.4	15.8	15.0
0 to 80	16.5	18.8	20.7	22.0	22.3	23.1	22.3	21.5	21.3	20.1	19.4	18.9	18.4	17.7	16.5	15.6	14.8
10 to 90	18.0	19.4	20.3	22.1	22.9	22.4	22.4	21.5	21.0	20.0	19.6	18.9	18.1	17.2	16.3	15.6	14.8
20 to 100	17.6	18.9	22.1	20.9	21.3	22.5	22.2	21.1	21.1	20.4	19.6	19.2	17.9	17.3	16.6	15.6	14.9
30 to 110	17.1	18.8	21.0	22.3	21.2	22.0	22.0	22.2	20.9	20.7	19.5	18.9	18.1	17.6	16.5	15.5	14.7
40 to 120	18.2	18.6	20.8	22.7	22.9	22.1	22.1	22.3	22.1	20.6	20.0	19.1	18.1	17.6	16.4	15.1	14.2
50 to 130	18.9	20.6	23.1	22.3	22.9	24.0	23.2	23.6	22.0	21.0	20.3	19.6	20.3	20.2	20.2	23.2	23.2
60 to 140	22.6	23.9	24.7	25.8	25.9	24.5	25.7	26.1	24.9	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Table M.10 (Continued)

C Weighting, Fast Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.1	13.2	12.7	12.4	11.9	11.4	11.1	10.9	10.6	10.3	9.8	9.3	8.6	7.3	5.7	3.8
14.1	13.3	12.8	12.3	11.8	11.2	11.1	10.8	10.6	10.3	9.7	9.4	8.5	7.2	5.7	3.7
14.1	13.2	12.8	12.2	11.9	11.3	11.0	10.7	10.5	10.1	9.7	9.3	8.5	7.1	5.3	3.1
14.0	13.2	12.7	12.2	11.7	11.2	11.0	10.6	10.3	10.1	9.9	8.5	8.3	8.3	8.3	8.3
14.1	13.0	12.5	12.1	12.0	11.4	10.0	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.4	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

C Weighting, Slow Response, SPL																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.7	19.2	20.9	21.3	22.4	22.5	22.7	22.5	21.5	20.8	20.0	19.1	18.3	17.4	16.5	15.8	14.9
0 to 80	17.8	19.1	20.6	21.6	22.2	22.7	22.2	21.5	21.2	20.5	19.7	19.1	18.3	17.3	16.4	15.7	15.0
10 to 90	17.1	19.9	20.6	22.5	22.4	22.6	21.9	22.0	21.3	20.4	19.7	18.8	18.1	17.3	16.6	15.6	14.7
20 to 100	17.0	18.8	21.9	21.6	22.4	22.2	22.4	22.0	21.1	20.7	19.6	19.1	18.3	17.5	16.5	15.6	14.8
30 to 110	17.4	19.5	21.3	22.3	22.6	22.4	22.1	22.2	21.0	20.2	19.6	19.1	18.2	17.5	16.7	15.3	15.1
40 to 120	18.1	19.5	21.2	22.3	22.5	22.9	22.4	22.5	21.6	20.5	19.6	19.2	19.3	19.2	19.2	22.3	22.3
50 to 130	17.9	20.2	21.8	23.1	22.5	23.8	23.3	23.5	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.2	13.3	12.7	12.4	11.9	11.4	11.1	10.8	10.5	10.3	9.8	9.4	8.6	7.3	5.7	3.7
14.2	13.3	12.8	12.3	11.8	11.4	11.1	10.8	10.4	10.2	9.7	9.4	8.4	7.2	5.7	3.3
14.3	13.3	12.7	12.2	11.7	11.3	10.9	10.6	10.3	9.9	9.1	9.1	7.3	7.3	7.3	7.3
14.0	13.1	12.5	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3
12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3
42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3

Table M.10 (Continued)

C Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	17.6	19.2	21.4	22.4	22.4	22.6	22.7	22.1	21.6	20.7	19.8	19.2	18.3	17.6	16.5	15.6	14.8
0 to 80	17.9	19.0	21.4	22.0	22.4	22.4	22.5	22.0	21.1	20.3	19.6	18.9	18.2	17.5	16.5	15.6	14.9
10 to 90	16.8	19.8	21.2	22.4	22.0	22.6	21.9	22.2	21.5	20.4	19.7	19.0	18.2	17.4	16.5	15.5	14.9
20 to 100	17.7	19.6	21.8	22.2	21.9	22.8	22.4	22.0	21.1	20.6	19.6	19.3	18.2	17.5	16.6	15.5	14.8
30 to 110	17.0	19.4	21.3	22.1	22.5	22.7	22.5	21.9	21.4	20.5	19.5	19.1	18.1	17.5	16.3	15.3	15.2
40 to 120	18.0	19.7	21.4	21.9	22.9	23.0	22.3	22.1	21.0	20.3	19.6	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	18.1	19.8	21.3	21.9	22.8	23.4	23.3	23.4	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	27.2	27.2	27.4	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3

