

Headphone Measurement Datasheets

All Headphones May 1, 2011

Those wishing to get headphones measured
should send all inquiries by email to:

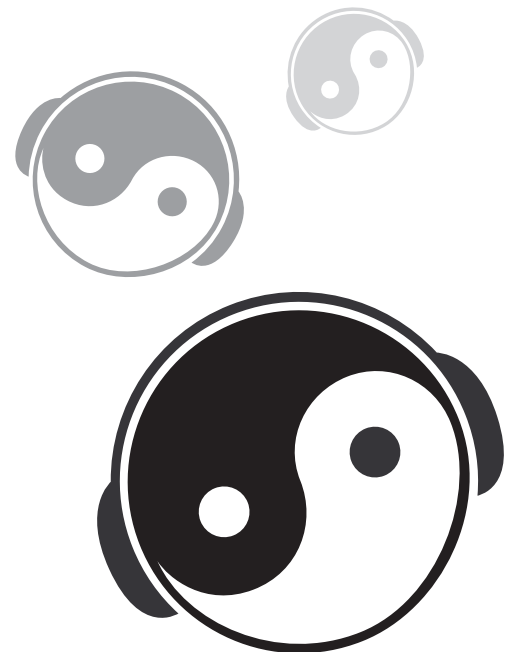
Tyll Hertsens
InnerFidelity, Editor-in-Chief
tyll@innerfidelity.com

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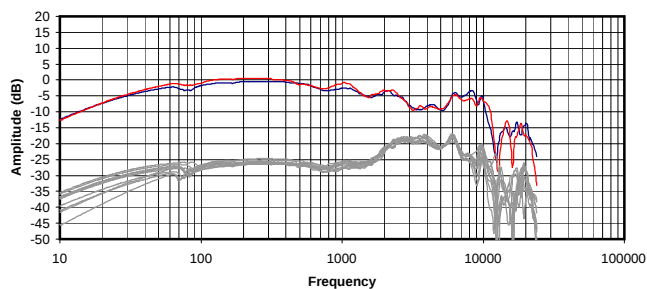


Headphone Measurement Datasheets

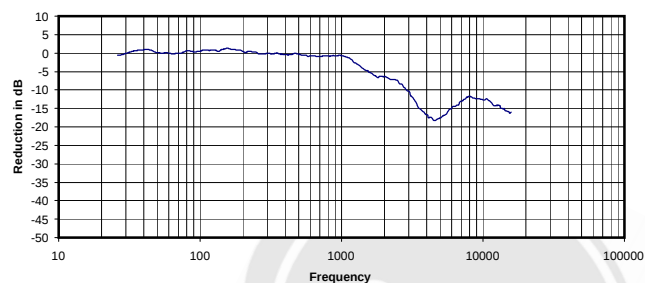
Full-Size Open



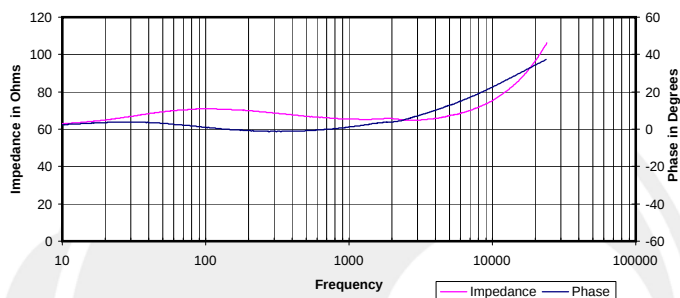
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



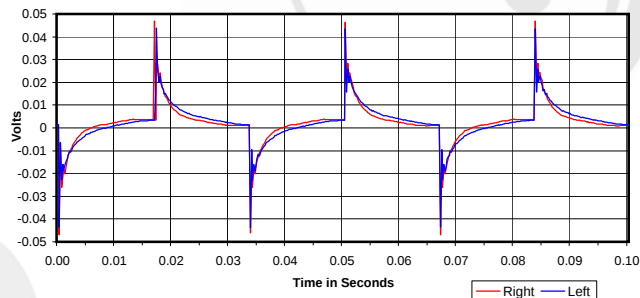
Isolation
Attenuation of External Sound vs. Frequency



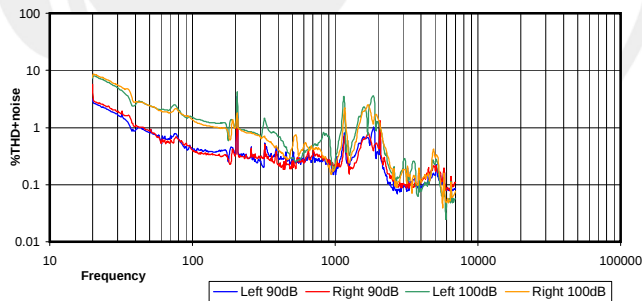
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



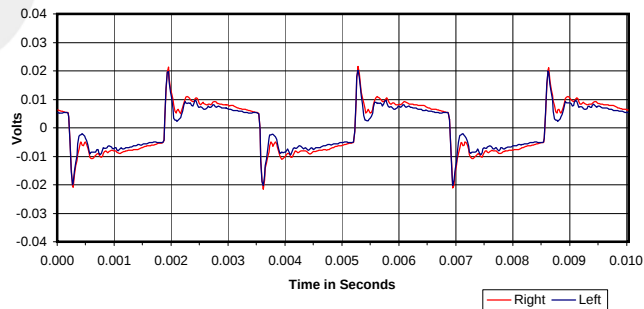
30 Hz Square Wave



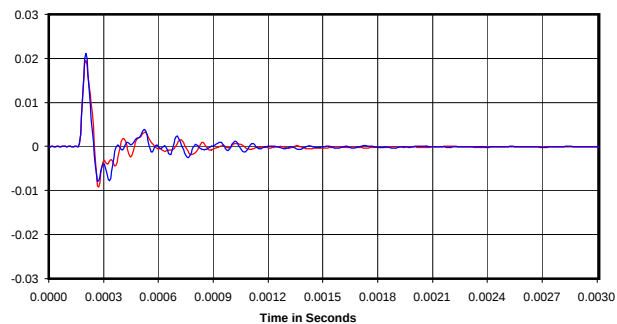
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



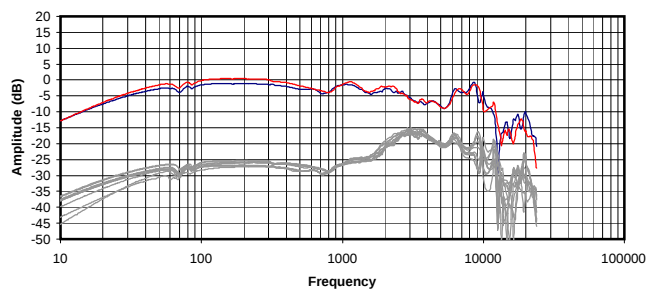
Impulse Response



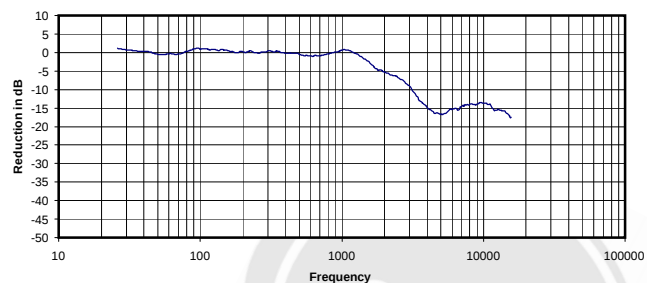
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.320 Vrms
65 Ohms
1.57 mW
-4 dBr

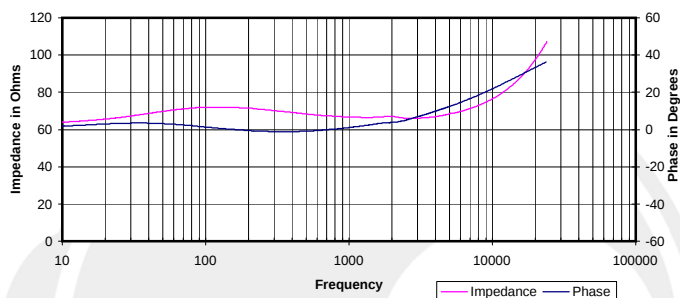
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



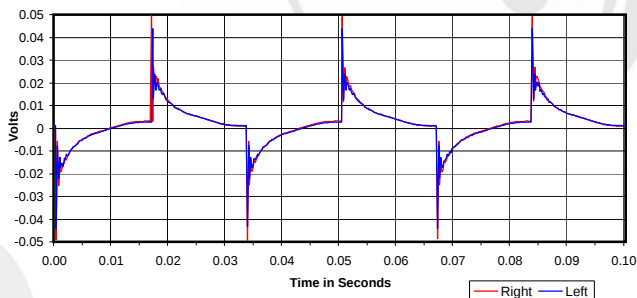
Isolation
Attenuation of External Sound vs. Frequency



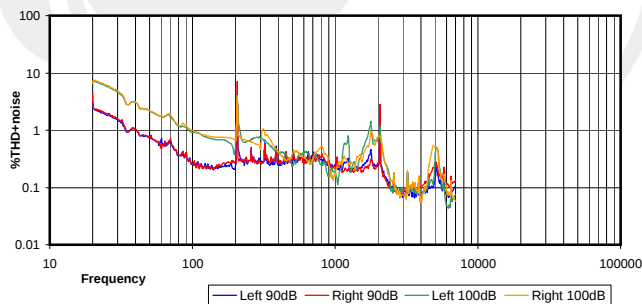
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



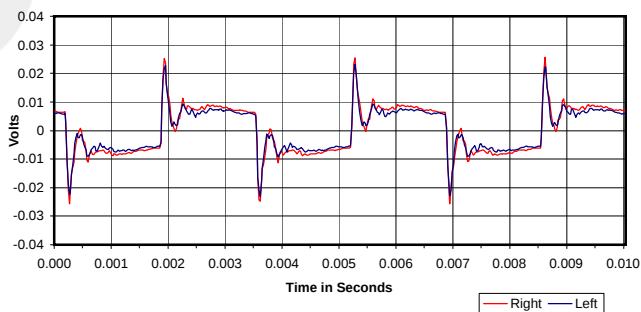
30 Hz Square Wave



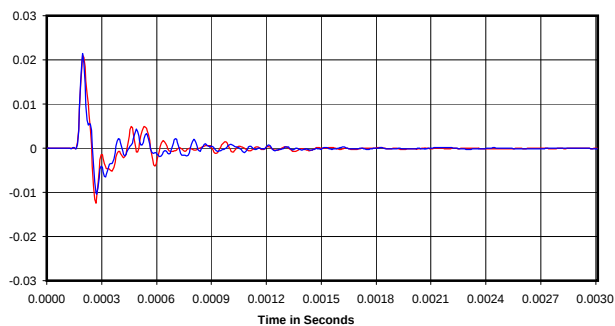
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



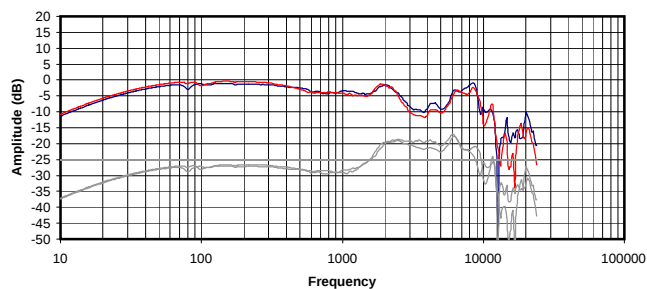
Impulse Response



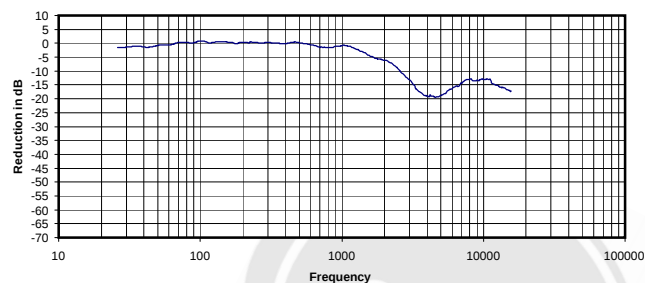
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.283 Vrms
67 Ohms
1.20 mW
-4 dBr

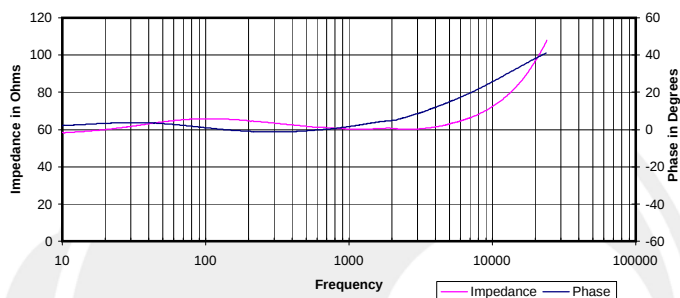
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



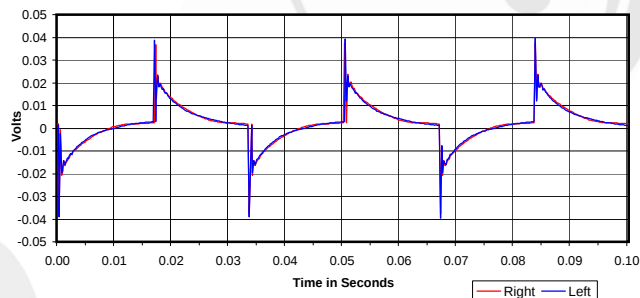
Isolation
Attenuation of External Sound vs. Frequency



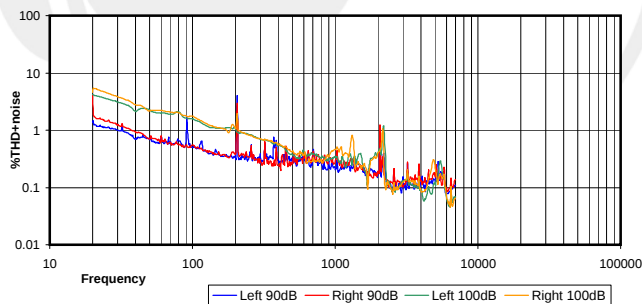
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



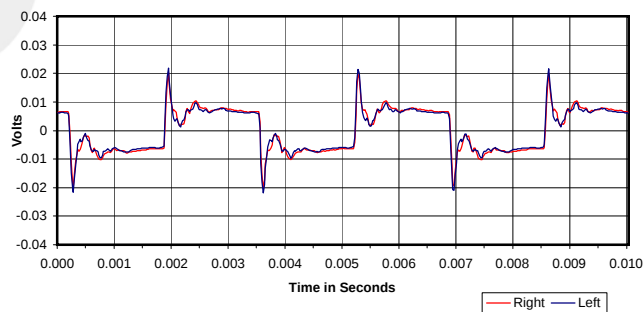
30 Hz Square Wave



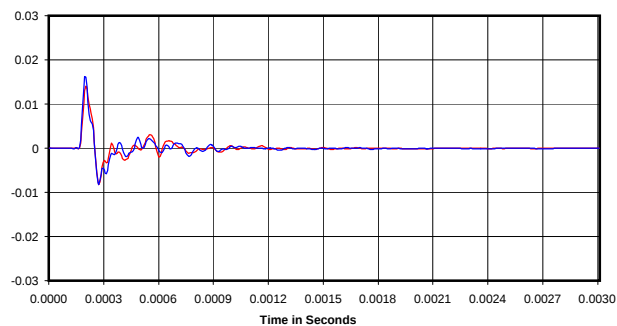
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



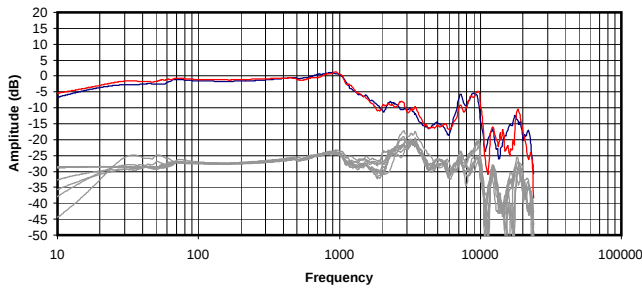
Impulse Response



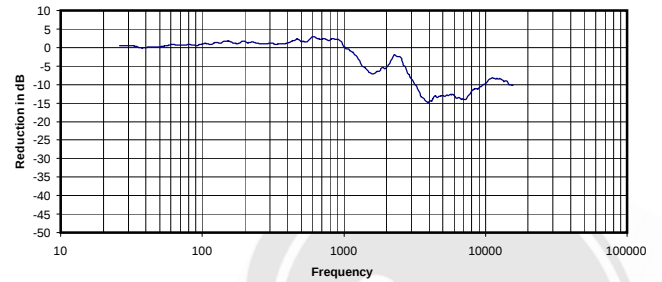
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.318 Vrms
60 Ohms
1.68 mW
-5 dB

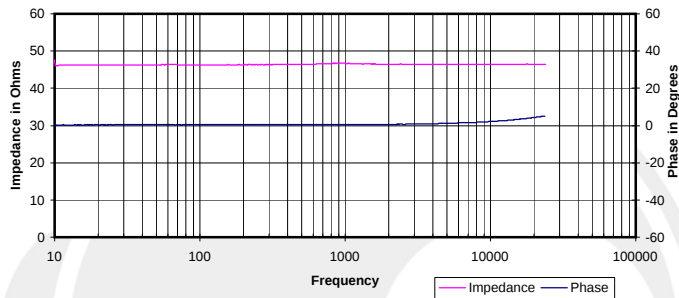
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



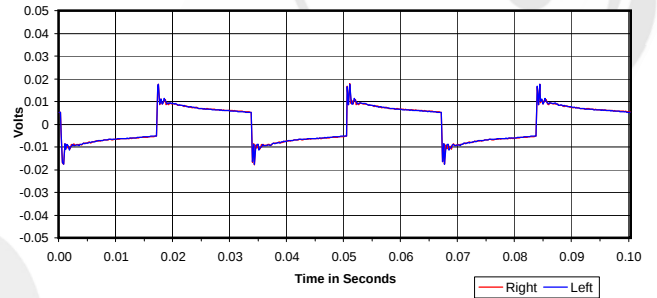
Isolation
Attenuation of External Sound vs. Frequency



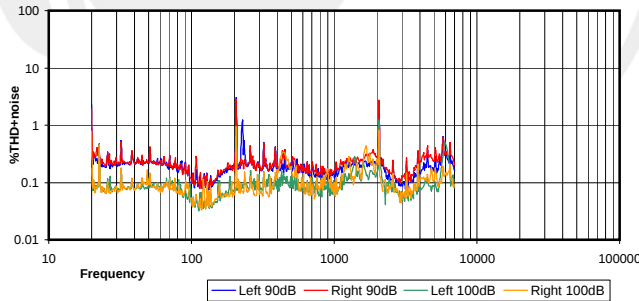
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



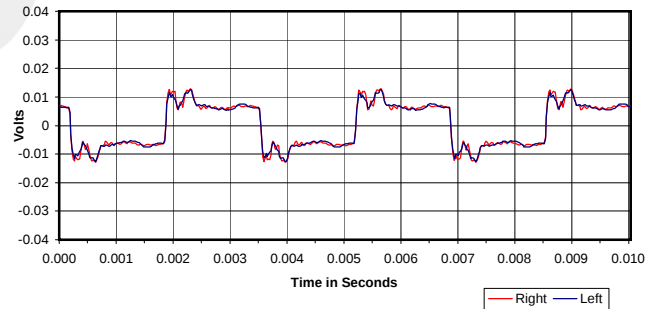
30 Hz Square Wave



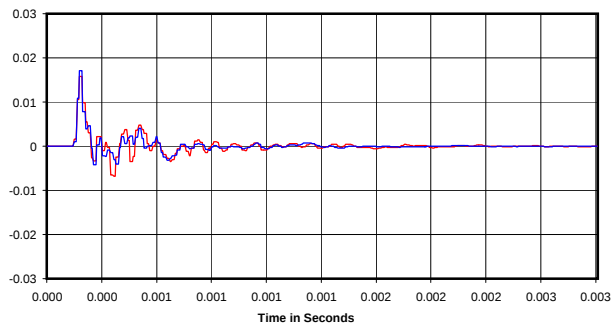
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



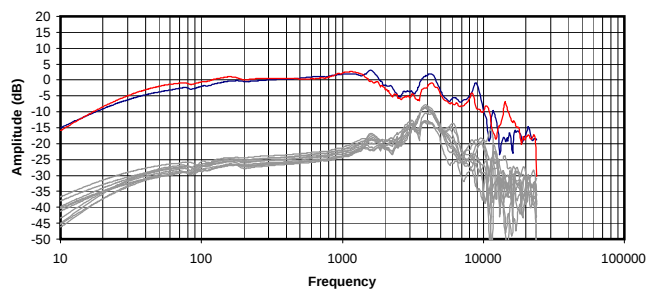
Impulse Response



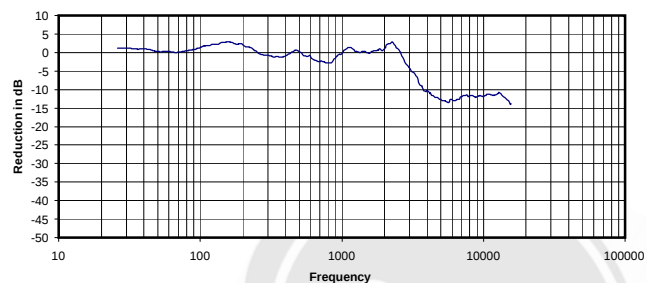
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.106 Vrms
47 Ohms
0.24 mW
-3 dBr

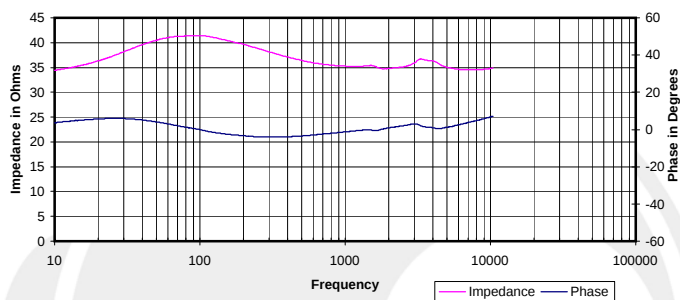
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



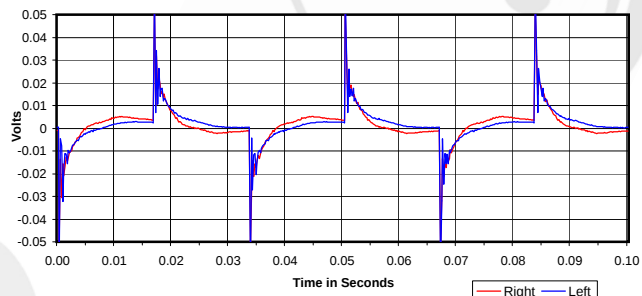
Isolation
Attenuation of External Sound vs. Frequency



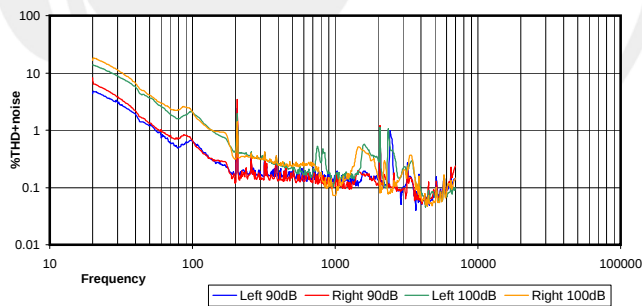
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



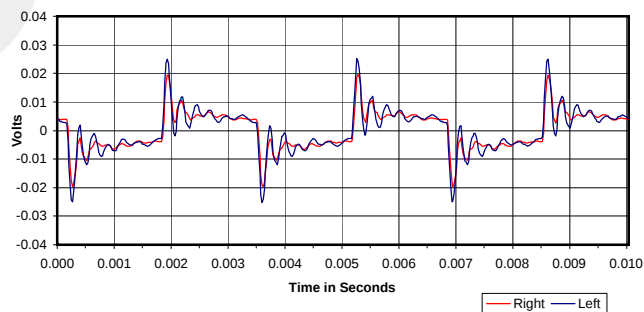
30 Hz Square Wave



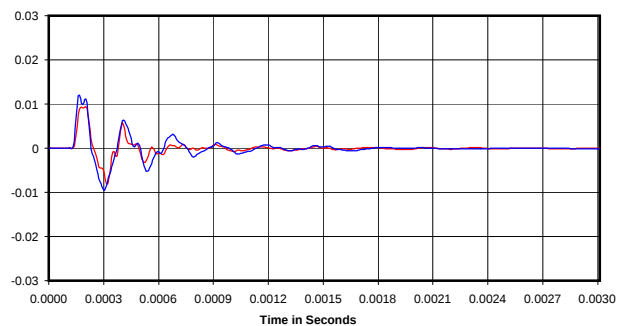
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



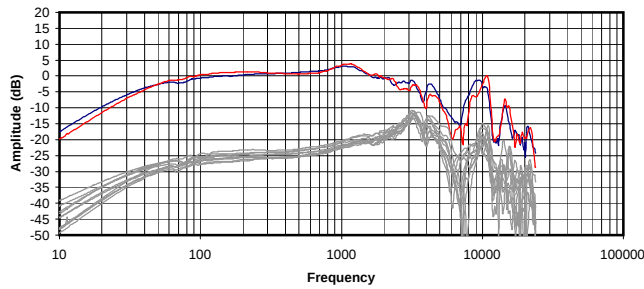
Impulse Response



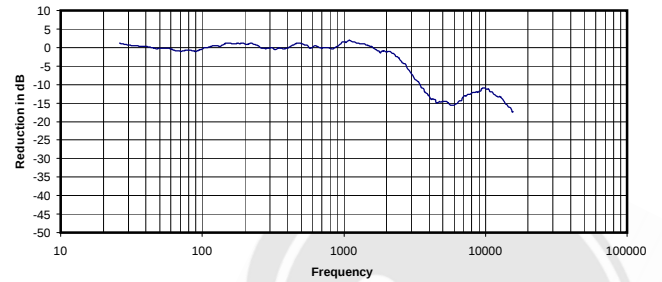
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.062 Vrms
35 Ohms
0.11 mW
-2 dBr

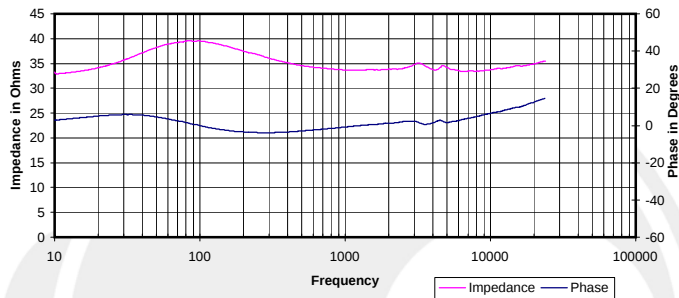
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



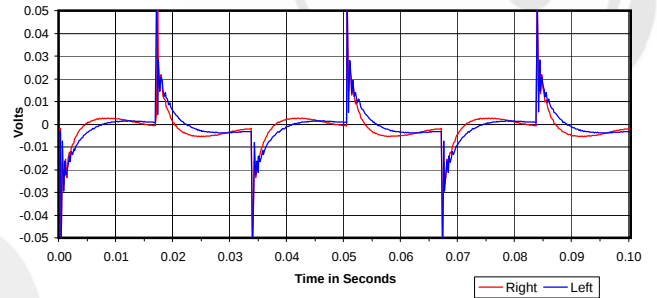
Isolation
Attenuation of External Sound vs. Frequency



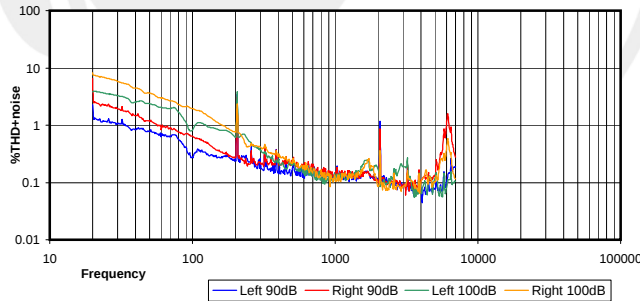
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



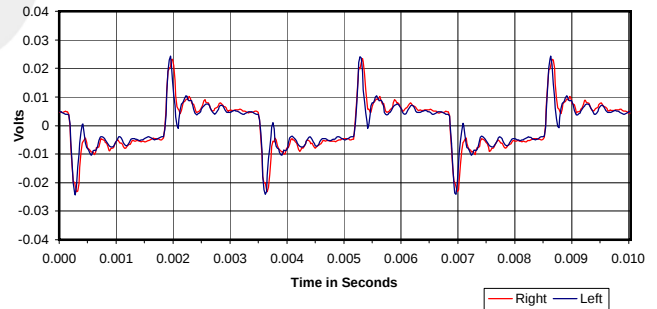
30 Hz Square Wave



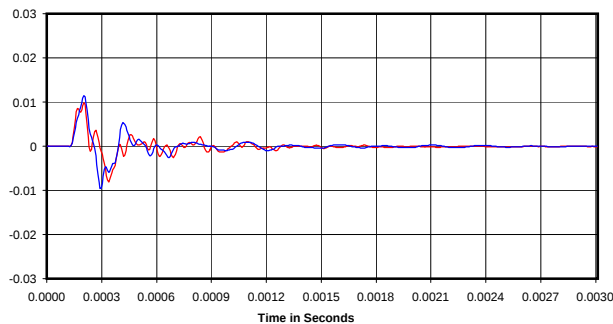
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



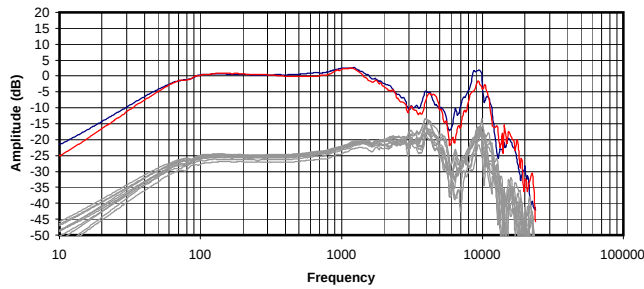
Impulse Response



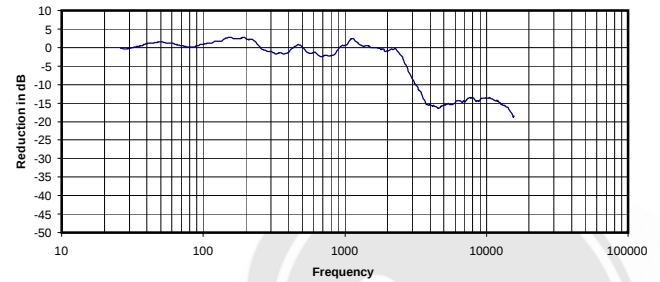
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.055 Vrms
34 Ohms
0.09 mW
-2 dBr

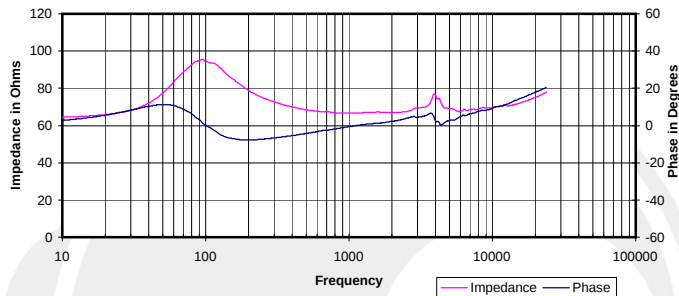
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



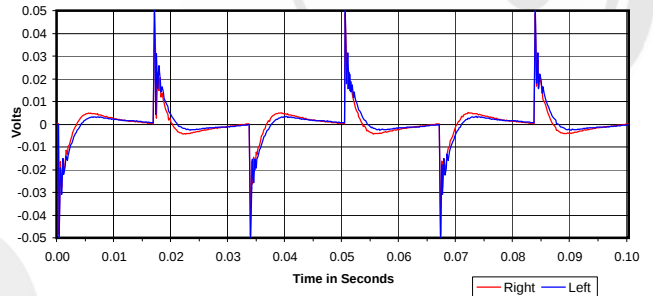
Isolation
Attenuation of External Sound vs. Frequency



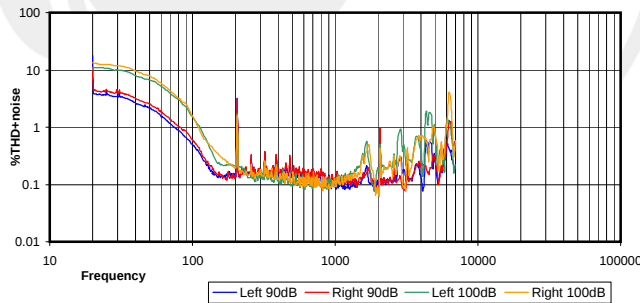
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



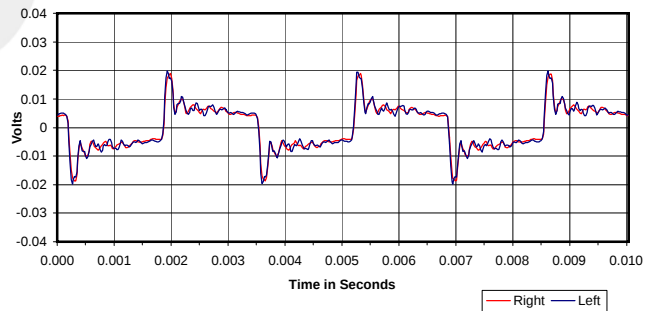
30 Hz Square Wave



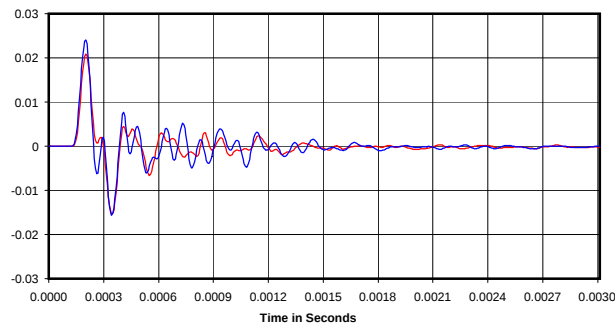
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



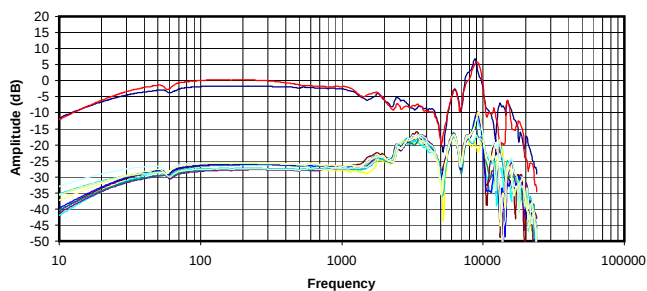
Impulse Response



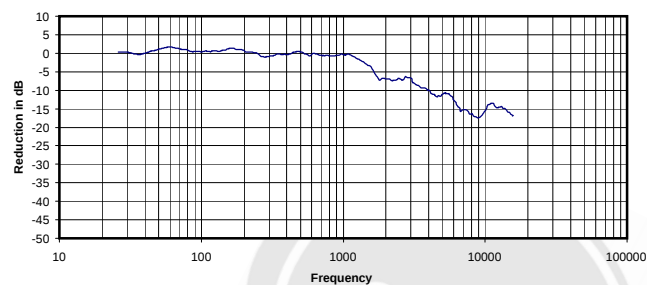
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.045 Vrms
67 Ohms
0.03 mW
-3 dBr

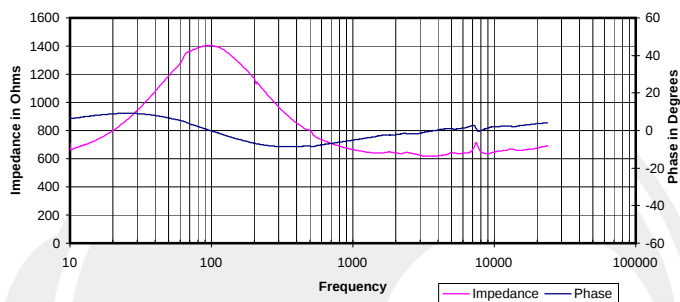
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



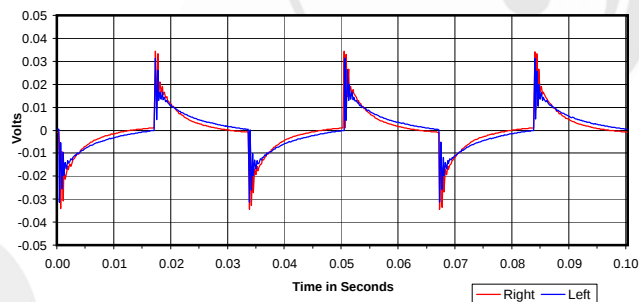
Isolation
Attenuation of External Sound vs. Frequency



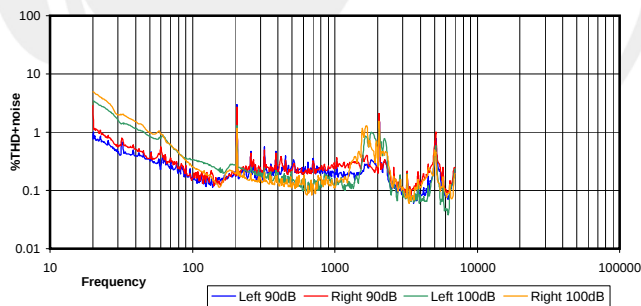
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



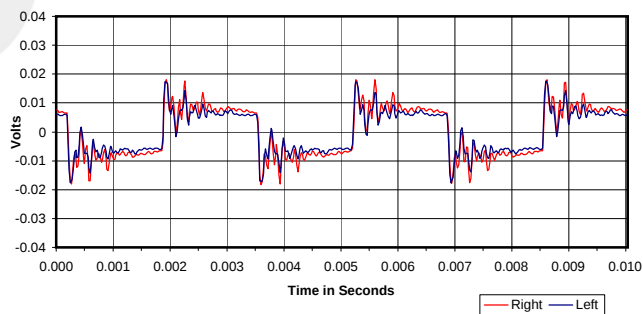
30 Hz Square Wave



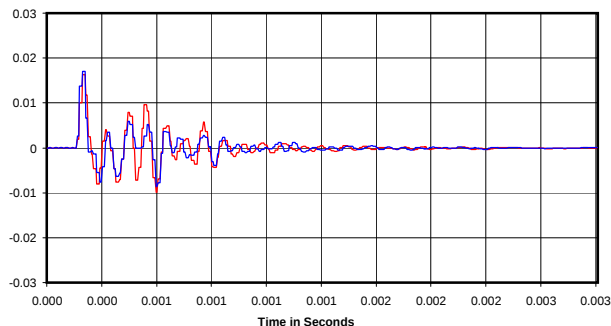
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



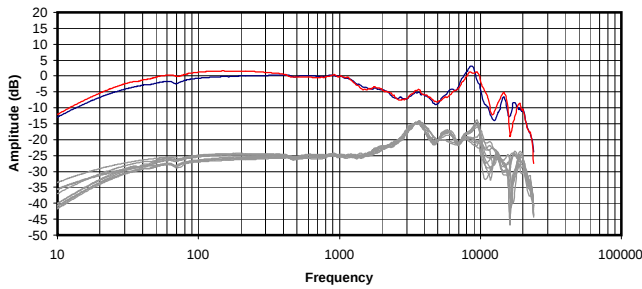
Impulse Response



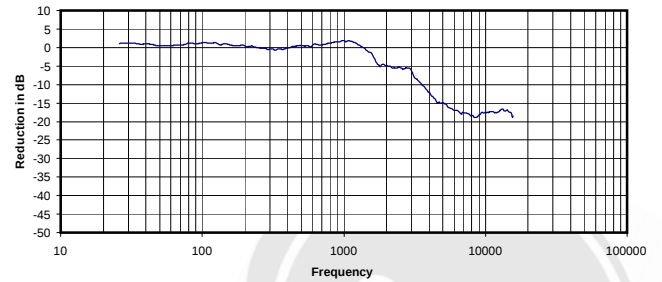
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.346 Vrms
665 Ohms
0.18 mW
-3 dBr

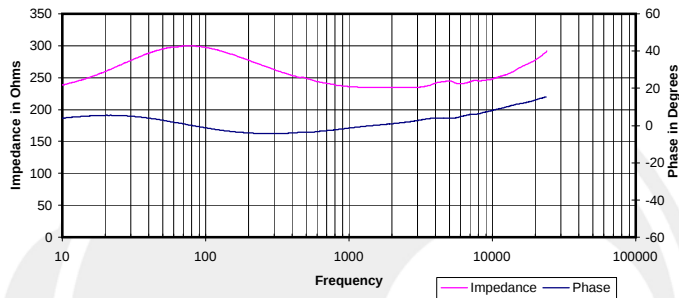
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



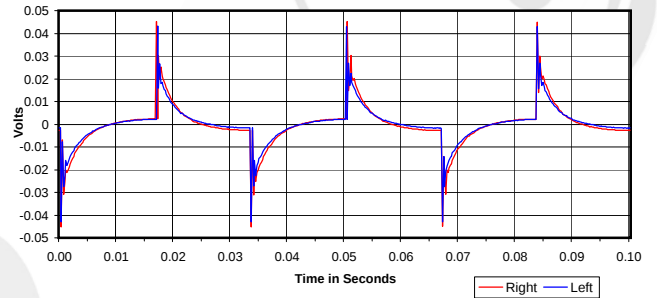
Isolation
Attenuation of External Sound vs. Frequency



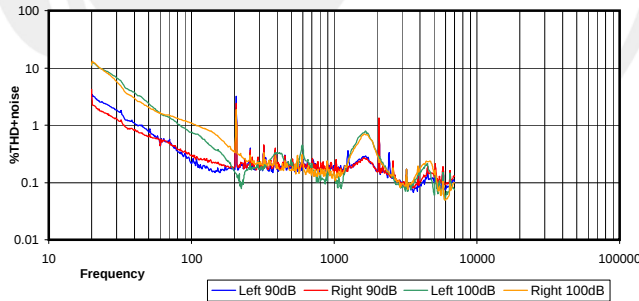
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



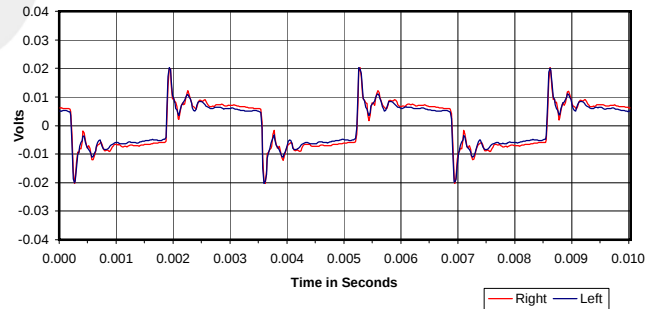
30 Hz Square Wave



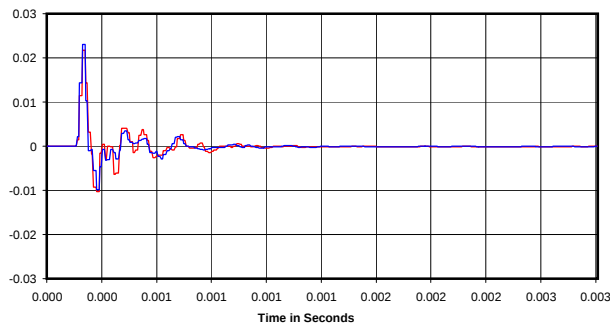
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



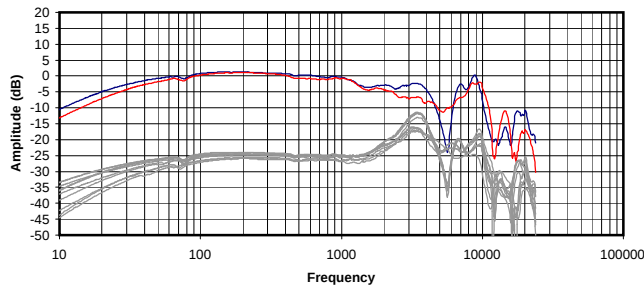
Impulse Response



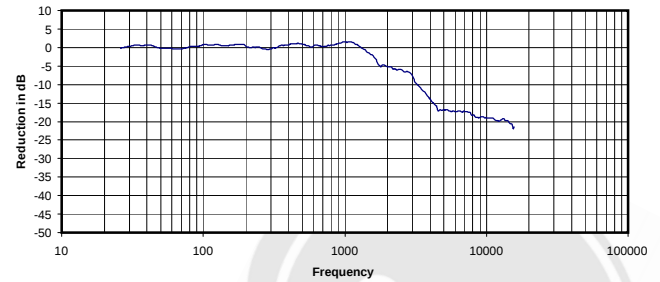
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.299 Vrms
236 Ohms
0.38 mW
-3 dBr

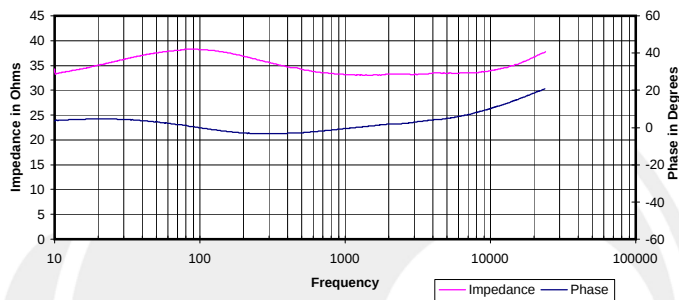
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



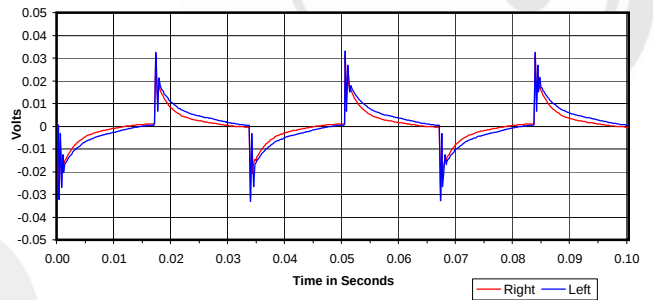
Isolation
Attenuation of External Sound vs. Frequency



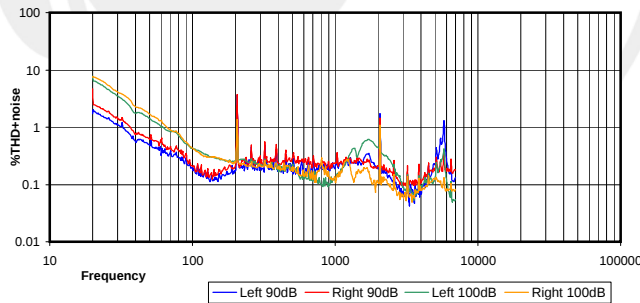
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



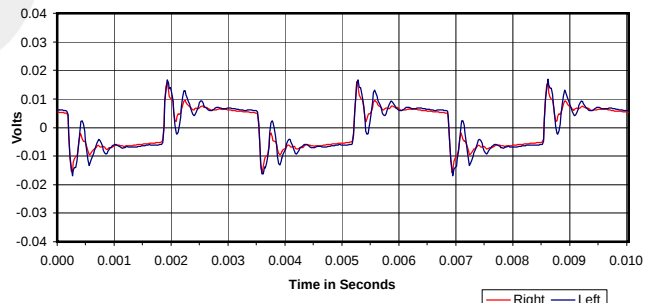
30 Hz Square Wave



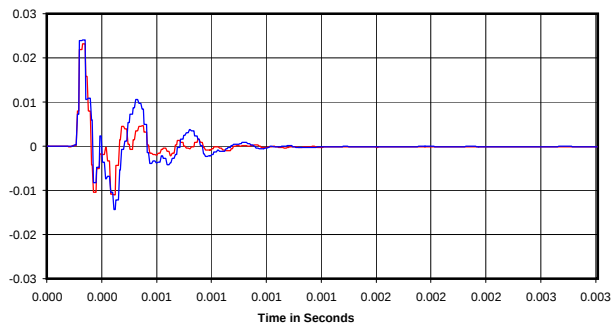
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



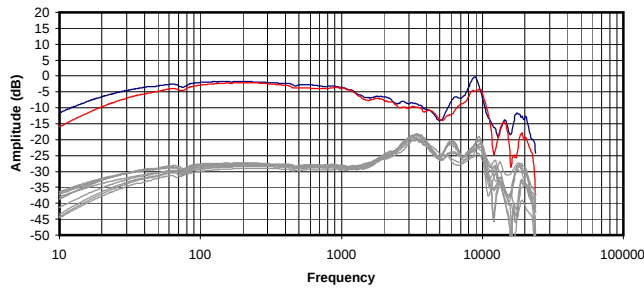
Impulse Response



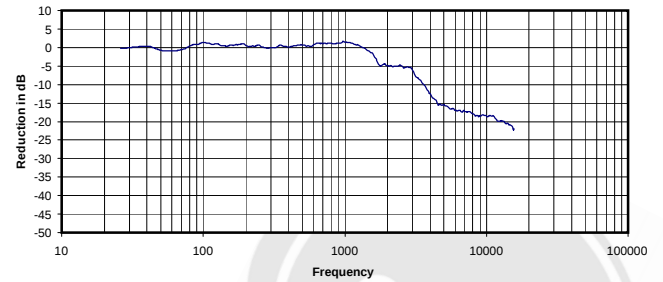
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.125 Vrms
33 Ohms
0.47 mW
-3 dBr

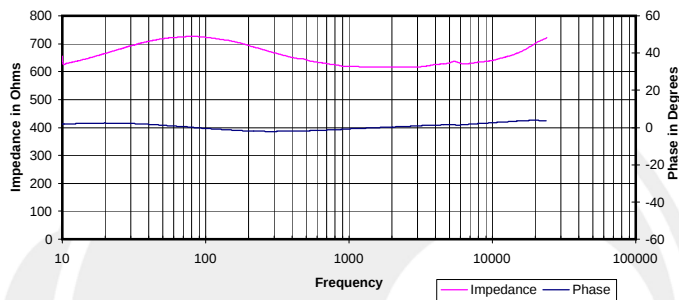
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



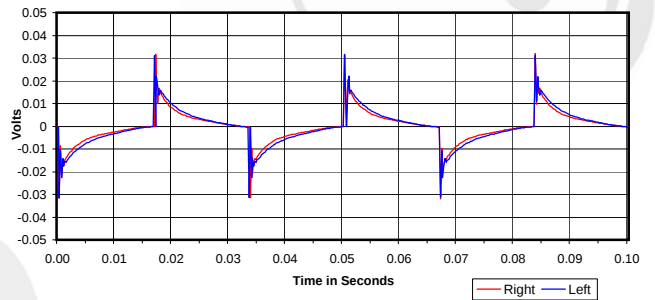
Isolation
Attenuation of External Sound vs. Frequency