C Weighting, Slow Response, LEQ																	
	630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz	
	14.3	13.2	12.8	12.4	11.8	11.4	11.1	10.8	10.5	10.3	9.7	9.4	8.6	7.3	5.7	3.7	
	14.3	13.2	12.8	12.2	11.7	11.3	11.0	10.7	10.5	10.2	9.7	9.3	8.5	7.2	5.7	3.3	
	14.2	13.3	12.8	12.3	11.7	11.3	11.0	10.6	10.3	10.0	9.1	9.0	7.4	7.3	7.3	7.3	
	14.1	13.1	12.4	12.1	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3	
	12.5	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3	
	22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3	
	32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3	
	42.3	45.3	45.3	45.3	48.3	48.3	48.3	51.3	51.3	51.3	54.3	54.3	54.3	57.3	57.3	57.3	

Z Weighting, Fast Response, SPL																	
Range (dB)	12. 5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28. 9	25.5	26.9	25.2	24.3	23.4	23.1	21.9	20.7	21.0	18.9	18.9	17.9	16.9	17.1	15.2	14.9
0 to 80	29. 2	26.7	26.9	26.0	24.2	22.4	23.2	23.2	21.3	20.5	20.0	19.1	18.1	17.4	16.3	15.8	14.9
10 to 90	26. 4	28.2	24.8	26.6	24.7	24.1	23.0	22.0	21.2	20.5	20.0	18.3	17.8	17.8	16.8	15.4	14.9
20 to 100	26. 3	26.7	25.3	25.4	24.6	23.0	24.1	22.0	21.3	20.2	20.2	18.7	18.0	17.4	16.3	15.6	14.8
30 to 110	25. 0	26.1	24.1	26.2	23.5	24.0	23.9	23.3	21.9	20.1	19.6	18.7	18.5	17.3	16.6	15.2	15.0
40 to 120	28. 4	28.7	27.0	24.8	25.1	24.3	22.1	24.0	21.1	20.3	19.3	18.9	18.2	16.5	16.1	15.4	14.4
50 to 130	27. 0	27.0	26.8	26.0	25.7	24.4	24.0	22.8	21.1	20.2	19.3	18.8	20.2	20.3	20.2	23.2	23.2
60 to 140	28. 9	27.5	26.8	27.0	27.9	26.6	24.9	25.8	24.5	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Table M.10 (Continued)

Z Weighting, Fast Response, SPL															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.5	13.3	12.9	12.3	12.0	11.4	11.6	11.2	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7
14.4	12.9	12.7	12.1	12.0	11.7	11.4	11.2	11.2	11.6	11.5	12.2	12.8	13.2	13.9	14.6
14.0	13.5	12.6	12.5	11.8	11.5	11.1	11.1	11.1	11.4	11.5	12.1	12.7	13.2	13.8	14.5
14.4	13.3	12.9	12.3	11.9	11.3	11.2	11.3	11.0	11.3	11.4	12.1	12.5	13.0	13.4	14.3
14.3	12.9	12.9	12.2	12.1	12.0	11.5	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.7	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

Z Weighting, Fast Response, LEQ																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.2	27.6	27.2	25.8	25.3	24.3	23.8	22.7	21.5	20.8	20.0	19.0	18.3	17.6	16.5	15.7	14.8
0 to 80	28.7	28.1	27.1	25.8	25.7	24.8	23.1	22.7	21.0	20.6	19.7	19.1	18.6	17.6	16.5	15.6	14.8
10 to 90	28.2	28.3	26.8	26.3	25.2	24.4	23.8	22.7	21.4	20.4	19.6	19.2	18.3	17.3	16.5	15.5	14.8
20 to 100	27.7	26.6	27.6	26.0	25.2	24.1	22.9	22.1	21.2	20.7	19.6	19.0	18.2	17.5	16.7	15.8	14.9
30 to 110	27.6	26.9	26.7	25.7	25.5	24.4	23.4	22.4	21.8	20.8	19.7	18.8	18.4	17.3	16.5	15.5	14.6
40 to 120	29.0	27.1	27.1	26.2	25.2	24.1	23.2	22.8	21.3	20.1	19.4	19.2	18.0	17.1	16.2	15.4	14.7
50 to 130	29.7	28.0	27.2	25.0	25.6	24.8	23.5	23.1	21.5	20.9	19.7	19.0	20.3	20.2	20.2	23.2	23.2
60 to 140	29.7	29.6	27.8	25.6	26.8	26.4	25.5	26.0	24.6	27.2	27.2	27.2	30.2	30.2	30.2	33.2	33.2