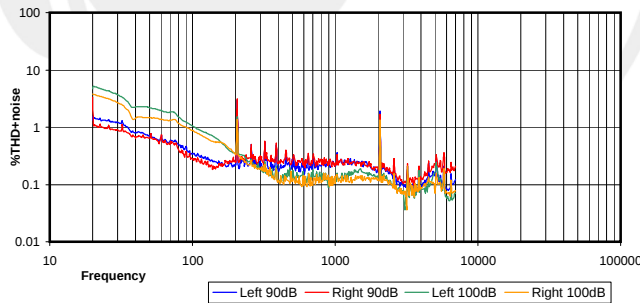
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



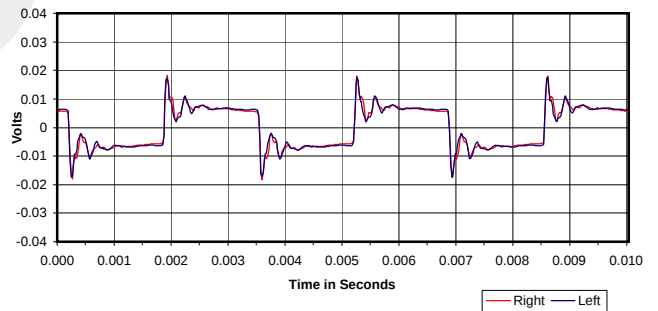
30 Hz Square Wave



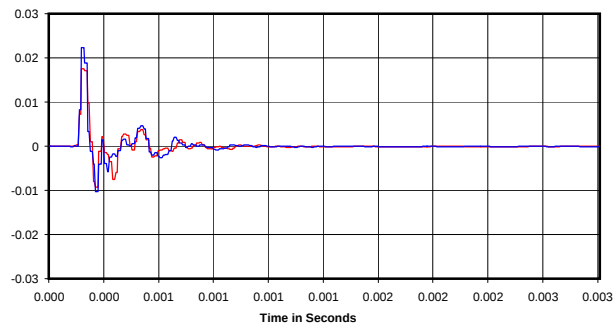
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



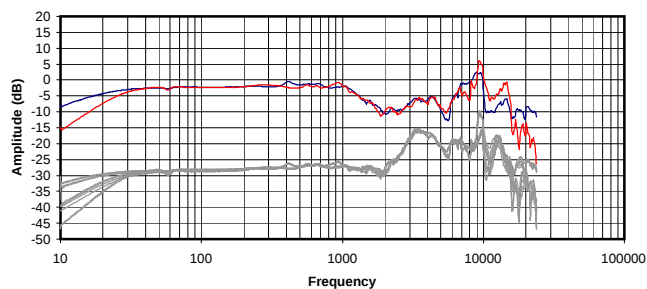
Impulse Response



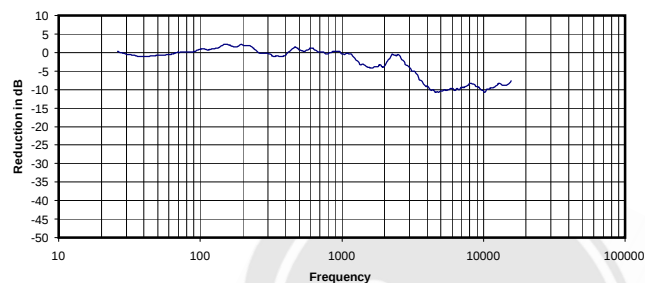
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.514 Vrms
619 Ohms
0.43 mW
-3 dBr

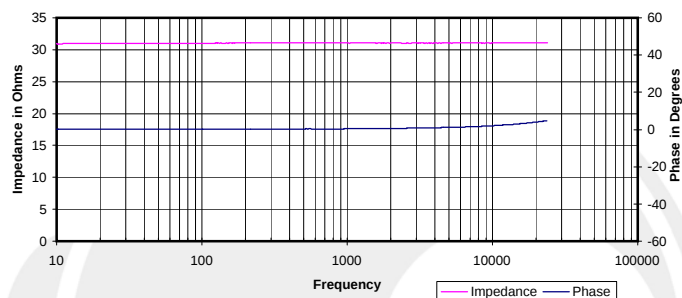
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



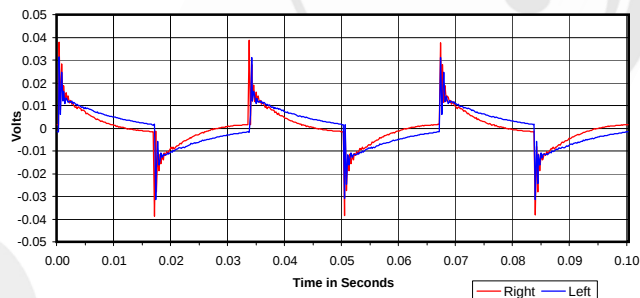
Isolation
Attenuation of External Sound vs. Frequency



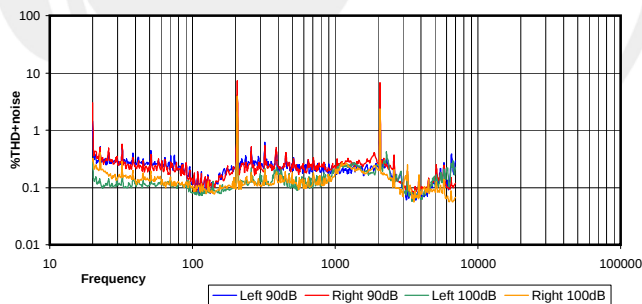
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



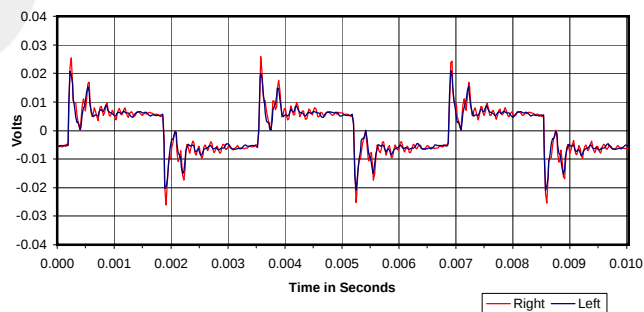
30 Hz Square Wave



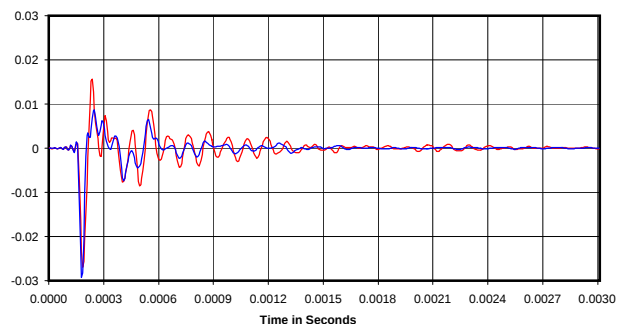
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



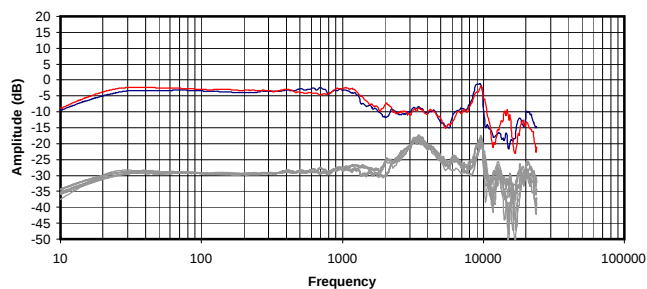
Impulse Response



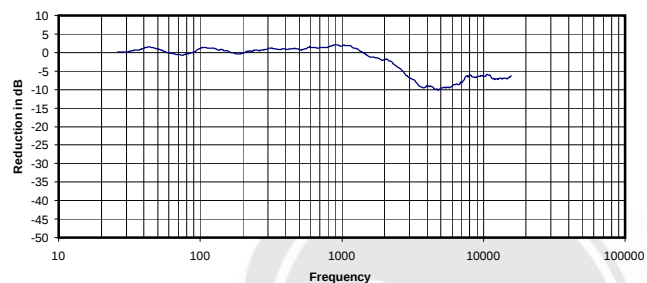
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.380 Vrms
31 Ohms
4.65 mW
-2 dB

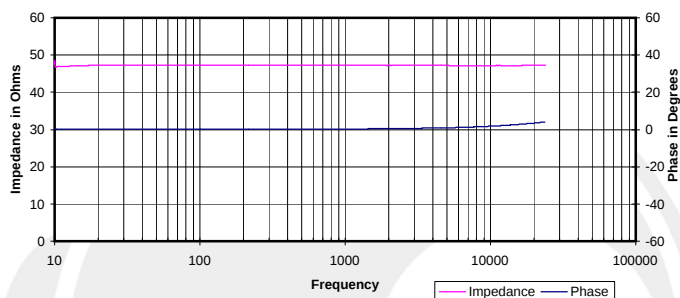
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



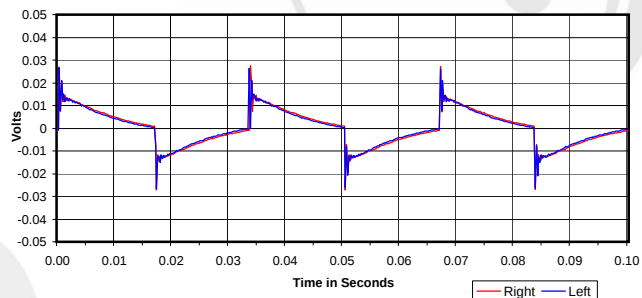
Isolation
Attenuation of External Sound vs. Frequency



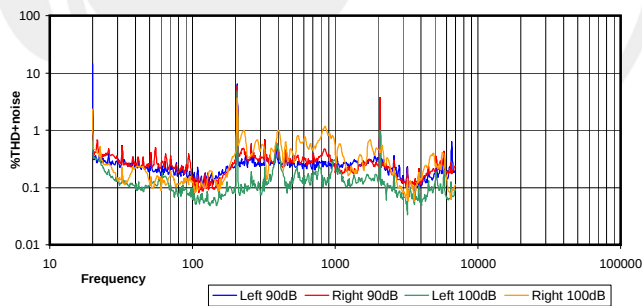
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



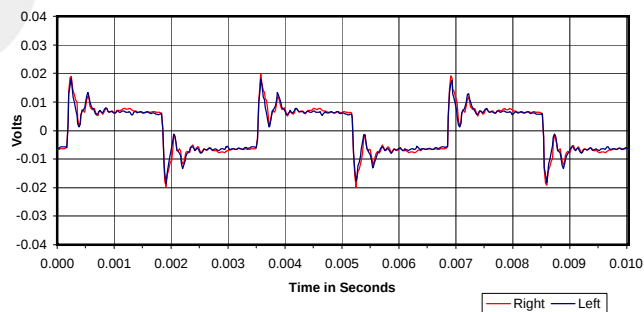
30 Hz Square Wave



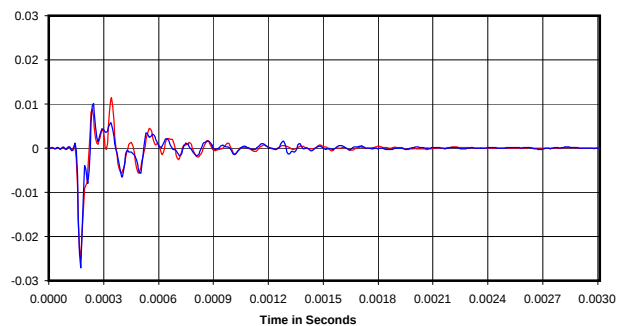
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



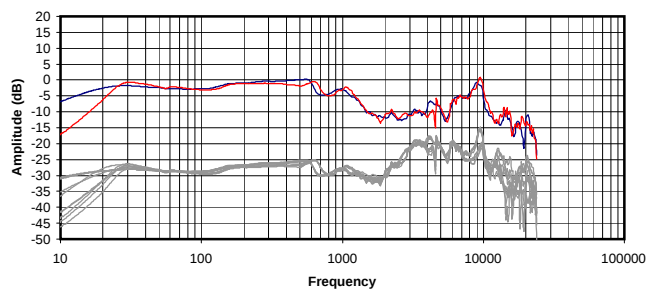
Impulse Response



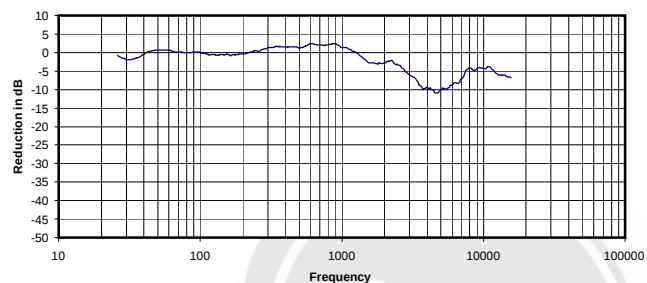
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.310 Vrms
47 Ohms
2.04 mW
-1 dB

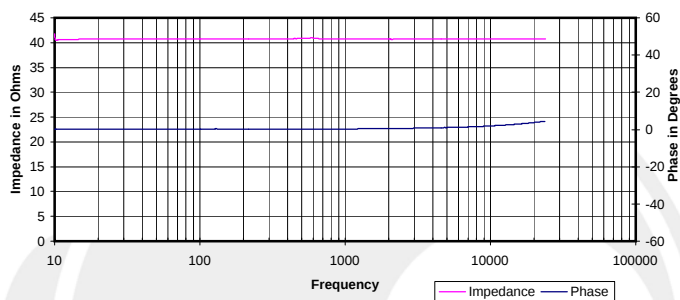
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



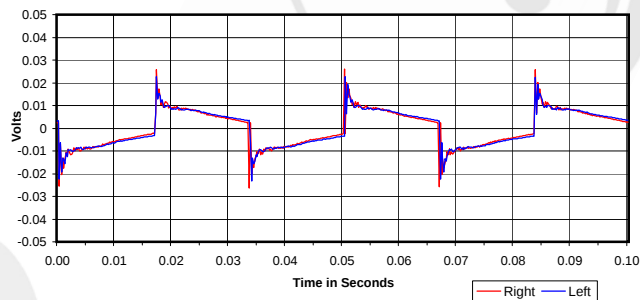
Isolation
Attenuation of External Sound vs. Frequency



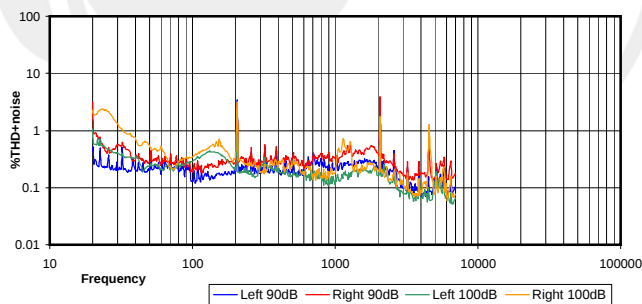
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



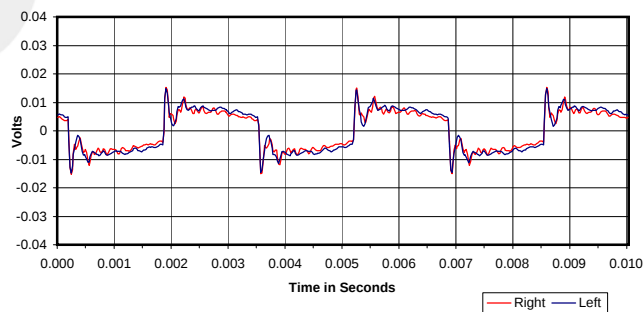
30 Hz Square Wave



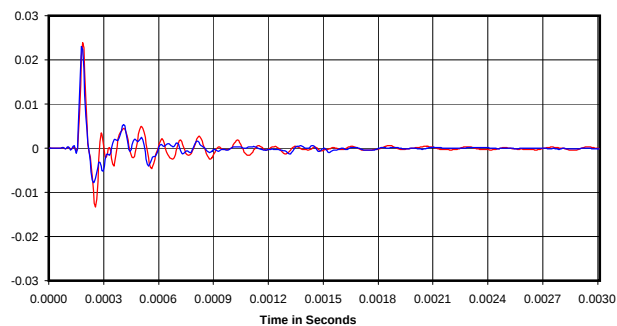
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



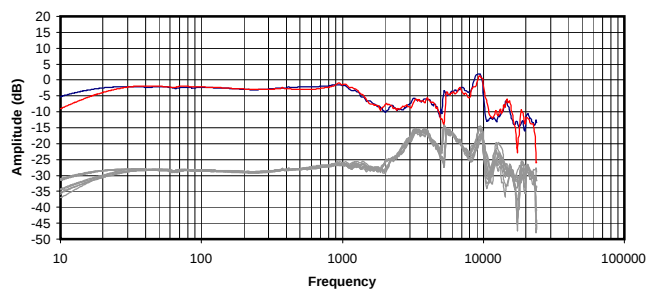
Impulse Response



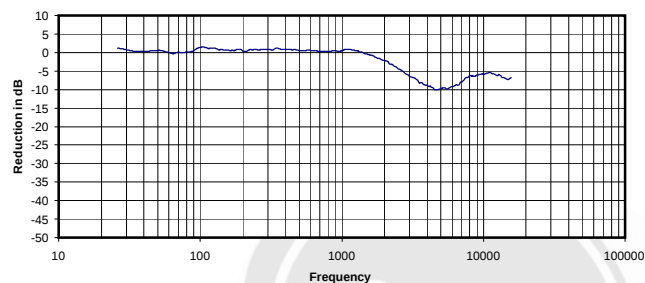
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.439 Vrms
41 Ohms
4.73 mW
-2 dBr

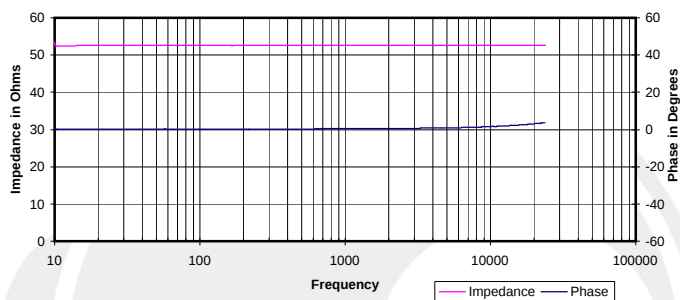
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



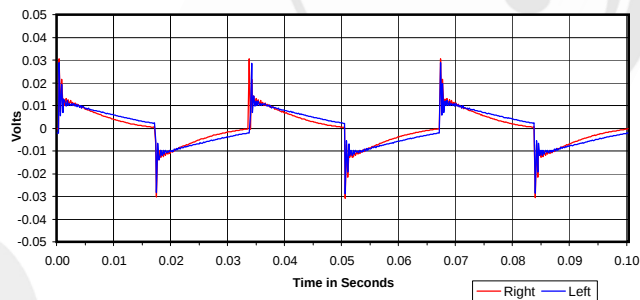
Isolation
Attenuation of External Sound vs. Frequency



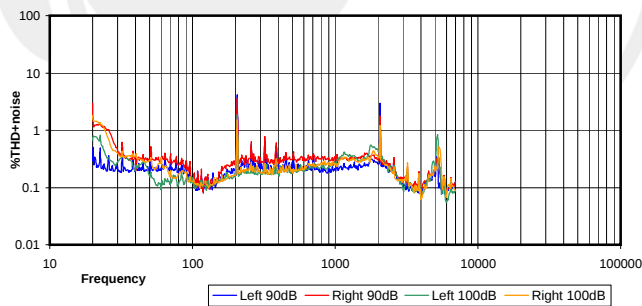
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



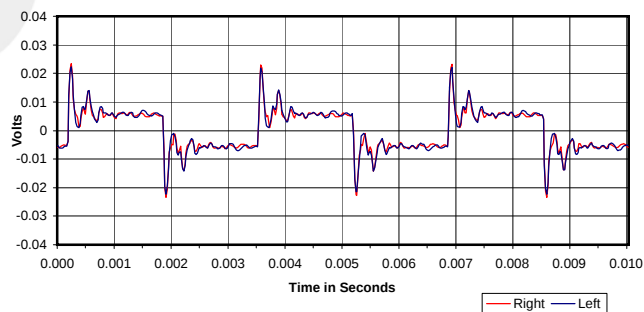
30 Hz Square Wave



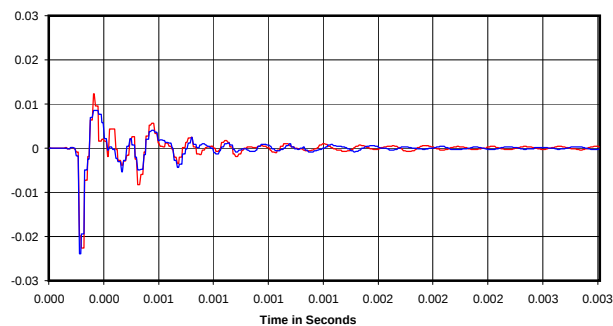
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



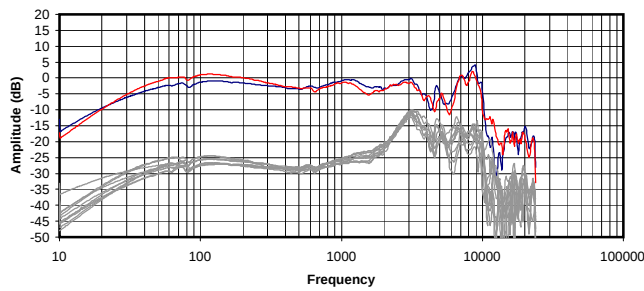
Impulse Response



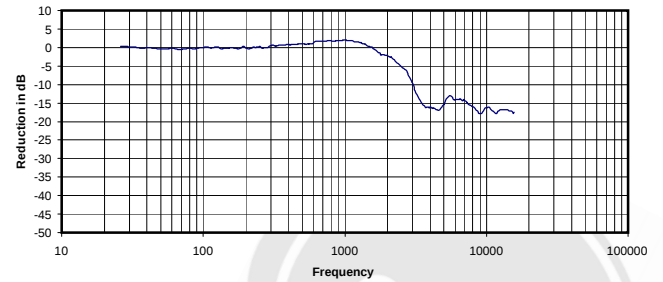
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

1.018 Vrms
53 Ohms
19.69 mW
-2 dBr

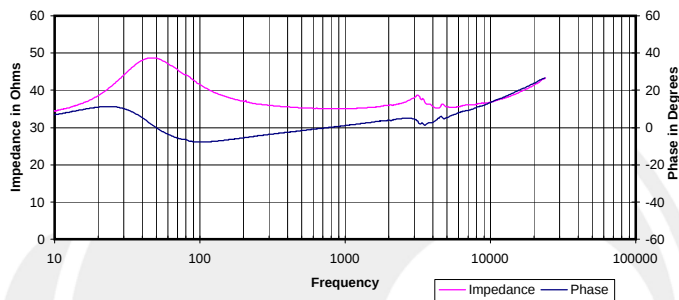
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



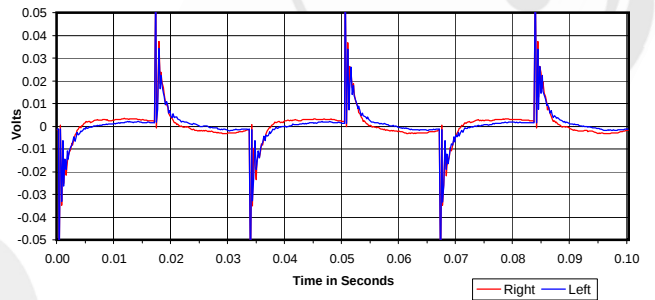
Isolation
Attenuation of External Sound vs. Frequency



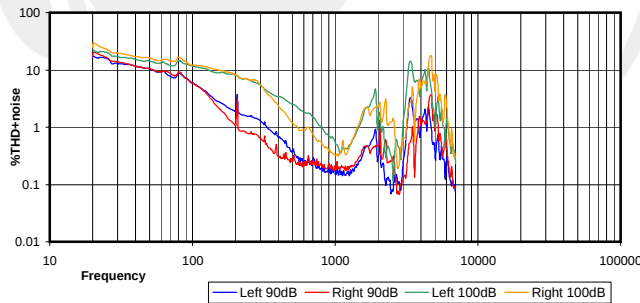
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



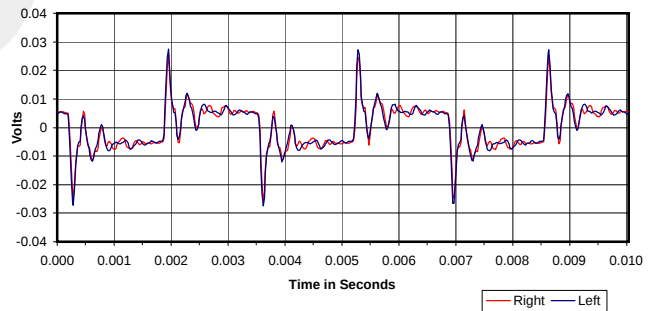
30 Hz Square Wave



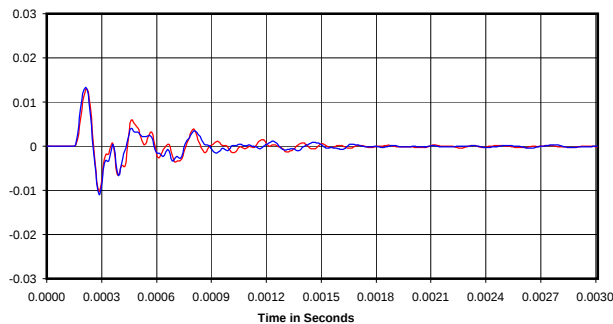
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



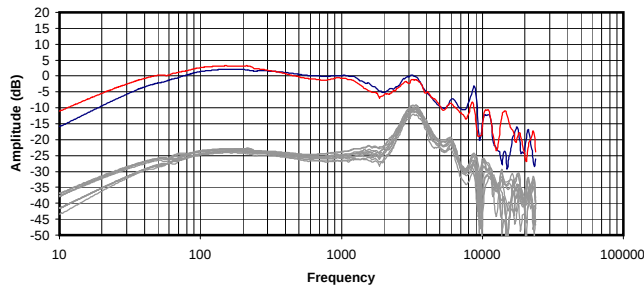
Impulse Response



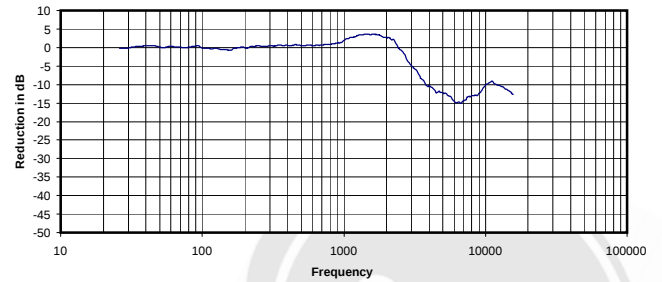
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.082 Vrms
35 Ohms
0.19 mW
-3 dBr

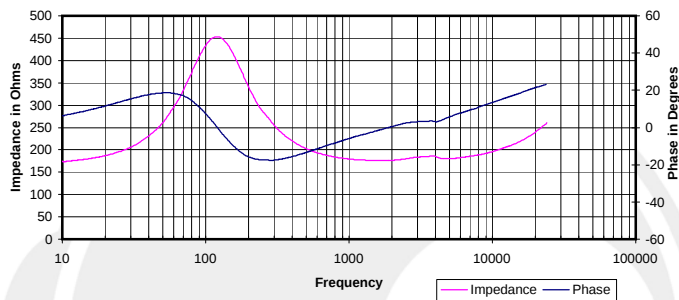
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



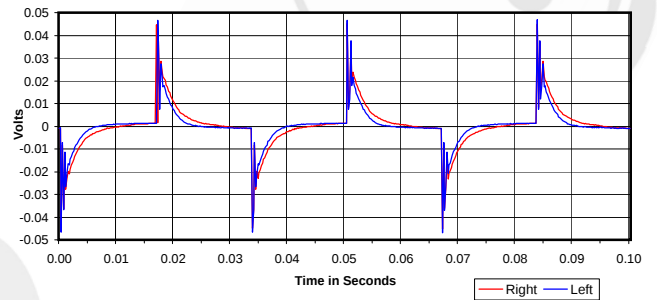
Isolation
Attenuation of External Sound vs. Frequency



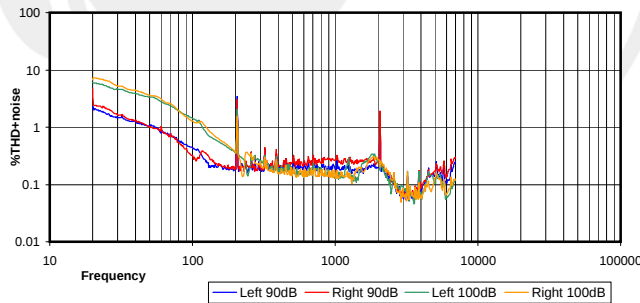
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



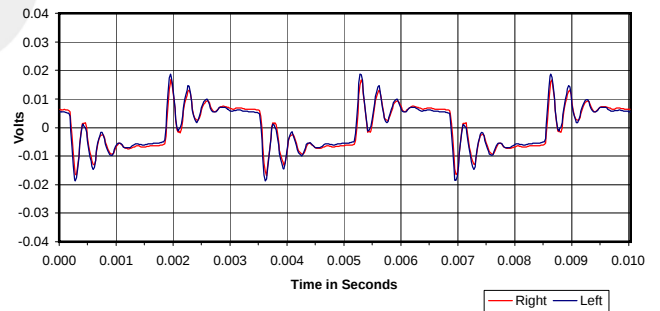
30 Hz Square Wave



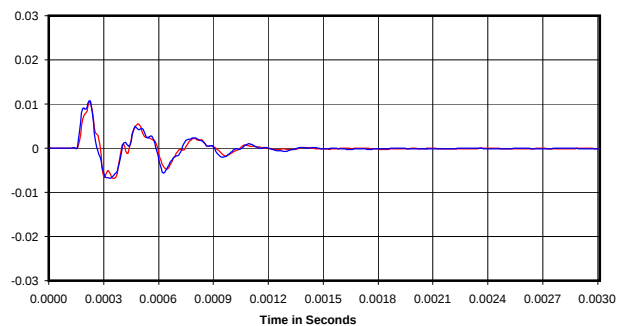
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



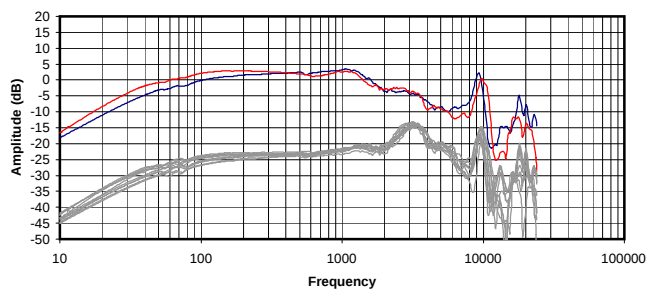
Impulse Response



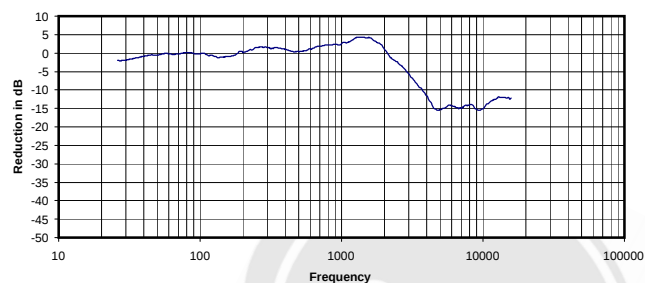
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.156 Vrms
179 Ohms
0.14 mW
-1 dBr

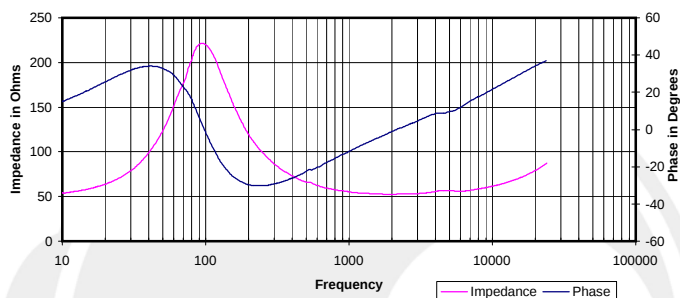
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



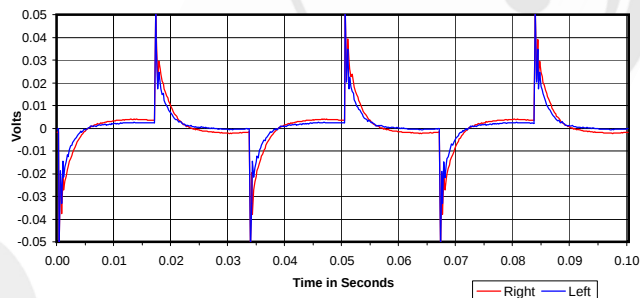
Isolation
Attenuation of External Sound vs. Frequency



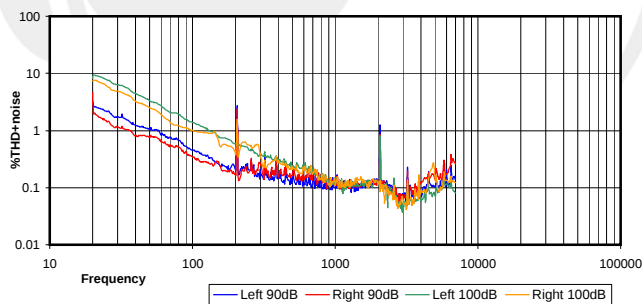
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



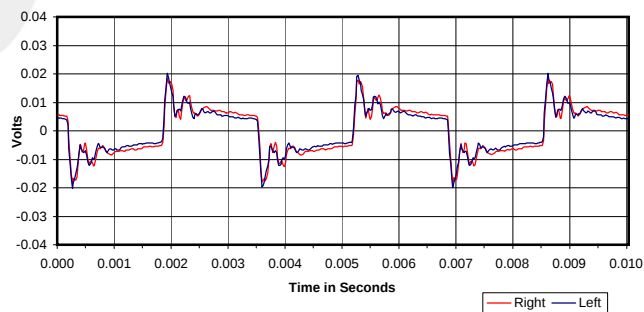
30 Hz Square Wave



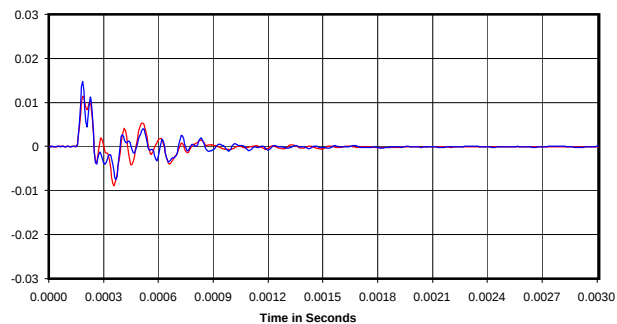
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



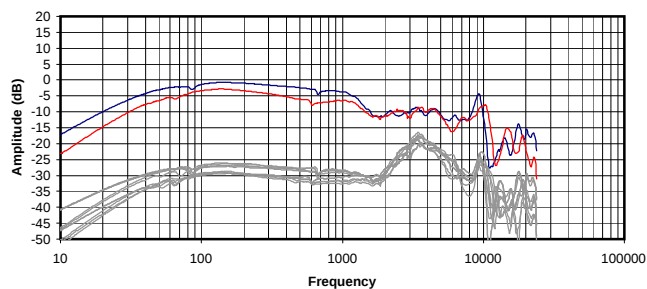
Impulse Response



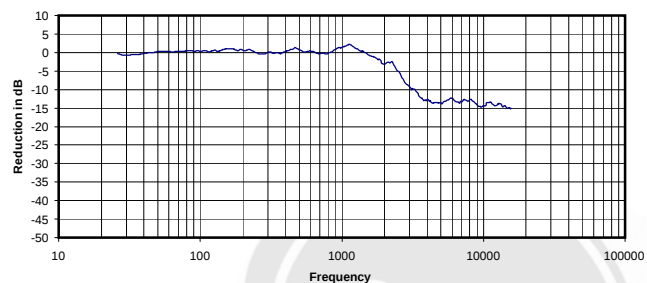
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.055 Vrms
55 Ohms
0.05 mW
-2 dBr

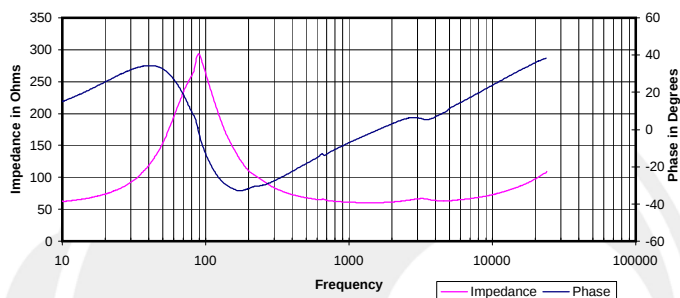
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



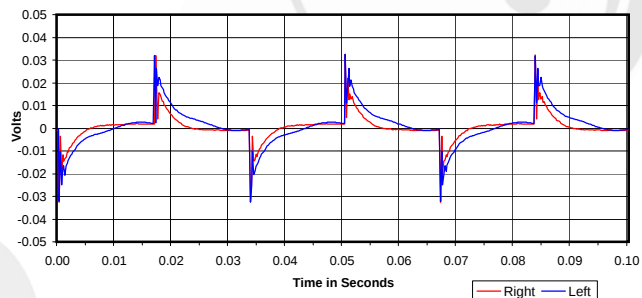
Isolation
Attenuation of External Sound vs. Frequency



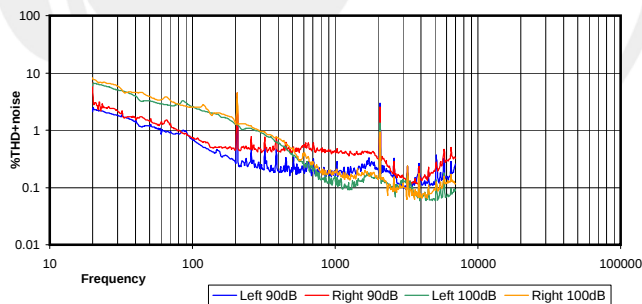
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



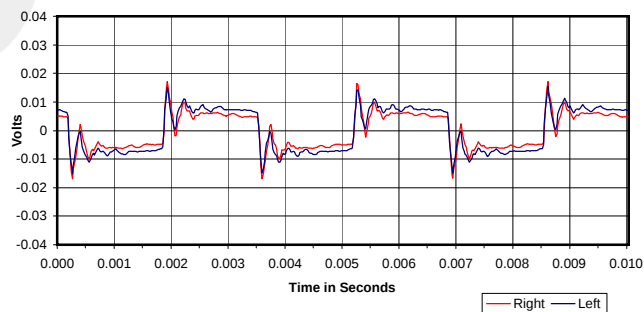
30 Hz Square Wave



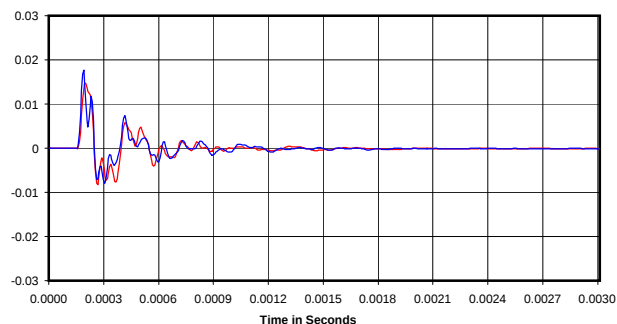
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



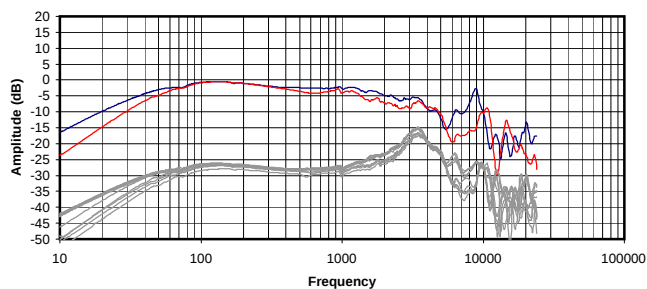
Impulse Response



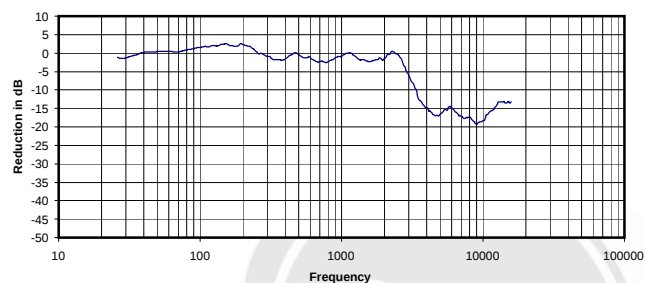
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.090 Vrms
61 Ohms
0.13 mW
-3 dBr

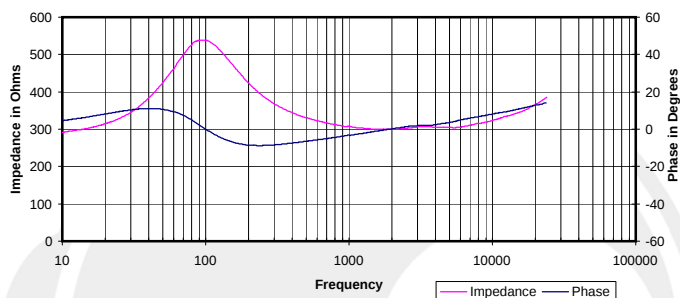
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



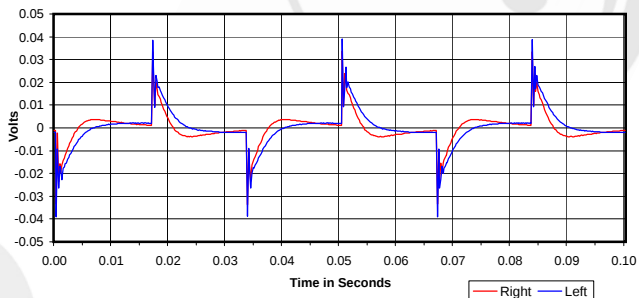
Isolation
Attenuation of External Sound vs. Frequency



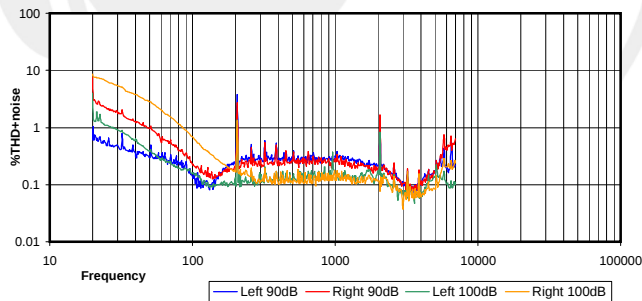
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



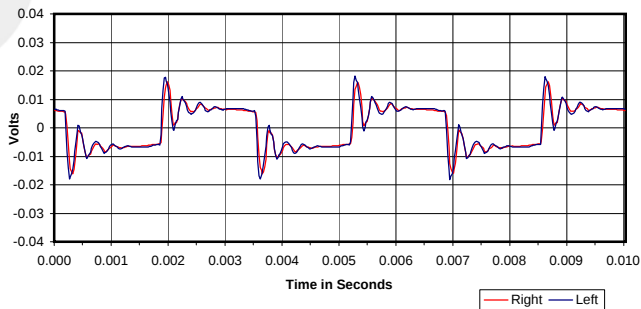
30 Hz Square Wave



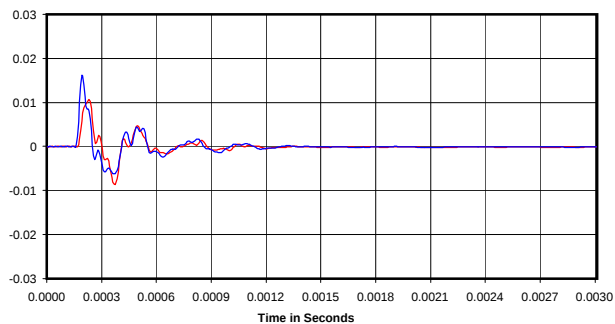
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



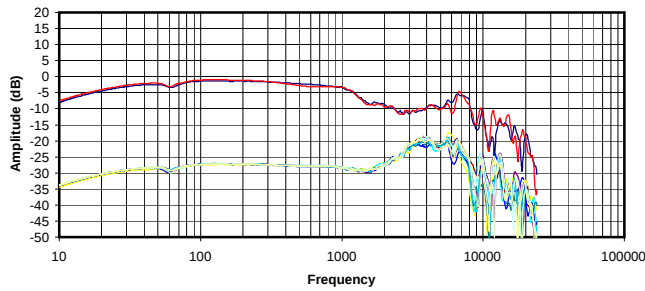
Impulse Response



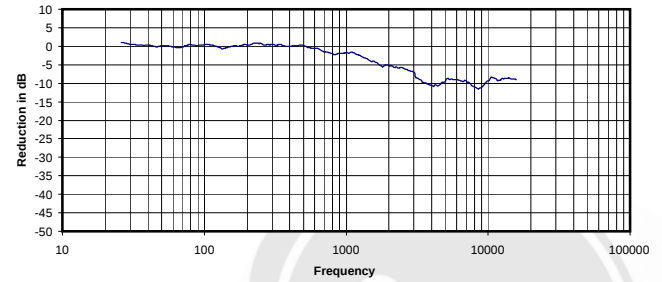
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.230 Vrms
307 Ohms
0.17 mW
-3 dBr

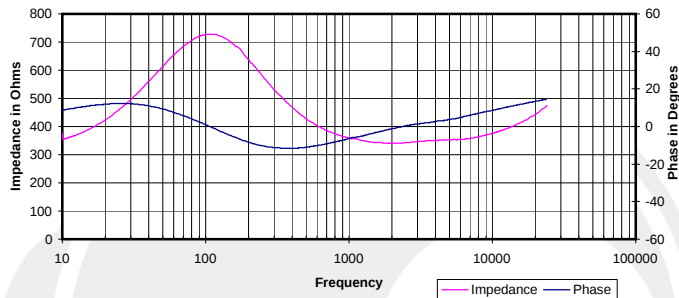
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



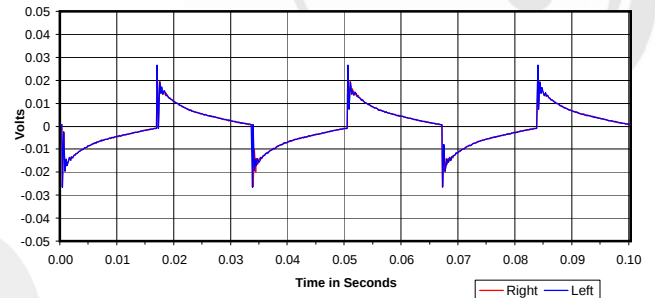
Isolation
Attenuation of External Sound vs. Frequency



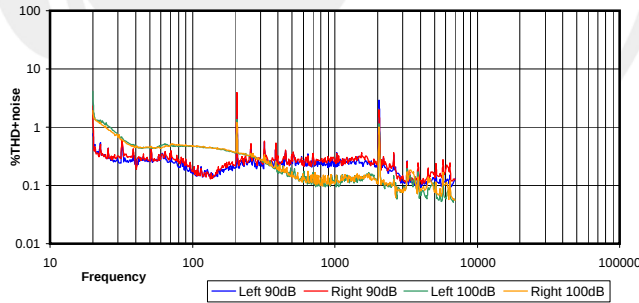
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



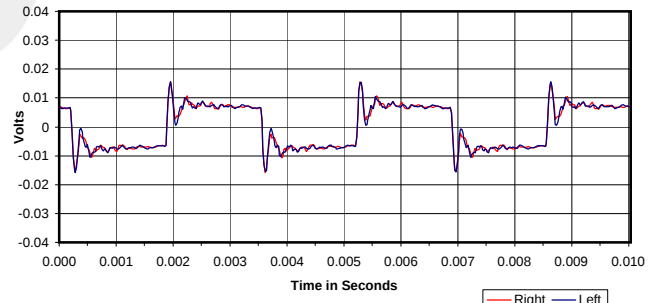
30 Hz Square Wave



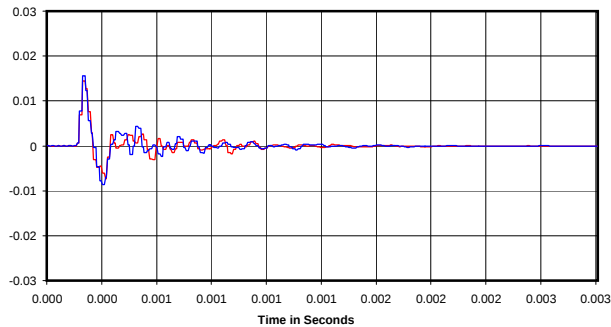
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



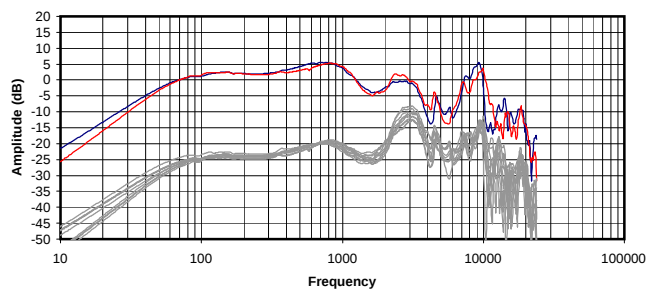
Impulse Response



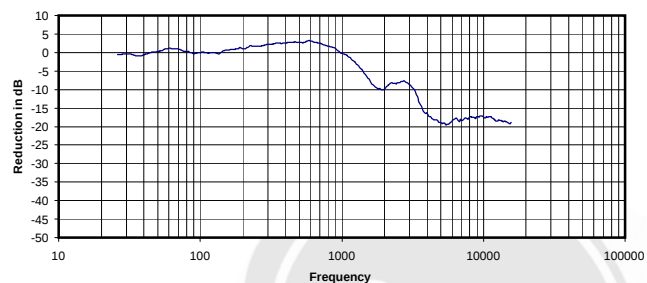
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.244 Vrms
360 Ohms
0.17 mW
-3 dBr

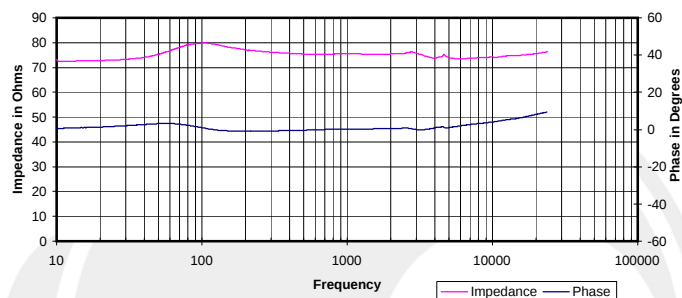
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