Z Weighting, Fast Response, LEQ															
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz
14.3	13.5	12.8	12.5	11.9	11.6	11.5	11.3	11.3	11.6	11.7	12.3	12.8	13.3	14.0	14.7
14.1	13.1	13.0	12.4	12.1	11.5	11.3	11.4	11.3	11.5	11.7	12.2	12.8	13.3	13.9	14.6
14.0	13.4	12.8	12.3	11.9	11.4	11.4	11.1	11.1	11.4	11.6	12.2	12.7	13.2	13.9	14.6
14.1	13.4	12.8	12.3	11.8	11.4	11.3	11.2	11.1	11.4	11.3	12.1	12.5	13.0	13.4	14.3
14.0	12.9	12.5	12.1	12.1	11.9	11.8	12.3	12.3	12.3	15.3	15.3	15.3	18.3	18.3	18.3
13.8	16.2	16.2	16.2	19.2	19.2	19.2	22.3	22.3	22.3	25.3	25.3	25.3	28.3	28.3	28.3
23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3	32.3	35.3	35.3	35.3	38.3	38.3	38.3
33.2	36.2	36.2	36.2	39.2	39.2	39.2	42.3	42.3	42.3	45.3	45.3	45.3	48.3	48.3	48.3

Table M.10 (Continued)

Z Weighting, Slow Response, SPL																	
Range	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.1	27.8	26.8	26.9	25.4	24.8	23.7	23.1	21.8	21.1	20.0	19.1	18.4	17.6	16.7	15.7	15.0
0 to 80	28.6	27.7	27.0	26.7	24.8	24.7	23.4	22.6	21.9	20.6	19.7	19.0	18.2	17.5	16.7	15.6	15.0
10 to 90	27.1	27.2	26.5	25.7	25.2	24.0	23.9	22.6	21.5	20.4	19.7	19.1	18.2	17.3	16.5	15.6	14.7
20 to 100	28.9	27.3	27.1	25.9	25.6	23.9	23.6	22.9	21.7	20.8	19.8	19.0	18.0	17.6	16.5	15.5	14.8
30 to 110	28.3	27.8	27.4	25.4	25.1	24.6	23.3	22.5	21.8	20.8	19.8	18.8	18.1	17.1	16.3	15.4	15.2
40 to 120	28.7	27.4	26.3	26.7	25.6	24.6	23.5	22.5	21.6	19.8	19.4	19.2	19.2	19.2	19.2	22.3	22.3
50 to 130	27.8	28.8	26.9	26.0	25.2	24.1	23.3	23.5	23.3	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	28.3	28.6	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, SPL																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
14.2	13.3	12.8	12.4	11.9	11.6	11.5	11.4	11.4	11.5	11.7	12.3	12.8	13.3	13.9	14.6		
14.2	13.2	12.8	12.2	11.8	11.5	11.3	11.3	11.2	11.5	11.6	12.2	12.7	13.2	13.8	14.5		
14.1	13.3	12.7	12.2	11.9	11.4	11.2	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3		
14.2	13.1	12.5	12.2	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3		
12.9	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3		
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3		
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3		
37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1		