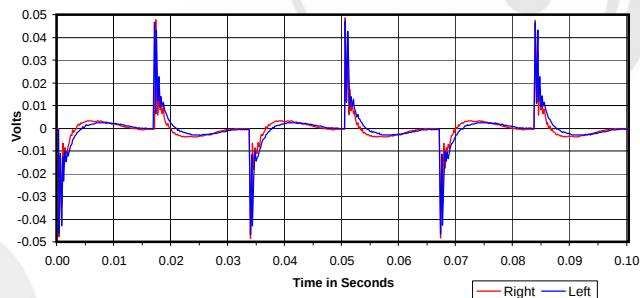
Isolation
Attenuation of External Sound vs. Frequency



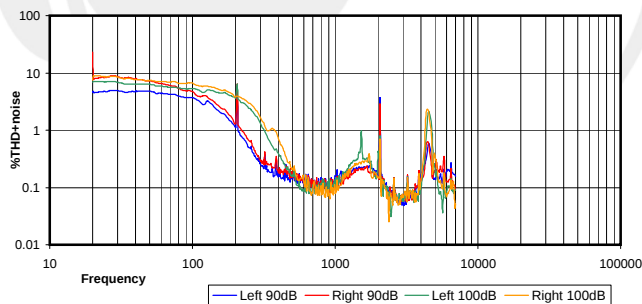
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



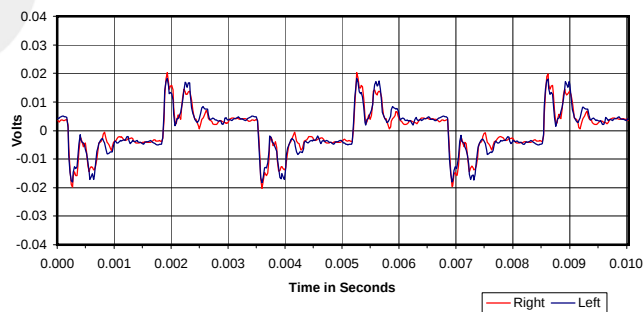
30 Hz Square Wave



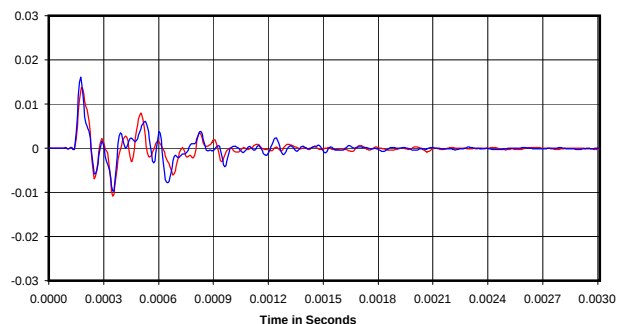
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



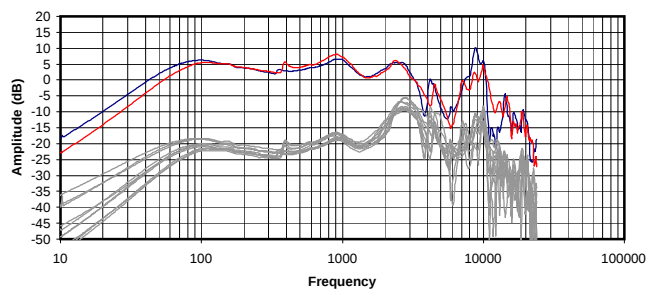
Impulse Response



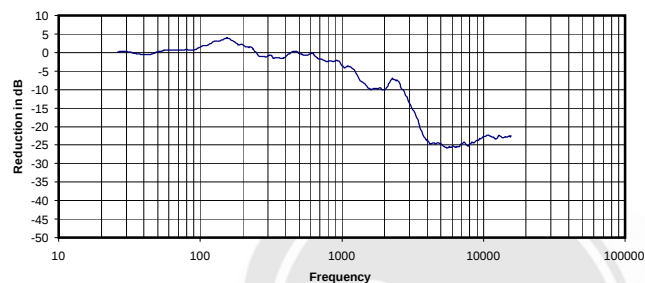
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.093 Vrms
76 Ohms
0.11 mW
-4 dBr

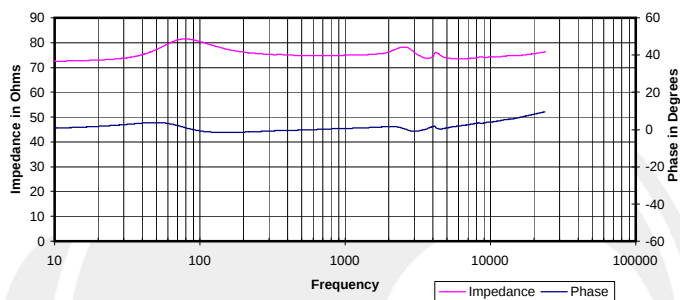
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



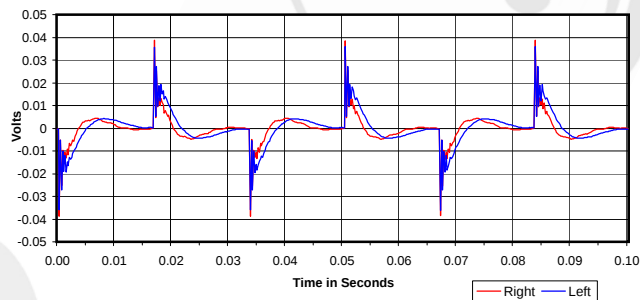
Isolation
Attenuation of External Sound vs. Frequency



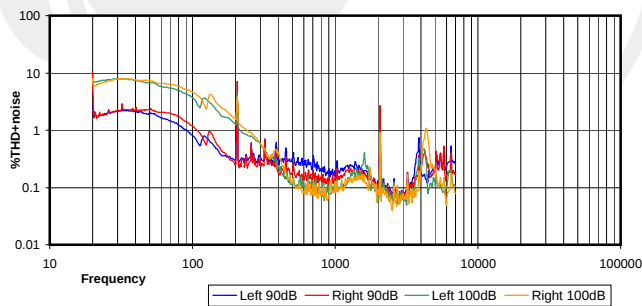
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



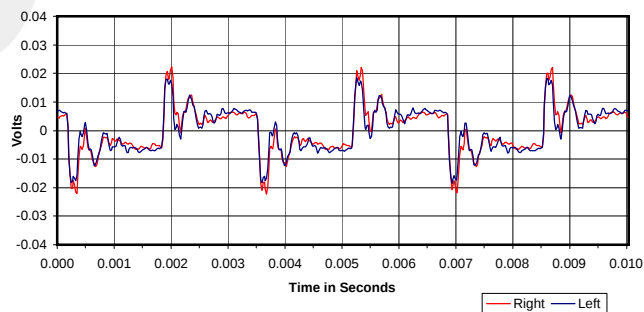
30 Hz Square Wave



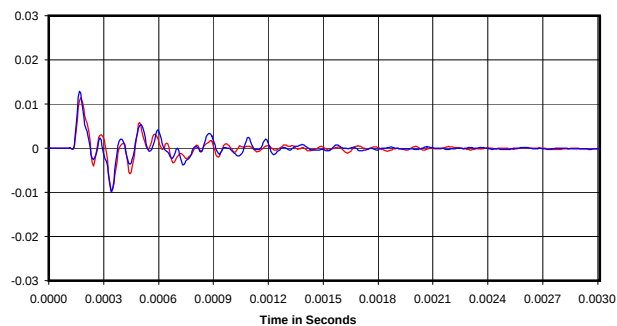
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



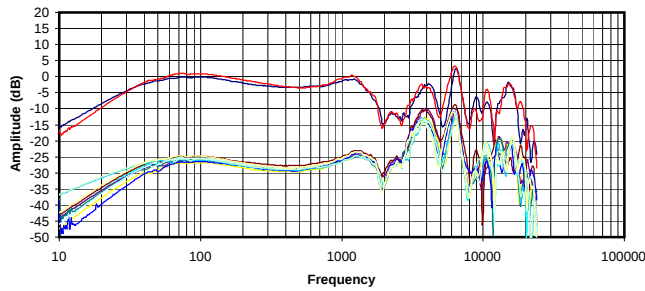
Impulse Response



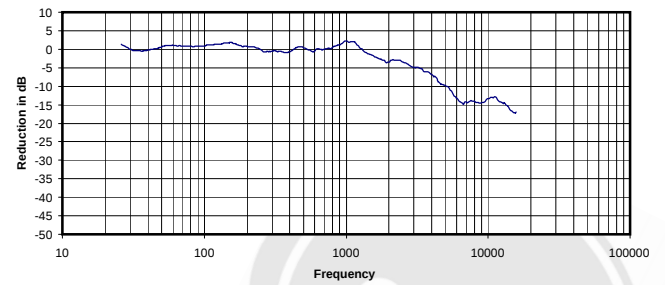
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.080 Vrms
75 Ohms
0.09 mW
-6 dBr

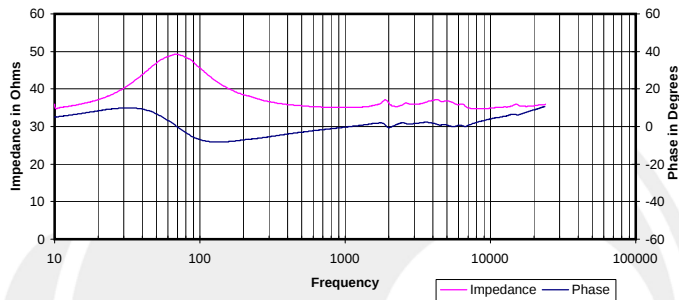
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



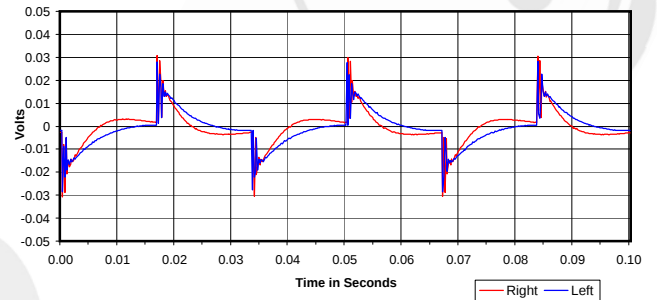
Isolation
Attenuation of External Sound vs. Frequency



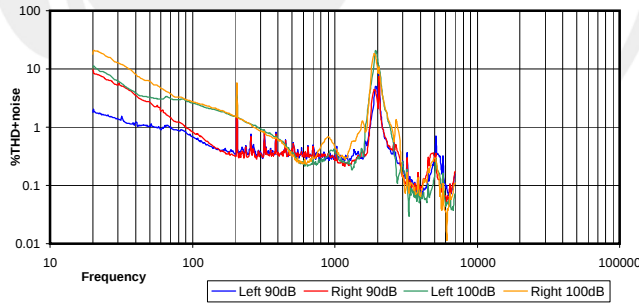
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



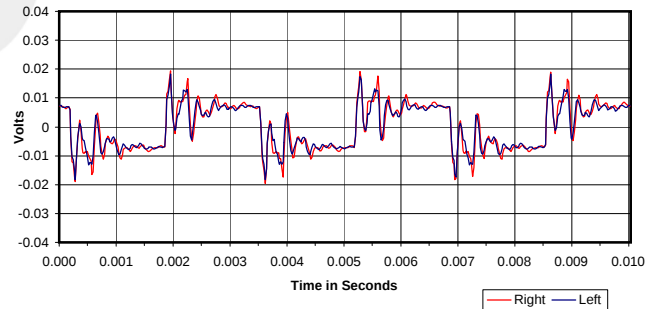
30 Hz Square Wave



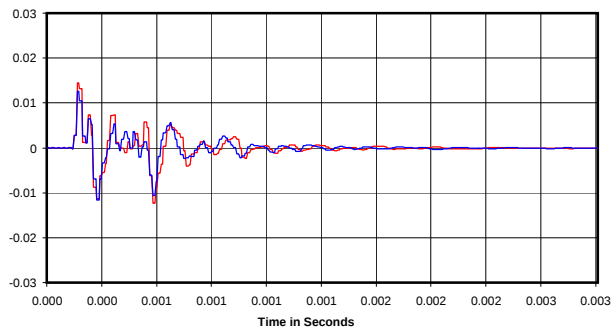
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



Impulse Response

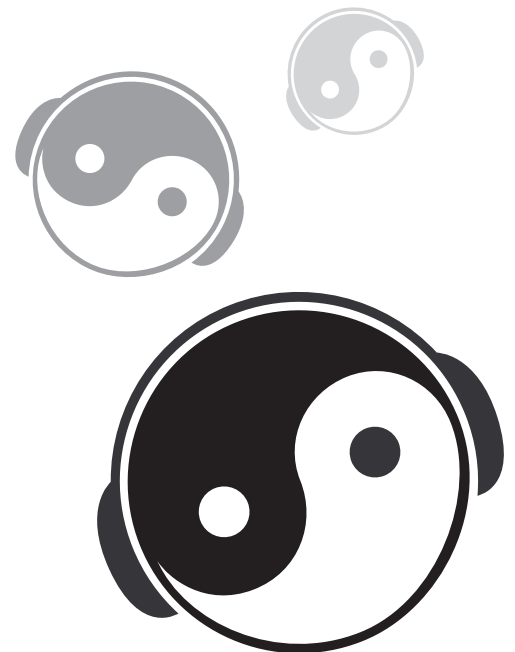


Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

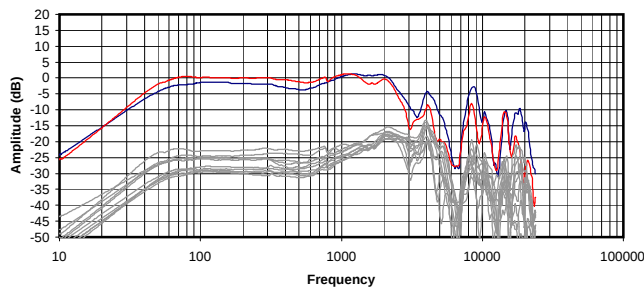
0.121 Vrms
35 Ohms
0.42 mW
-2 dBr

Headphone Measurement Datasheets

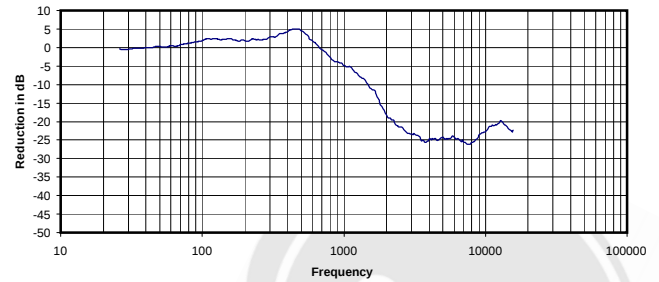
Full-Size Sealed



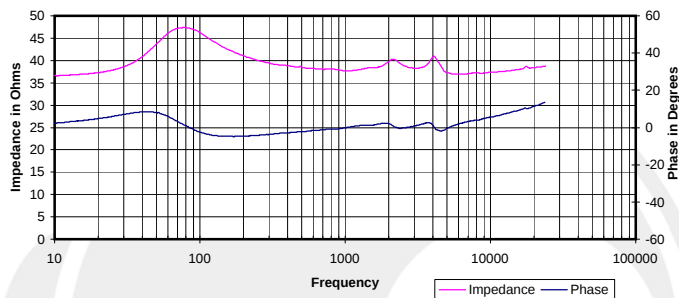
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



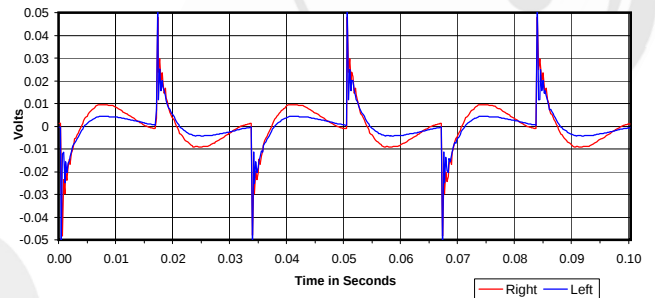
Isolation
Attenuation of External Sound vs. Frequency



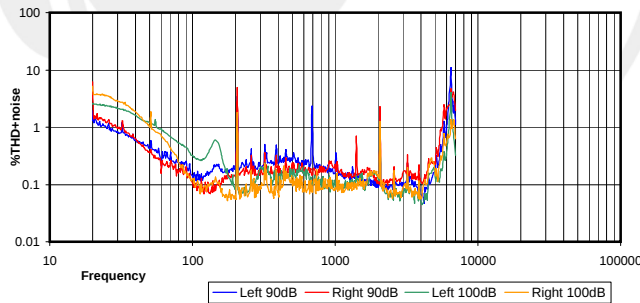
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



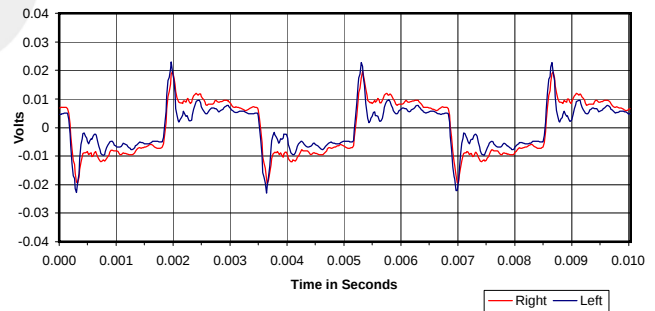
30 Hz Square Wave



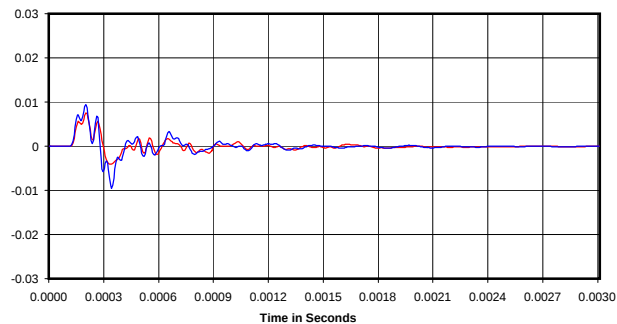
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



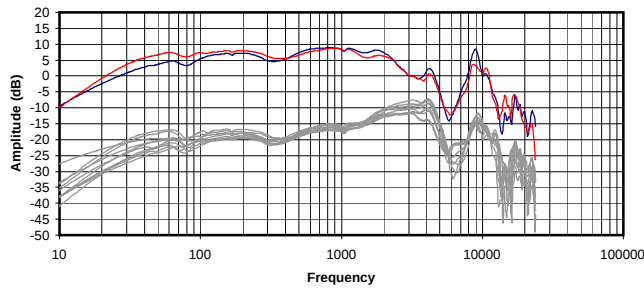
Impulse Response



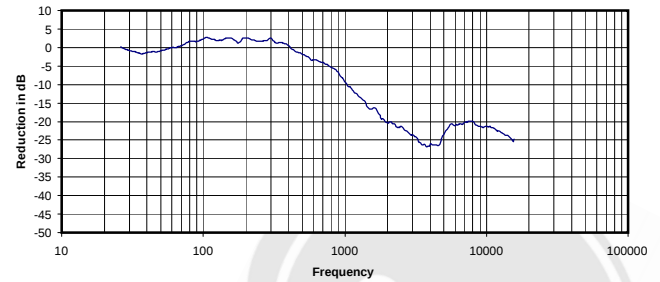
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.031 Vrms
38 Ohms
0.03 mW
-7 dBr

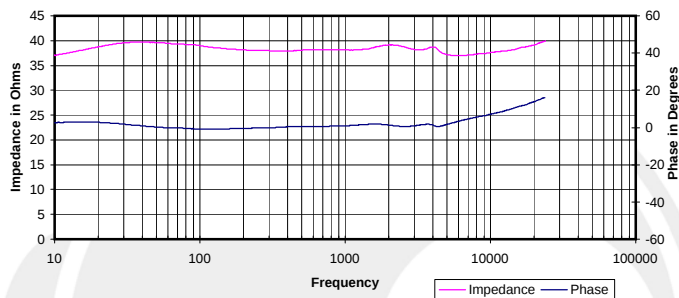
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



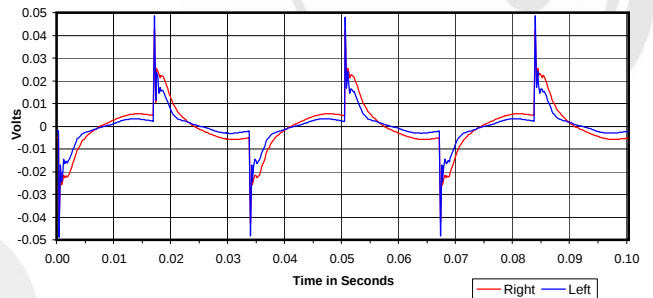
Isolation
Attenuation of External Sound vs. Frequency



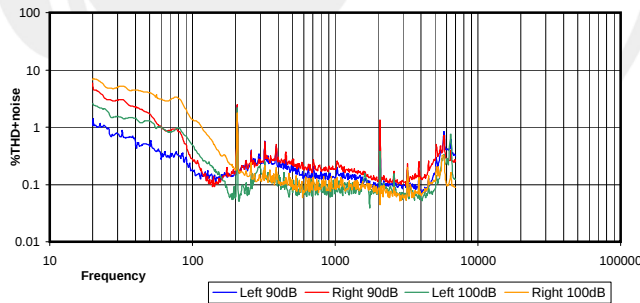
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



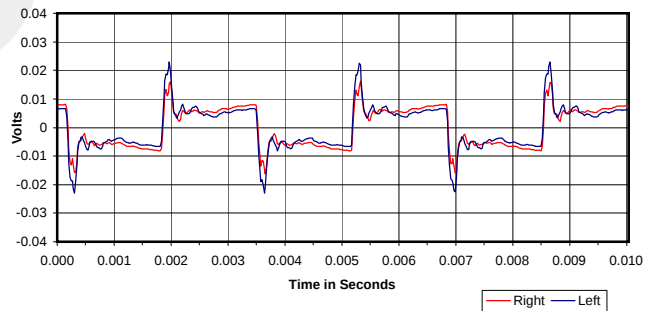
30 Hz Square Wave



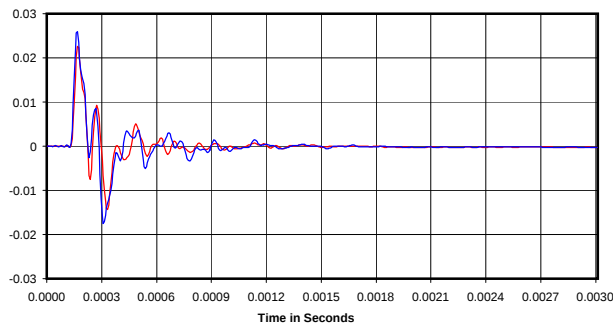
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



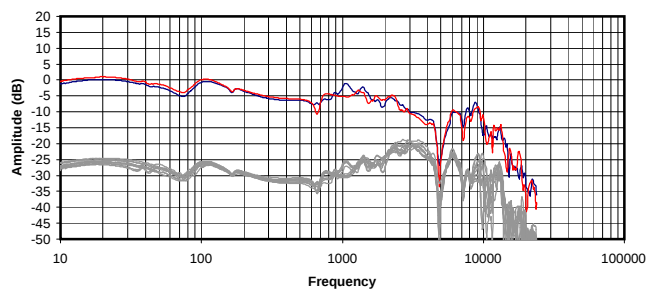
Impulse Response



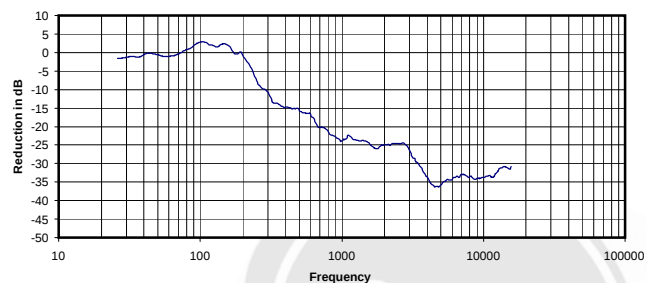
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.041 Vrms
38 Ohms
0.04 mW
-9 dBr

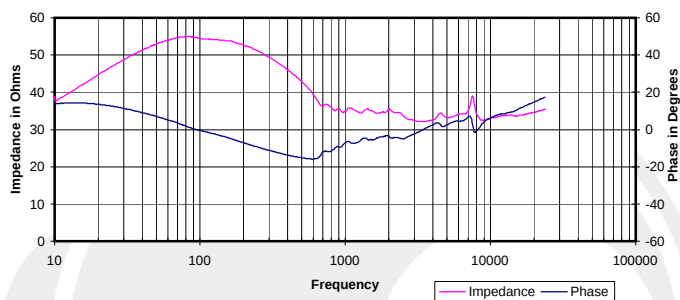
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



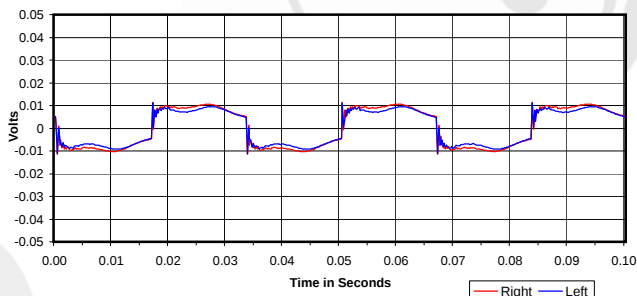
Isolation
Attenuation of External Sound vs. Frequency



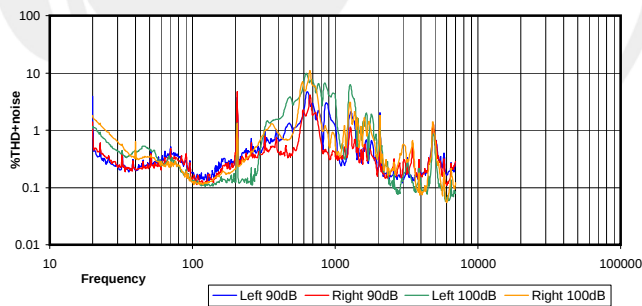
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



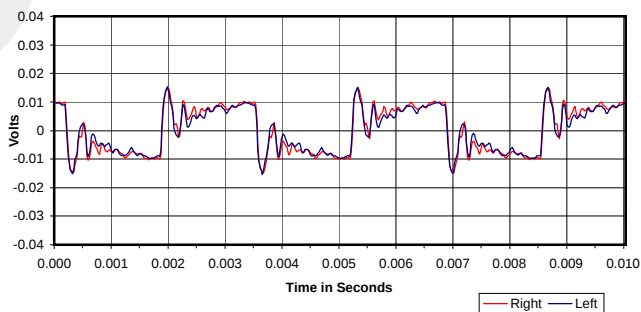
30 Hz Square Wave



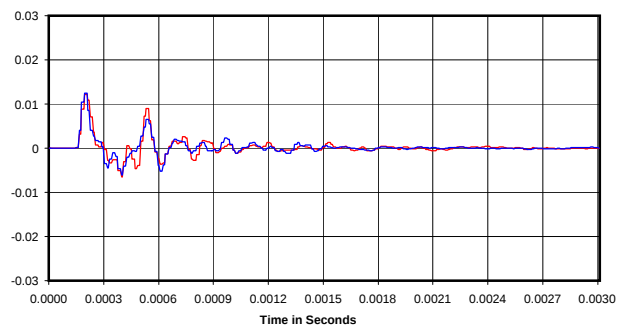
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



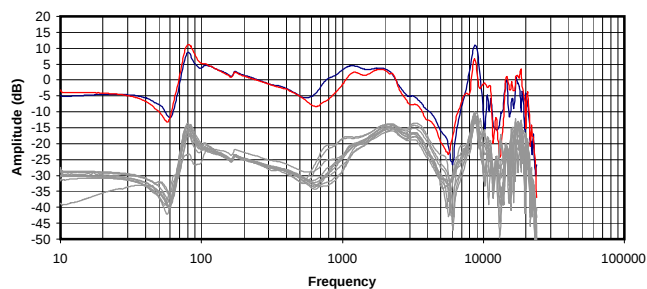
Impulse Response



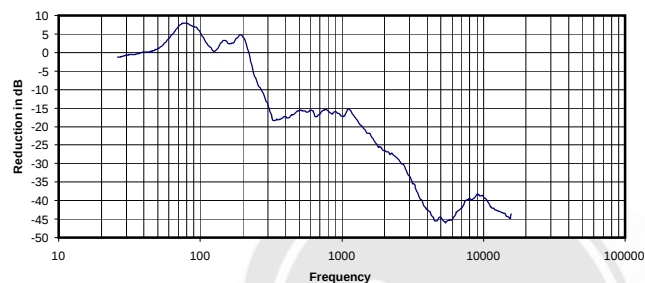
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.049 Vrms
35 Ohms
0.07 mW
-17 dBr

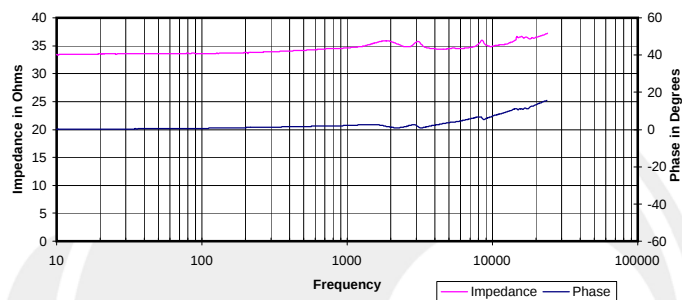
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



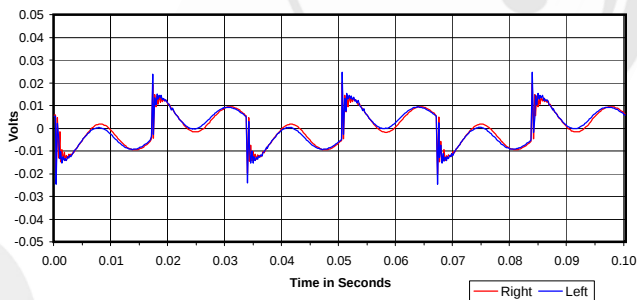
Isolation
Attenuation of External Sound vs. Frequency



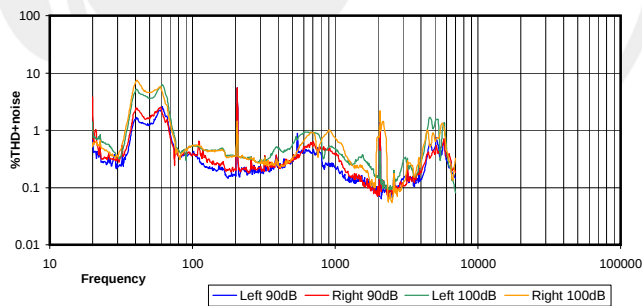
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



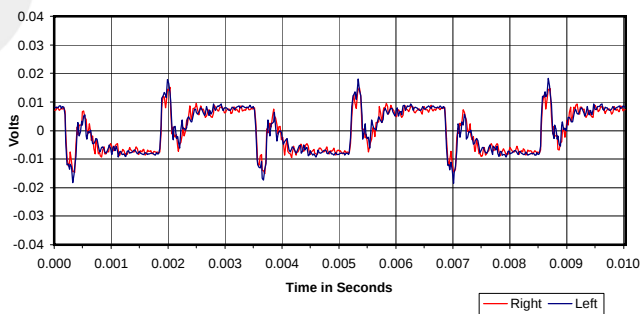
30 Hz Square Wave



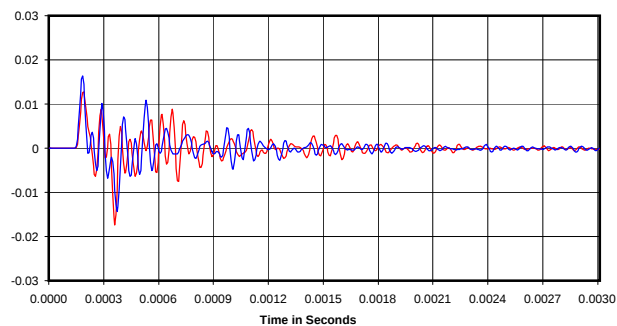
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



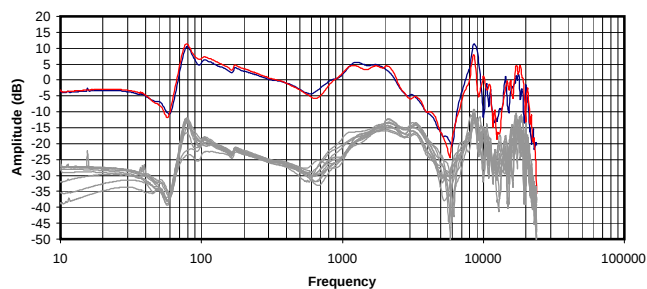
Impulse Response



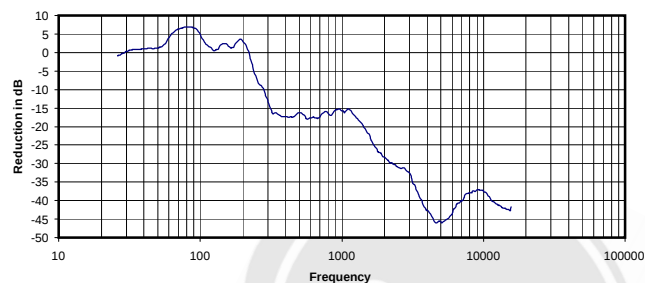
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.075 Vrms
35 Ohms
0.16 mW
-18 dBr

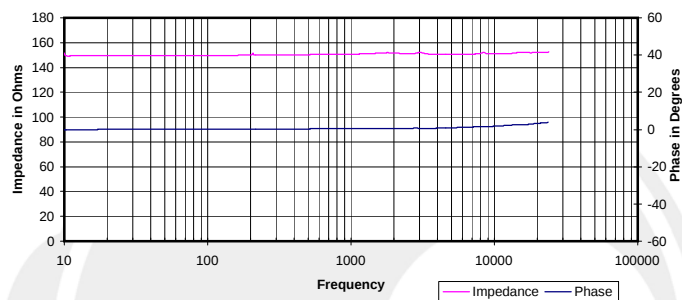
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



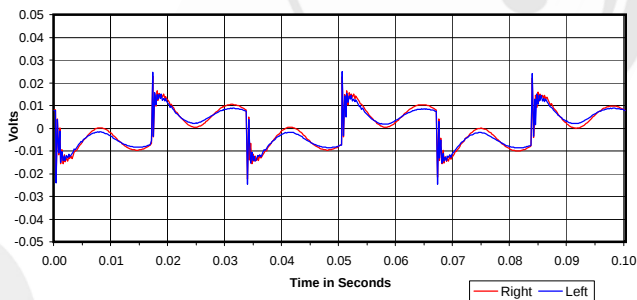
Isolation
Attenuation of External Sound vs. Frequency



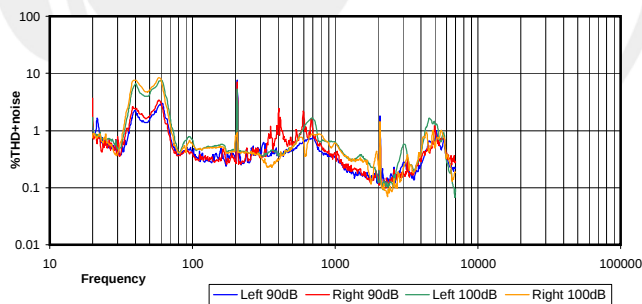
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



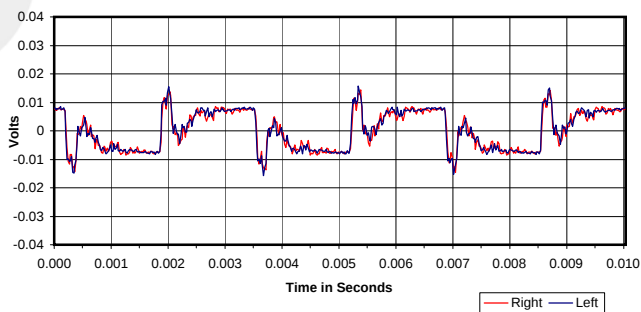
30 Hz Square Wave



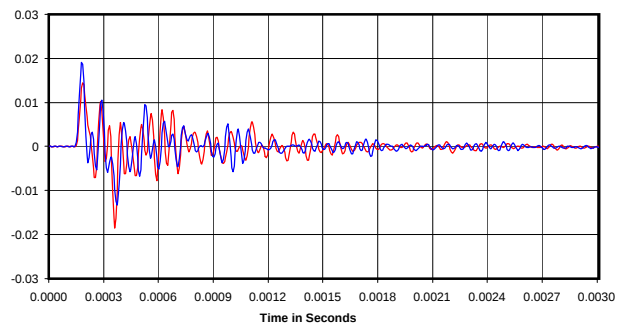
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



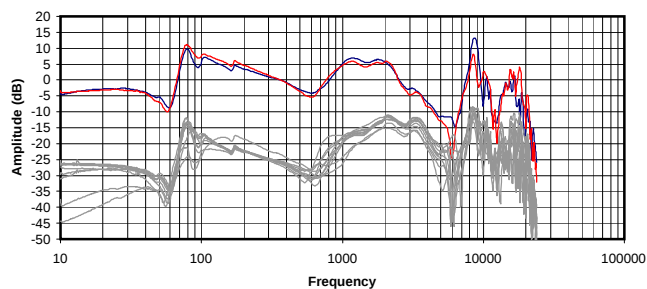
Impulse Response



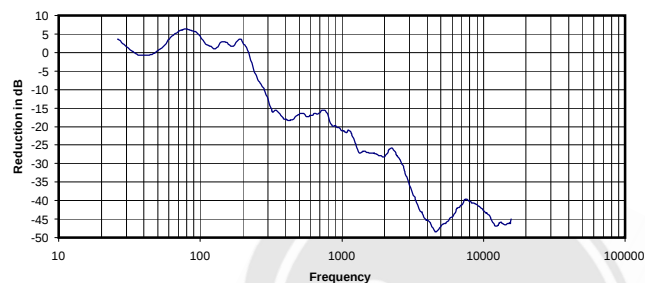
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.389 Vrms
150 Ohms
1.01 mW
-19 dBr

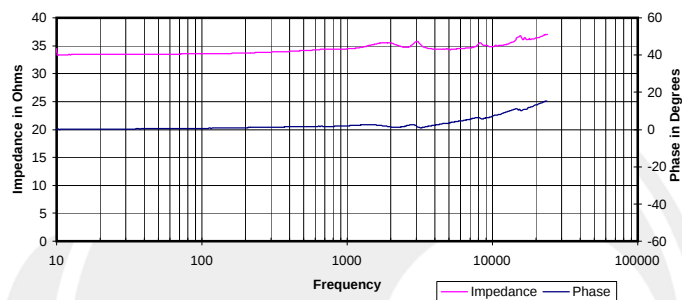
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



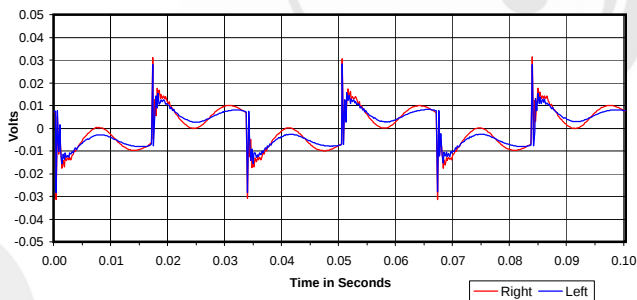
Isolation
Attenuation of External Sound vs. Frequency



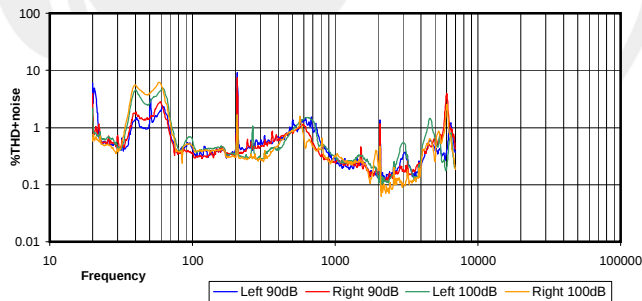
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



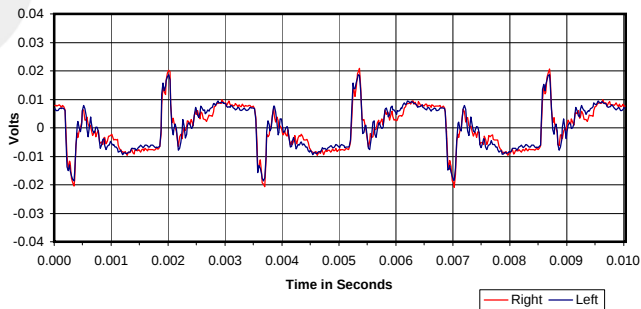
30 Hz Square Wave



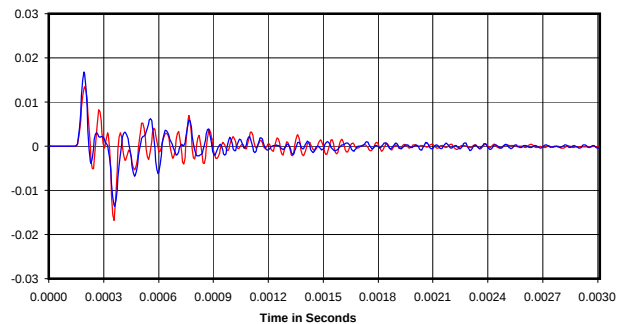
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



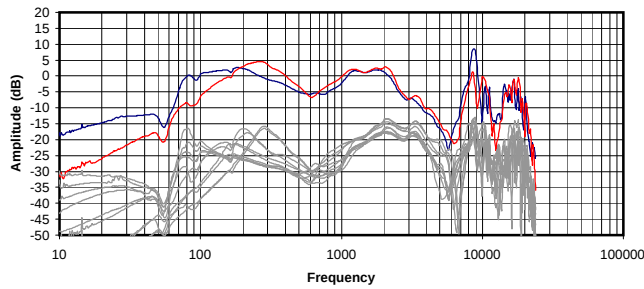
Impulse Response



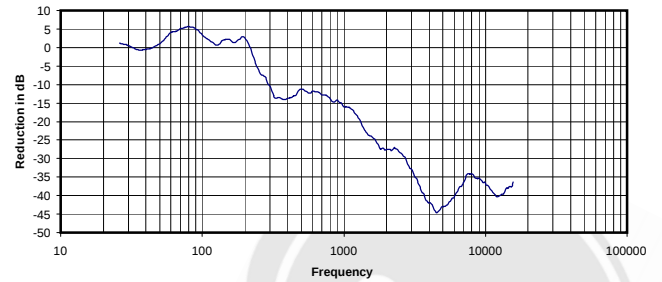
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.043 Vrms
34 Ohms
0.05 mW
-20 dBr

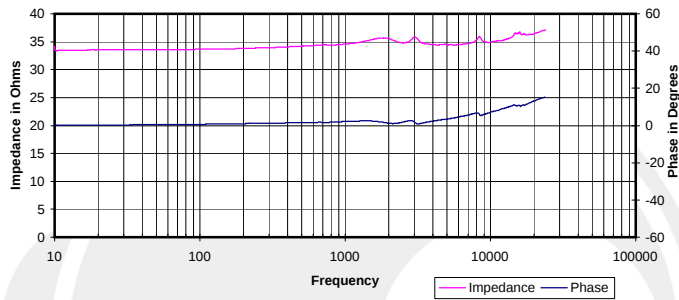
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



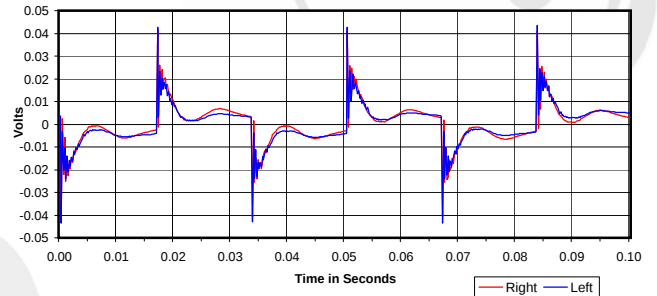
Isolation
Attenuation of External Sound vs. Frequency



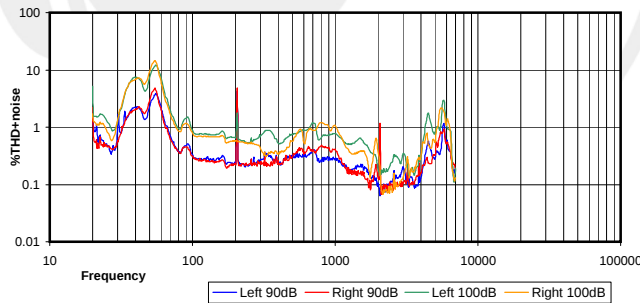
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



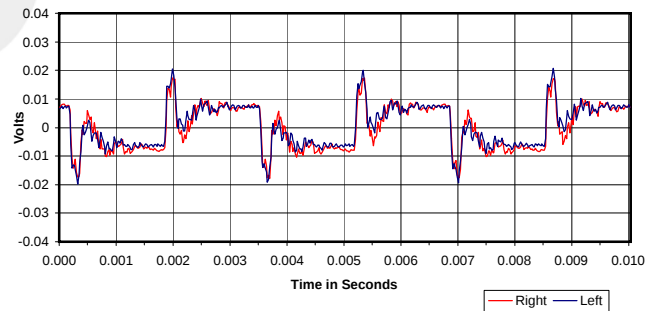
30 Hz Square Wave



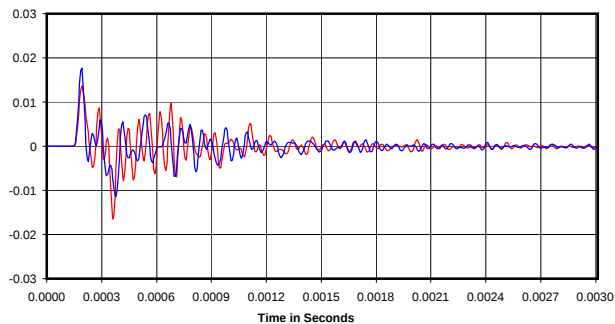
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



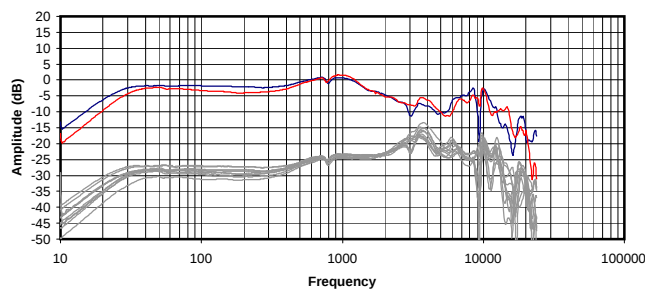
Impulse Response



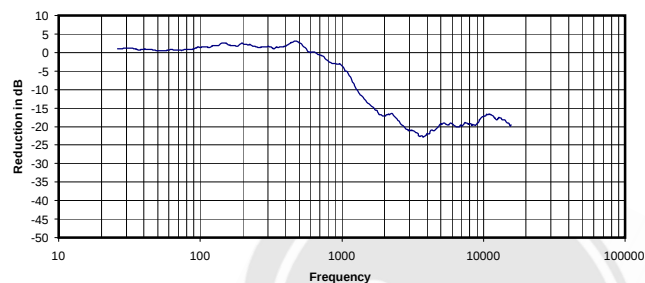
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.081 Vrms
35 Ohms
0.19 mW
-17 dBr

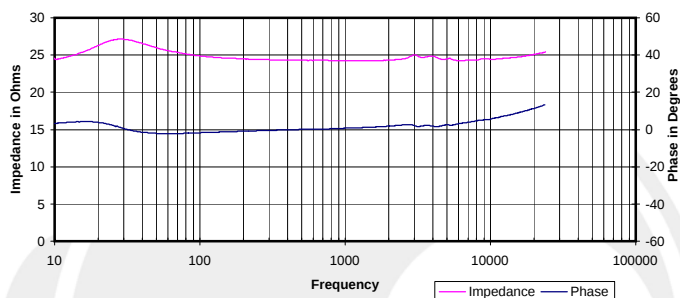
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



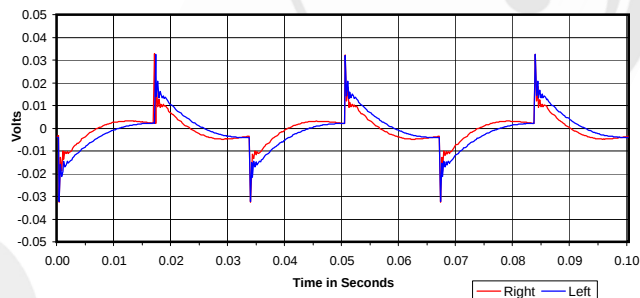
Isolation
Attenuation of External Sound vs. Frequency



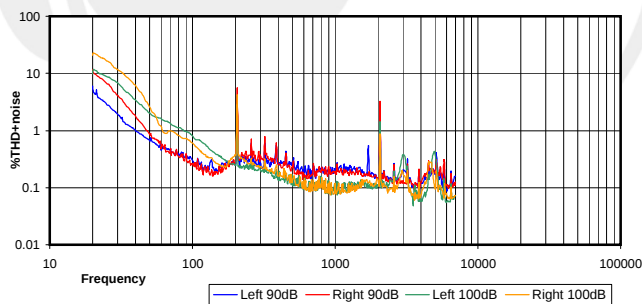
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



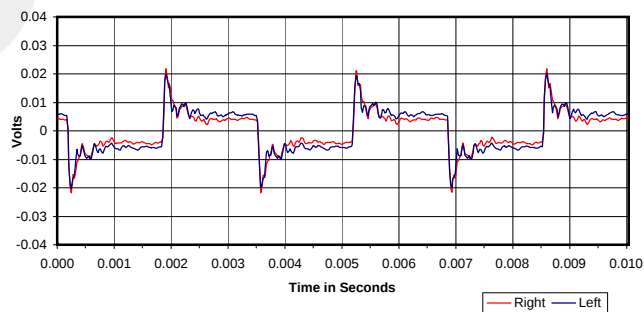
30 Hz Square Wave



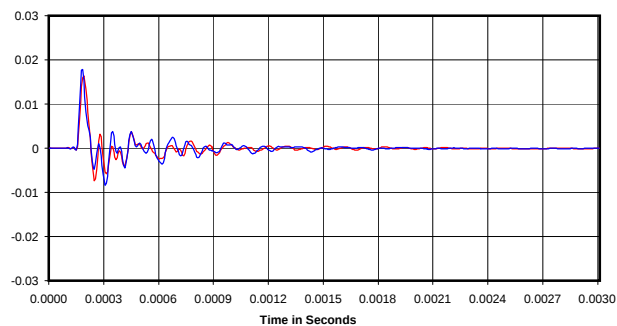
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