Z Weighting, Slow Response, LEQ																	
Range (dB)	12.5 Hz	16 Hz	20 Hz	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz
-10 to 70	28.5	27.6	27.1	26.6	25.4	24.4	24.2	22.8	22.0	21.0	19.9	19.2	18.3	17.5	16.4	15.8	14.9
0 to 80	28.8	27.6	27.0	25.6	25.3	24.3	23.5	22.4	21.9	20.7	19.8	19.0	18.3	17.3	16.6	15.8	14.9
10 to 90	27.7	27.8	27.1	25.6	24.6	23.8	23.9	22.8	21.6	20.8	19.8	19.3	18.4	17.5	16.5	15.6	14.9
20 to 100	28.2	27.4	26.7	26.4	24.8	24.0	23.8	22.7	21.5	20.7	19.9	18.8	18.1	17.5	16.5	15.6	14.9
30 to 110	28.1	28.4	26.8	25.1	25.4	24.2	23.2	22.6	21.6	20.9	19.6	18.8	18.0	17.1	16.3	15.3	15.2
40 to 120	28.4	27.5	26.8	26.0	25.0	24.7	23.5	22.6	21.4	20.1	19.3	19.1	19.2	19.2	19.2	22.3	22.3
50 to 130	28.5	28.1	27.0	26.2	24.8	24.6	23.5	23.3	23.2	26.2	26.2	26.2	29.2	29.2	29.2	32.3	32.3
60 to 140	29.8	29.1	28.3	30.2	30.2	30.2	33.2	33.2	33.2	36.2	36.2	36.2	39.2	39.2	39.2	39.2	38.3

Z Weighting, Slow Response, LEQ																	
630 Hz	800 Hz	1000 Hz	1250 Hz	1600 Hz	2000 Hz	2500 Hz	3150 Hz	4000 Hz	5000 Hz	6300 Hz	8000 Hz	10 kHz	12.5 kHz	16 kHz	20 kHz		
dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB		
14.2	13.3	13.0	12.5	12.0	11.6	11.5	11.4	11.4	11.6	11.7	12.3	12.8	13.2	13.9	14.6		
14.2	13.4	12.8	12.4	11.9	11.5	11.4	11.3	11.3	11.5	11.6	12.2	12.7	13.1	13.8	14.5		
14.1	13.3	12.8	12.4	11.8	11.4	11.4	11.2	11.2	11.3	11.3	12.1	12.7	13.3	13.3	14.3		
14.1	13.0	12.6	12.3	11.3	11.3	11.3	11.3	11.3	11.3	14.3	14.3	14.3	17.3	17.3	17.3		
13.0	15.3	15.3	15.3	18.3	18.3	18.3	21.3	21.3	21.3	24.3	24.3	24.3	27.3	27.3	27.3		
22.3	25.3	25.3	25.3	28.3	28.3	28.3	31.3	31.3	31.3	34.3	34.3	34.3	37.3	37.3	37.3		
32.3	35.3	35.3	35.3	38.3	38.3	38.3	41.3	41.3	41.3	44.3	44.3	44.3	47.3	47.3	47.3		
37.3	36.0	35.1	34.2	33.0	31.9	31.0	29.2	28.1	27.6	25.6	25.9	24.5	22.1	22.1	22.1		

About US

3M Detection Solutions is a world class manufacturer of rugged, reliable instrumentation and software systems that help monitor and evaluate occupational and environmental health and safety hazards, including noise dosimetry, heat stress, indoor air quality and select toxic/combustible gases. The 3M Detection brand of instrumentation is used by safety and industrial hygiene professionals to help comply with applicable occupational standards and regulations.

About 3M and 3M's Occupational Health and Environmental Safety Division

3M Detection Solutions is part of 3M OH&ES Division, a global leader in respiratory, hearing, eye, head and fall protection, visibility and protective clothing, and noise detection and sound measurement products. 3M captures the spark of new ideas and transforms them into thousands of ingenious products. Our culture of creative collaboration inspires a never-ending stream of powerful technologies that make life better. 3M is the innovation company that never stops inventing. With \$30 billion in sales, 3M employs about 84,000 people worldwide and has operations in more than 65 countries.

- Visit www.3M.com/detection for further information.



Occupational Health & Environmental Safety Division

3M Detection Solutions
ISO 9001 Registered Company
ISO 17025 Accredited Calibration Lab
1060 Corporate Center Drive
Oconomowoc, WI 53066
Customer Service: 262-567-9157
Toll Free: 800-245-0779



3M and SoundPro are trademarks of 3M Company, used under license in Canada.
Please recycle. Printed in USA.
© 2012 3M Company
All rights reserved.
053-469 RevB. 11/12

Free Manuals Download Website

<http://myh66.com>

<http://usermanuals.us>

<http://www.somanuals.com>

<http://www.4manuals.cc>

<http://www.manual-lib.com>

<http://www.404manual.com>

<http://www.luxmanual.com>

<http://aubethermostatmanual.com>

Golf course search by state

<http://golfingnear.com>

Email search by domain

<http://emailbydomain.com>

Auto manuals search

<http://auto.somanuals.com>

TV manuals search

<http://tv.somanuals.com>