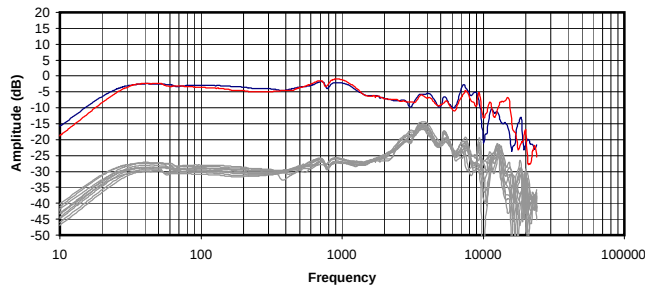
Impulse Response



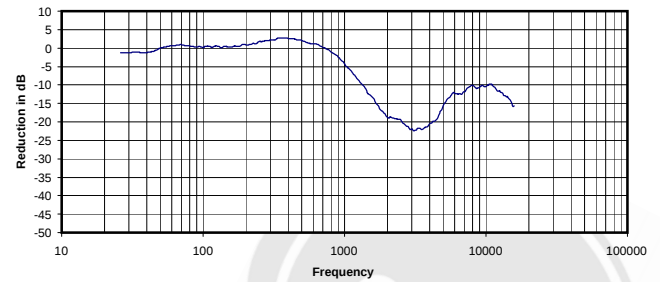
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.073 Vrms
24 Ohms
0.22 mW
-7 dBr

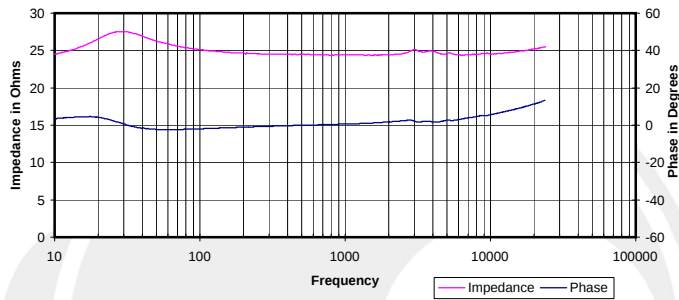
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



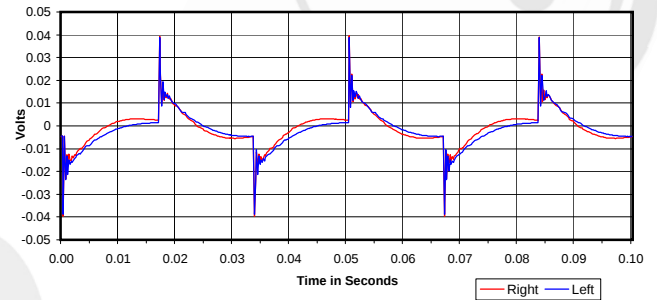
Isolation
Attenuation of External Sound vs. Frequency



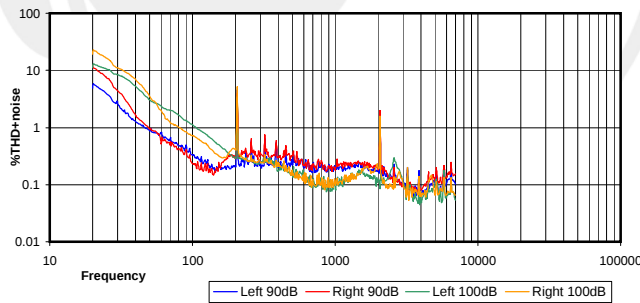
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



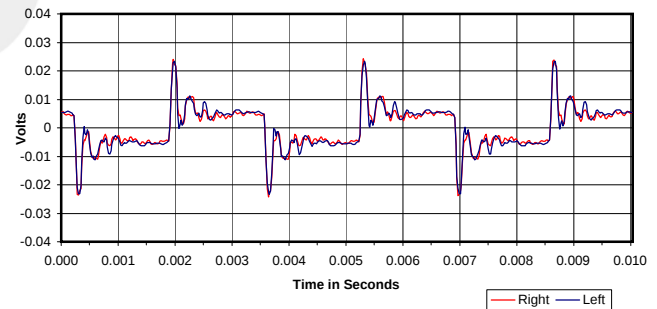
30 Hz Square Wave



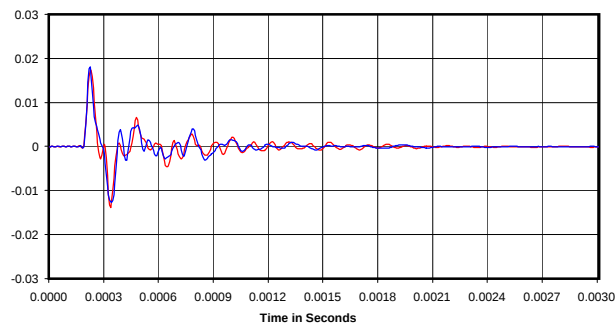
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



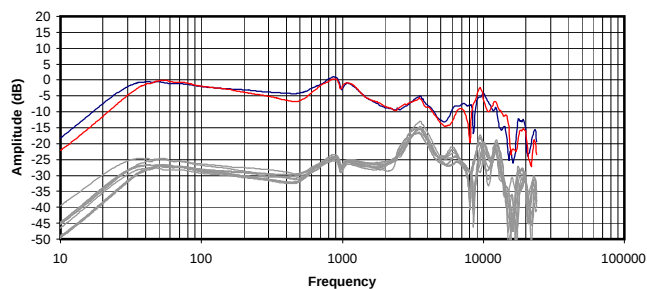
Impulse Response



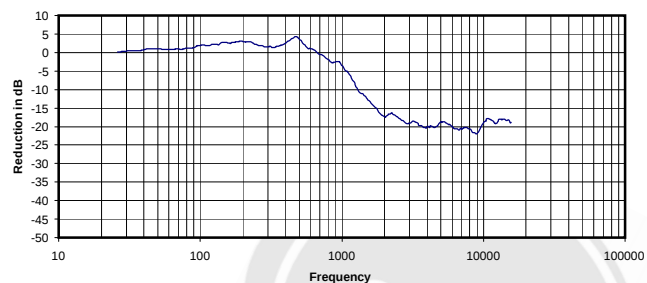
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.103 Vrms
24 Ohms
0.43 mW
-7 dBr

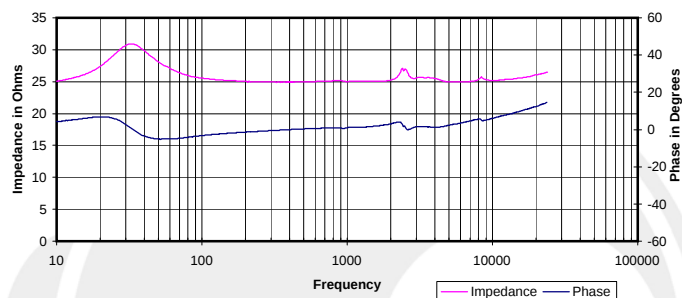
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



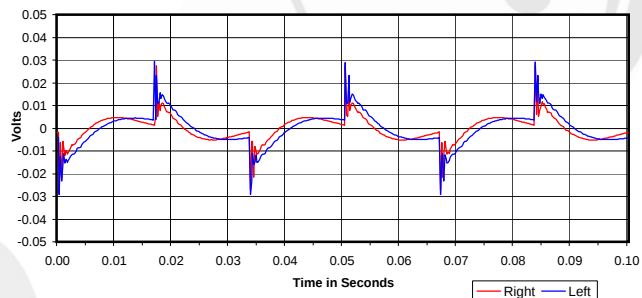
Isolation
Attenuation of External Sound vs. Frequency



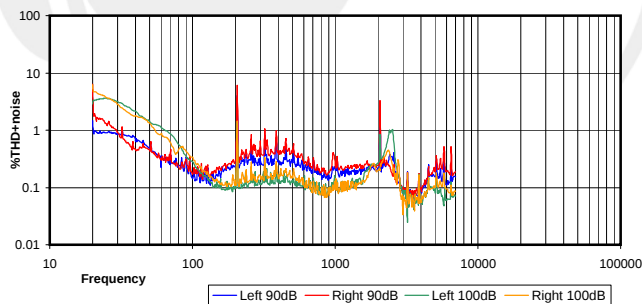
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



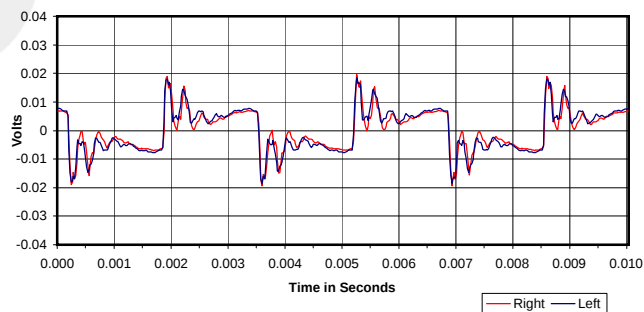
30 Hz Square Wave



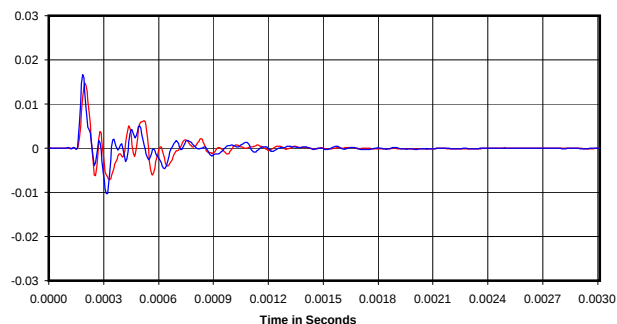
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



Impulse Response



Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

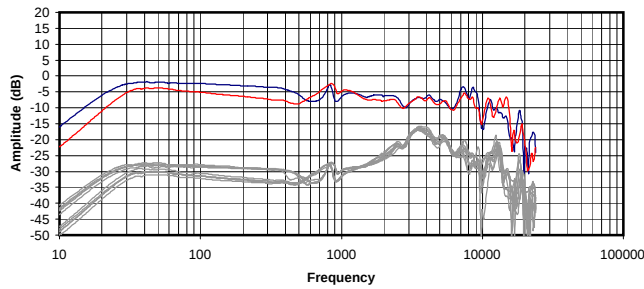
0.082 Vrms
25 Ohms
0.27 mW
-6 dBr



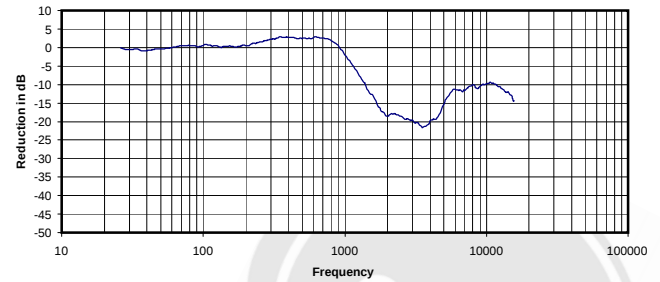
Headphone Measurements:

Denon D5000 JMoney Pads

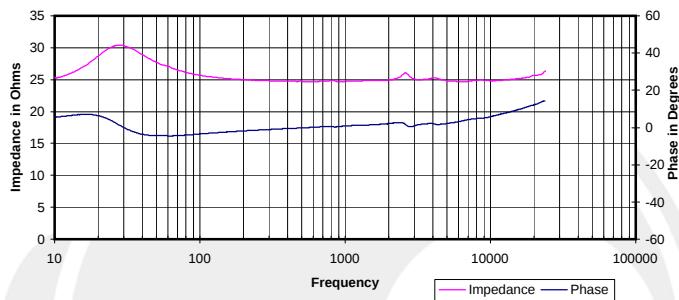
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



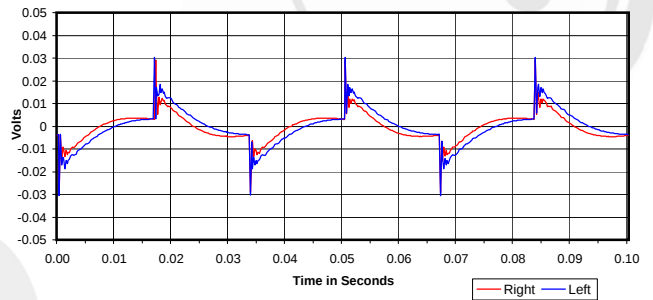
Isolation
Attenuation of External Sound vs. Frequency



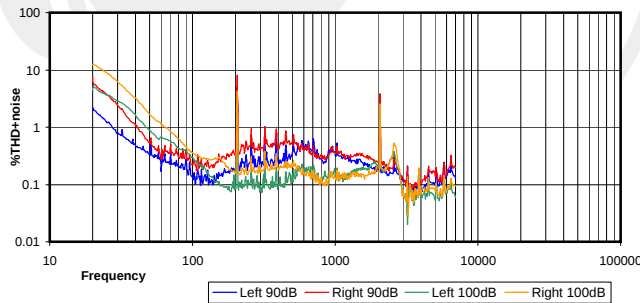
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



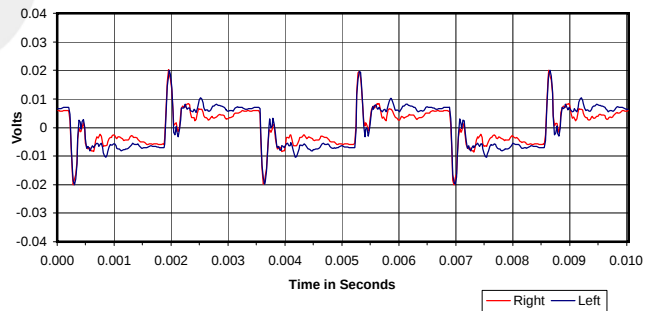
30 Hz Square Wave



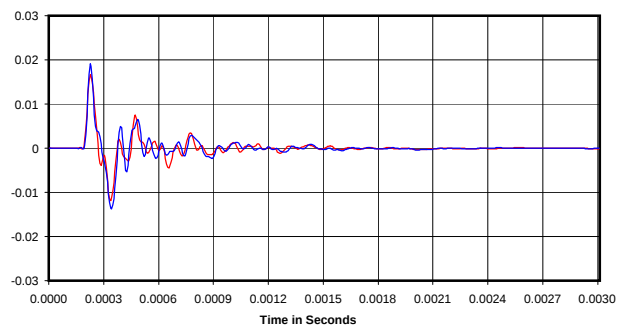
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



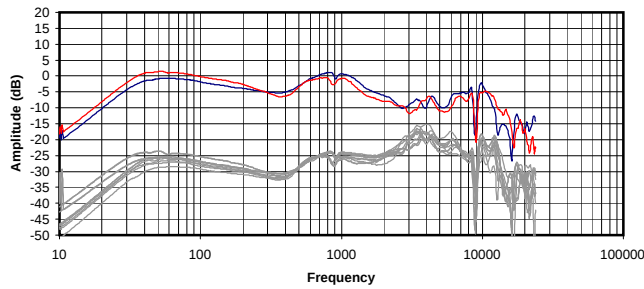
Impulse Response



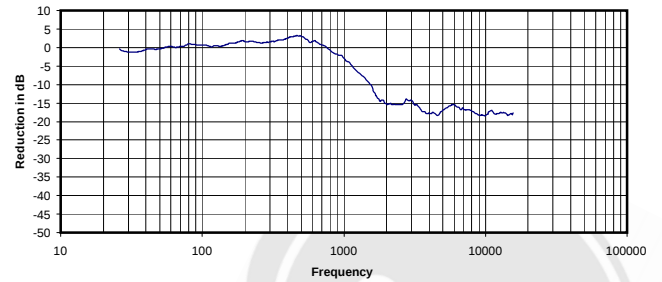
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.132 Vrms
25 Ohms
0.71 mW
-6 dBr

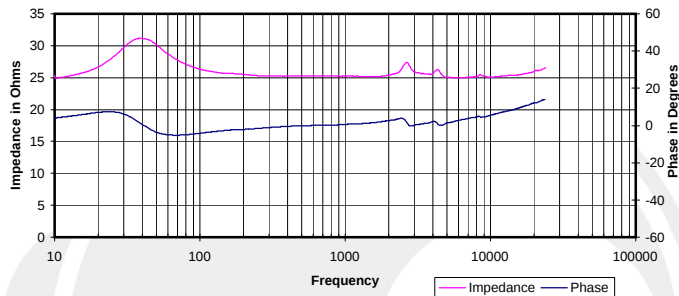
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



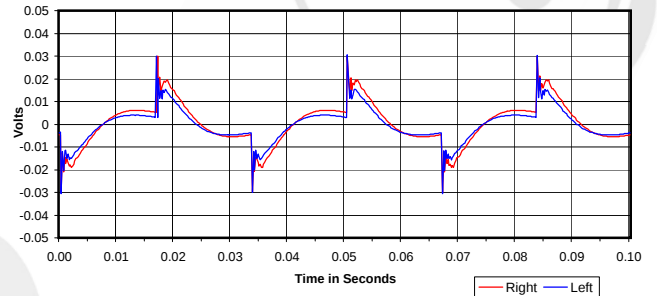
Isolation
Attenuation of External Sound vs. Frequency



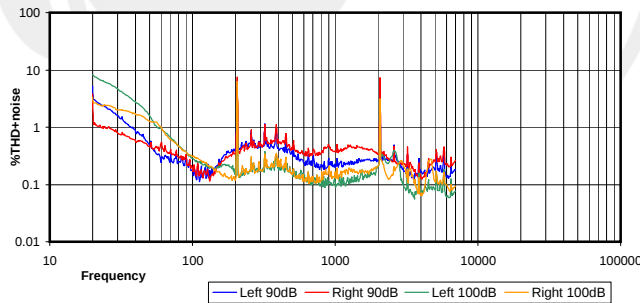
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



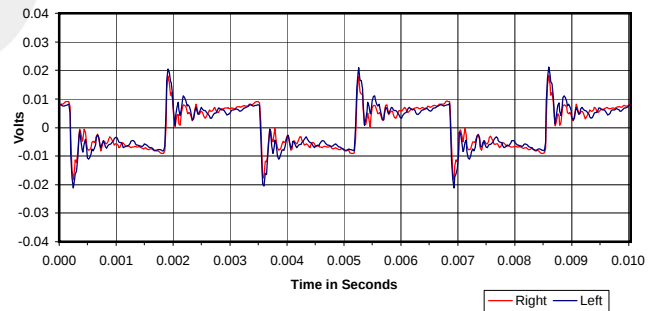
30 Hz Square Wave



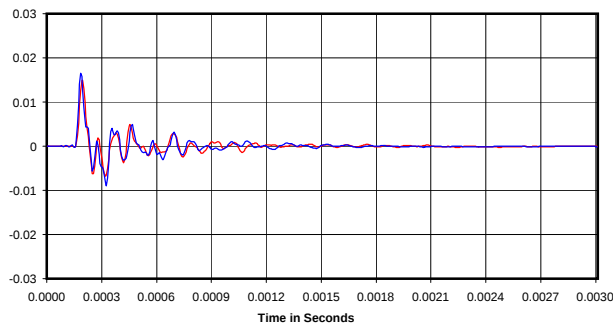
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



Impulse Response



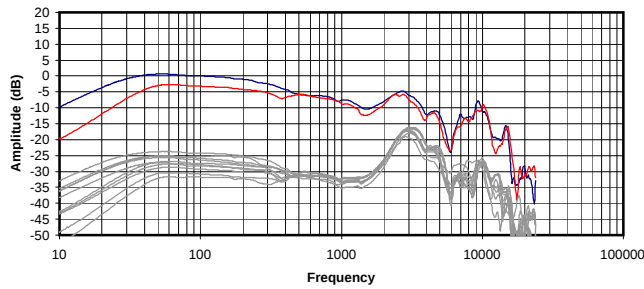
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.053 Vrms
25 Ohms
0.11 mW
-5 dBr

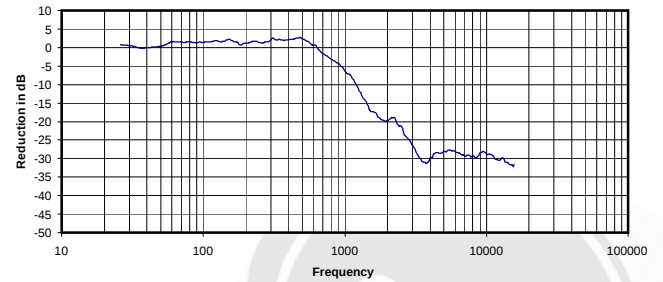


Headphone Measurements: Monster Beats Pro

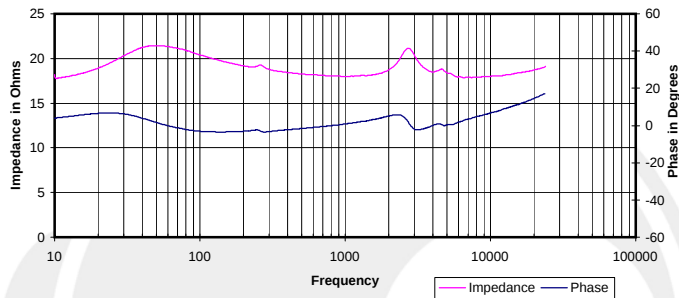
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



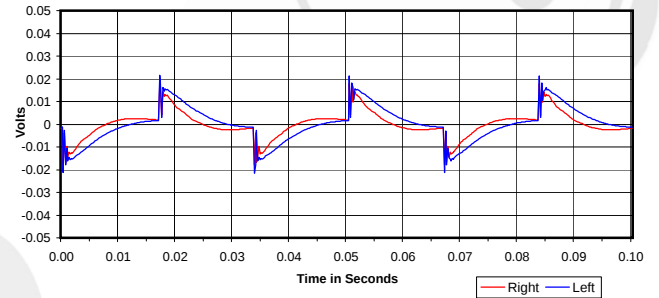
Isolation
Attenuation of External Sound vs. Frequency



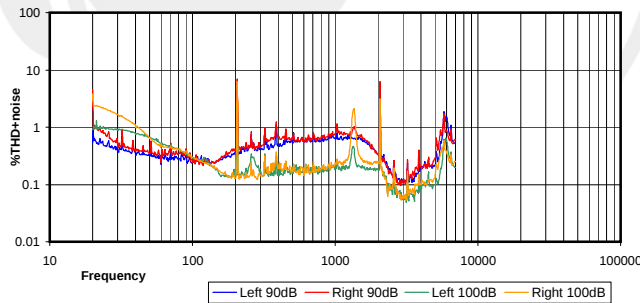
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



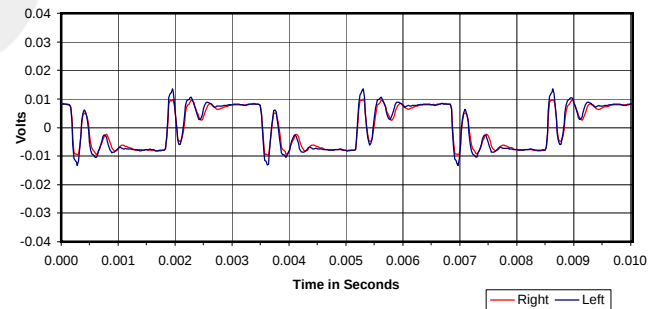
30 Hz Square Wave



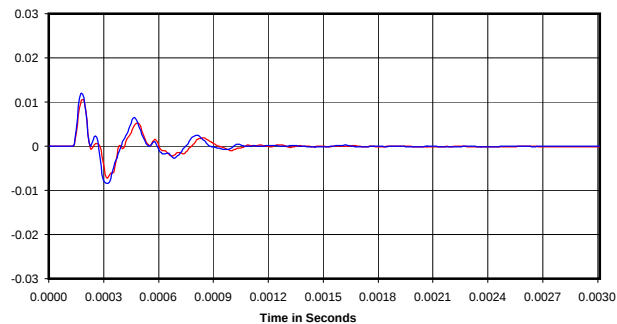
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



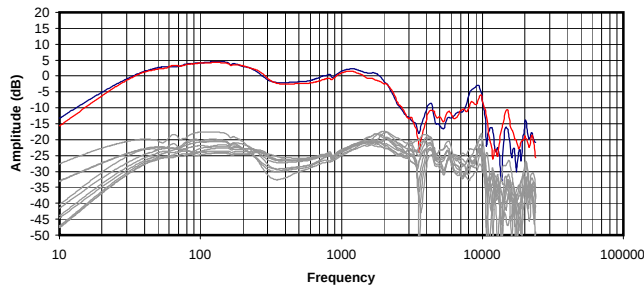
Impulse Response



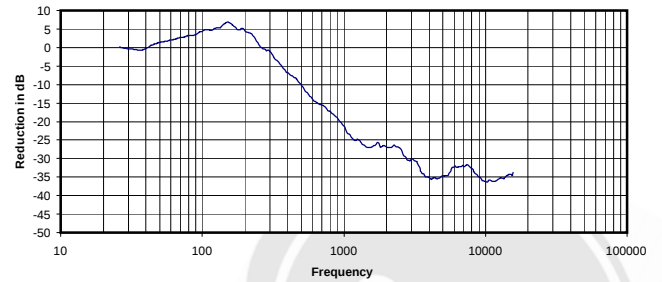
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.034 Vrms
18 Ohms
0.06 mW
-9 dBr

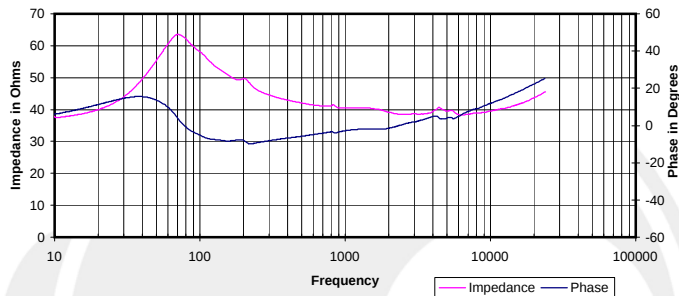
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



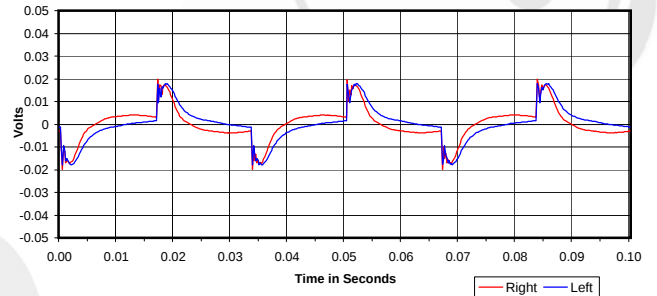
Isolation
Attenuation of External Sound vs. Frequency



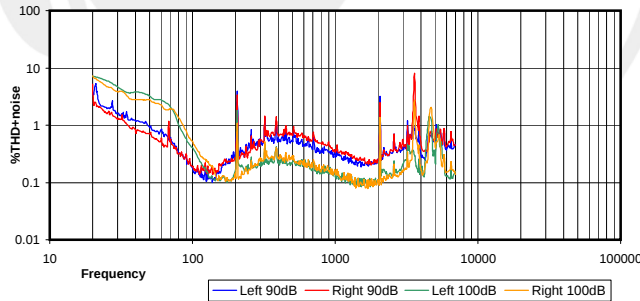
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



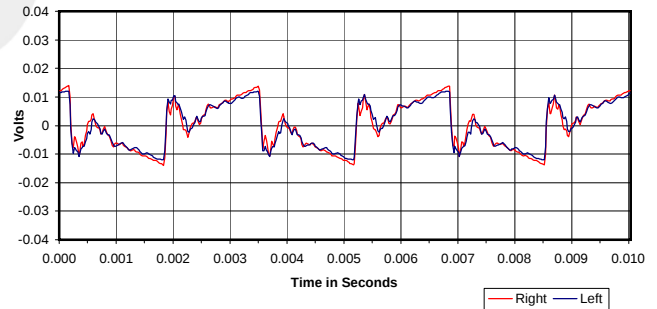
30 Hz Square Wave



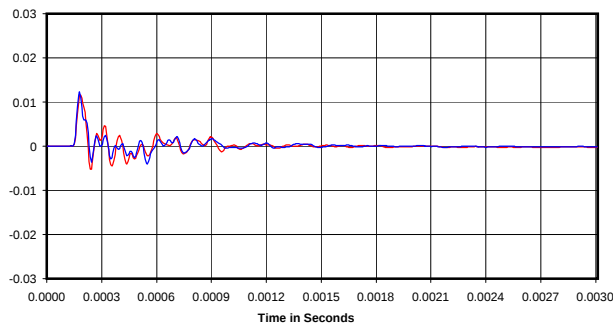
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



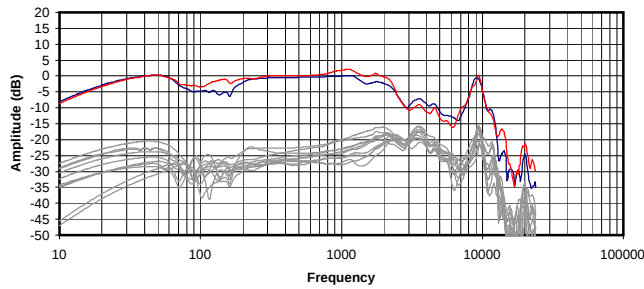
Impulse Response



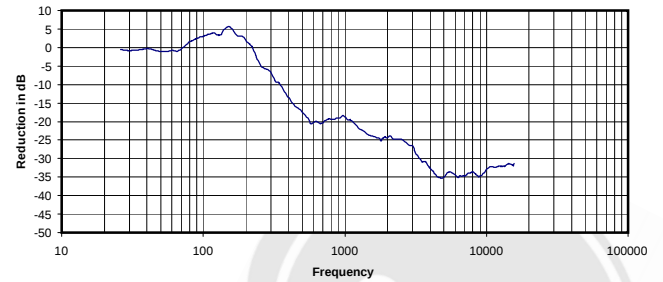
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.039 Vrms
40 Ohms
0.04 mW
-15 dBr

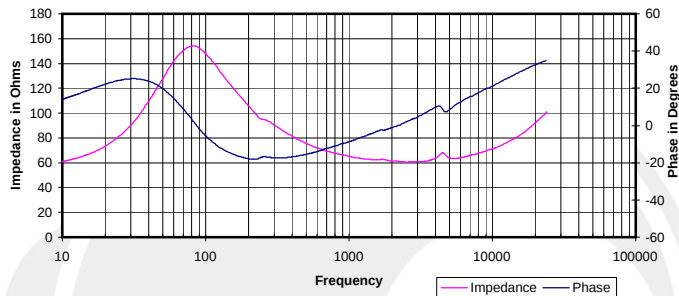
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



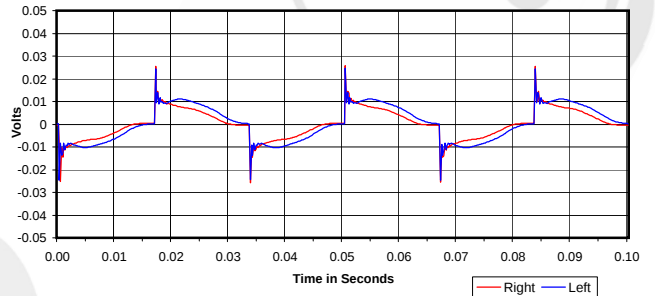
Isolation
Attenuation of External Sound vs. Frequency



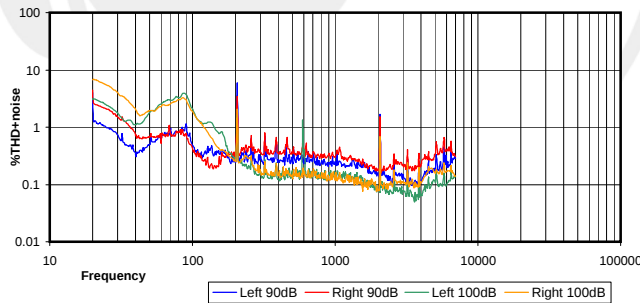
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



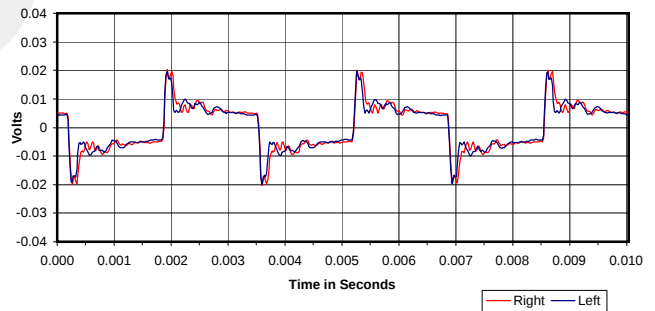
30 Hz Square Wave



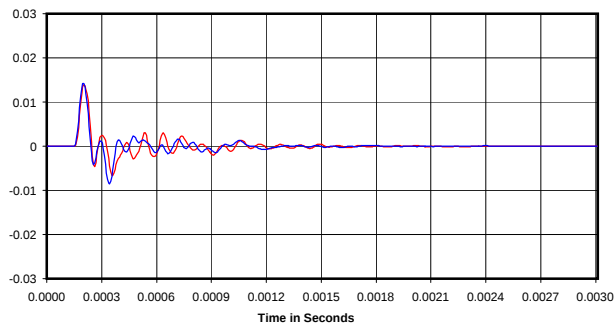
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



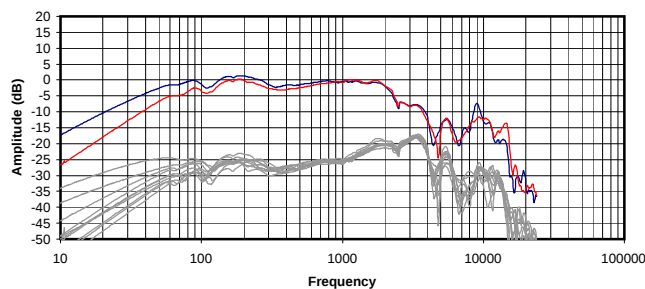
Impulse Response



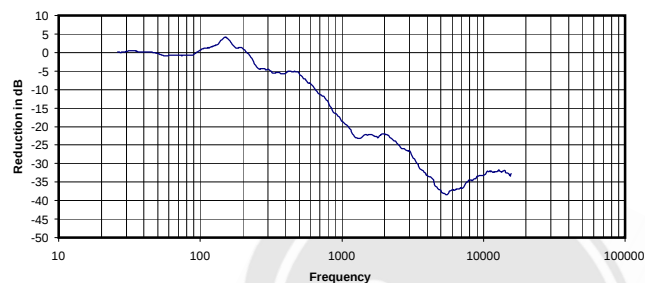
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.061 Vrms
65 Ohms
0.06 mW
-16 dBr

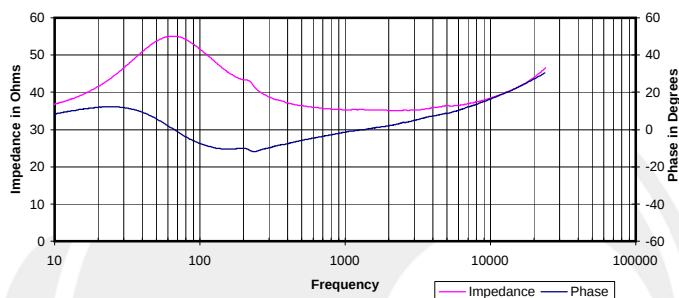
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



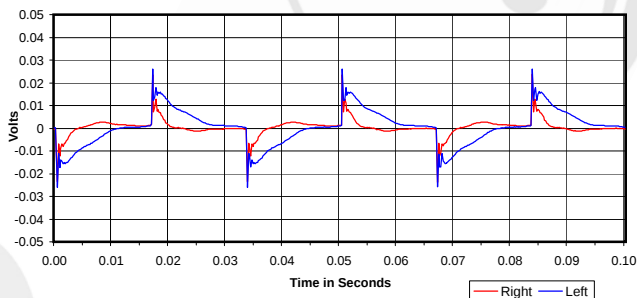
Isolation
Attenuation of External Sound vs. Frequency



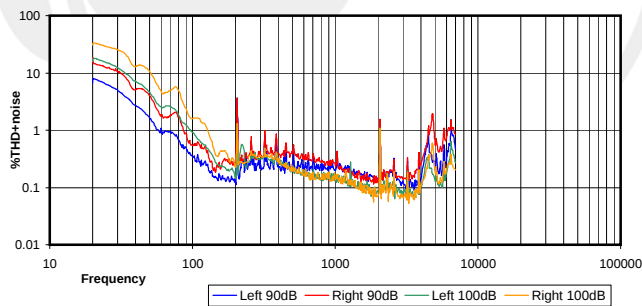
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



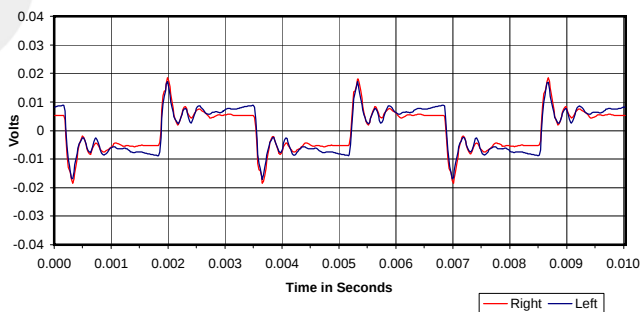
30 Hz Square Wave



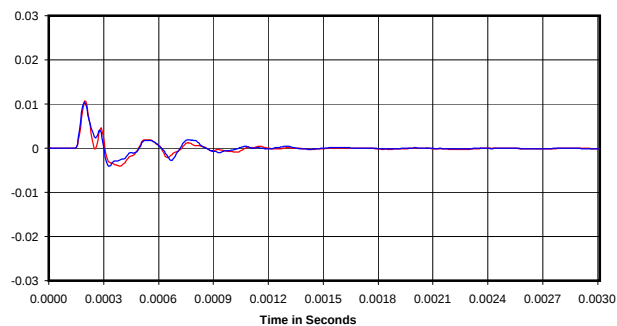
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



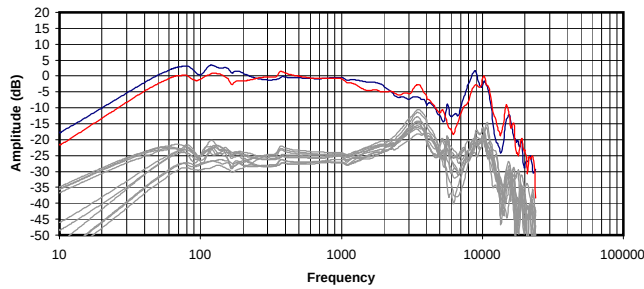
Impulse Response



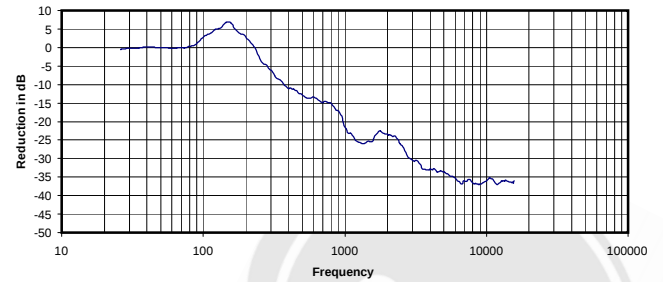
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.059 Vrms
35 Ohms
0.10 mW
-14 dBr

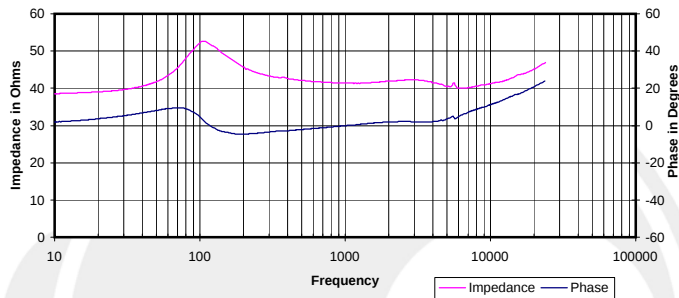
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



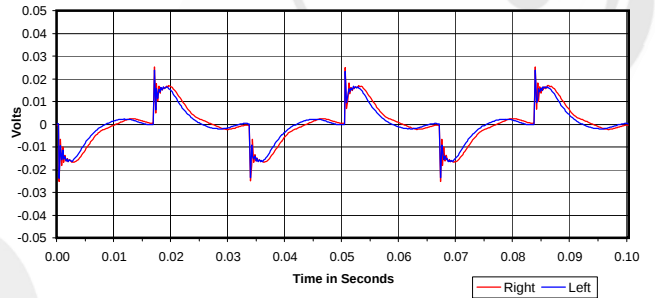
Isolation
Attenuation of External Sound vs. Frequency



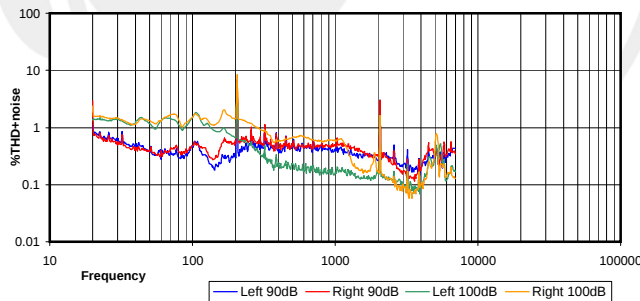
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



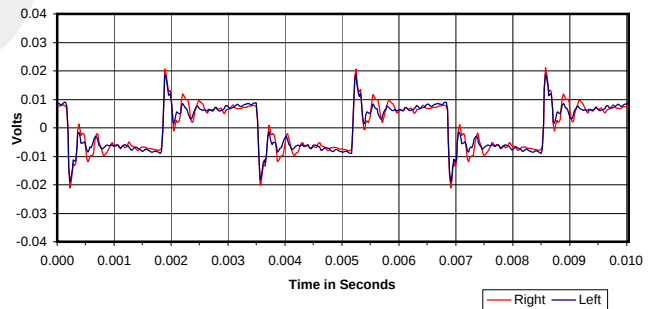
30 Hz Square Wave



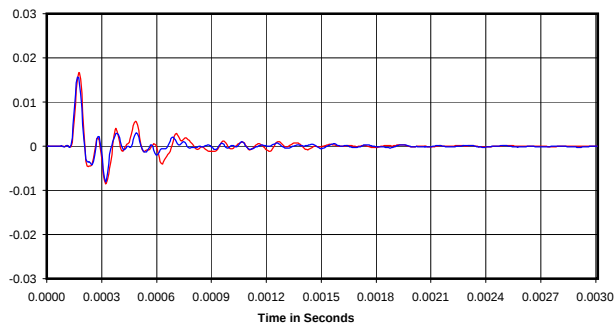
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



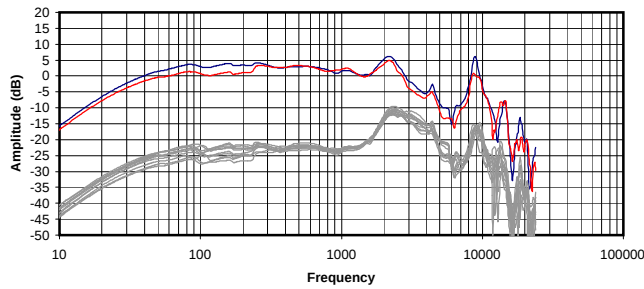
Impulse Response



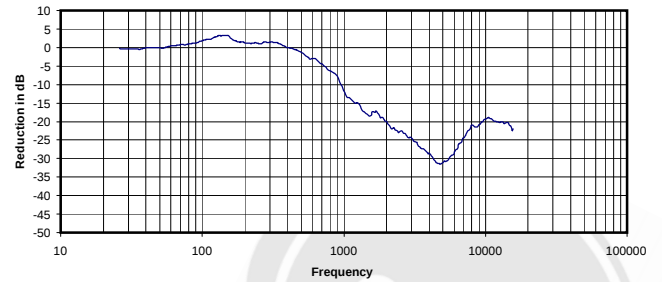
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.050 Vrms
41 Ohms
0.06 mW
-15 dBr

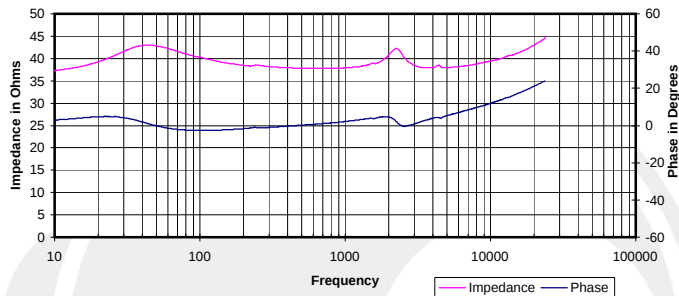
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



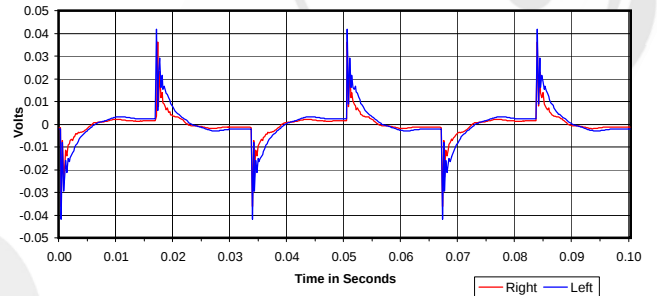
Isolation
Attenuation of External Sound vs. Frequency



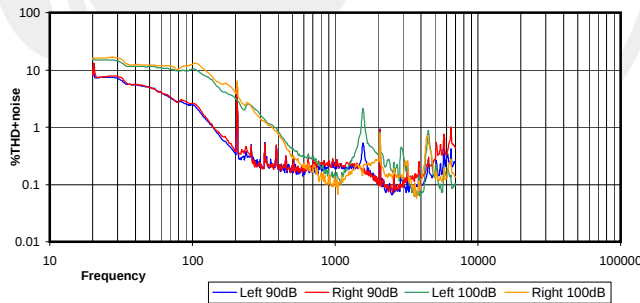
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



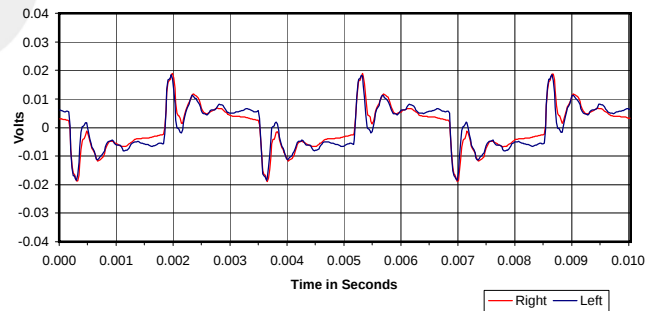
30 Hz Square Wave



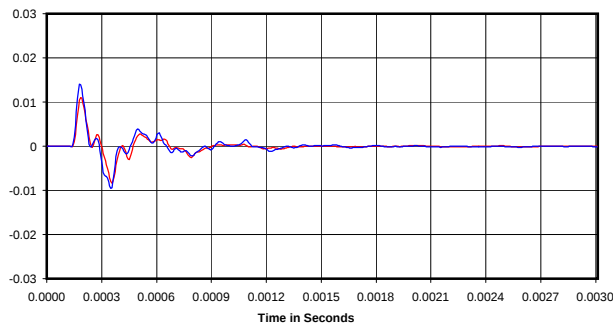
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



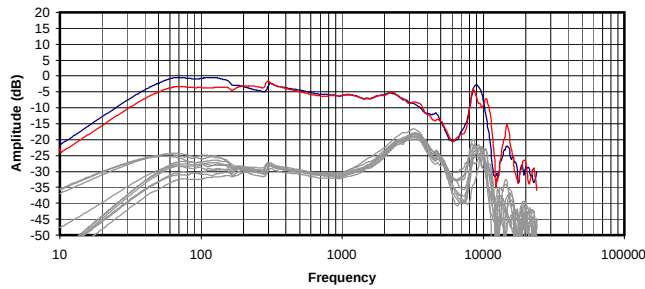
Impulse Response



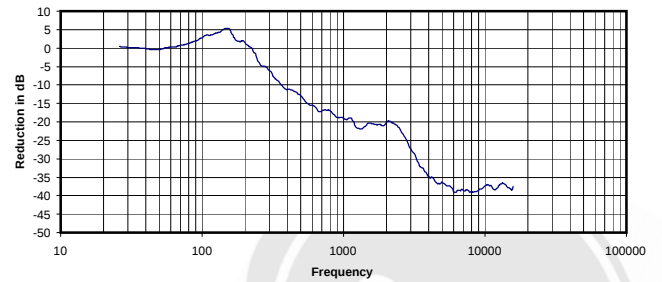
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.087 Vrms
38 Ohms
0.20 mW
-10 dBr

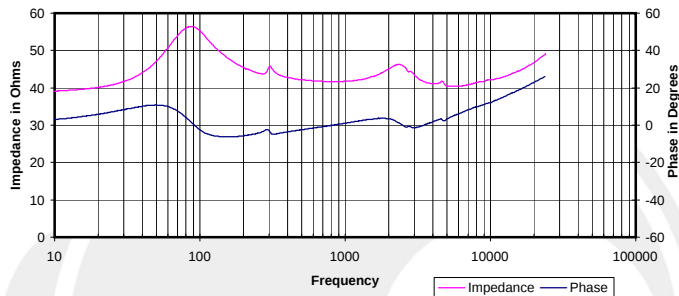
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



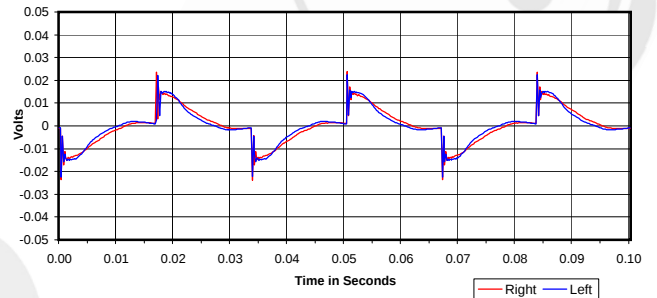
Isolation
Attenuation of External Sound vs. Frequency



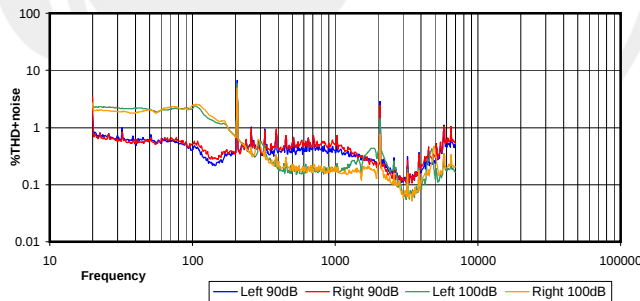
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



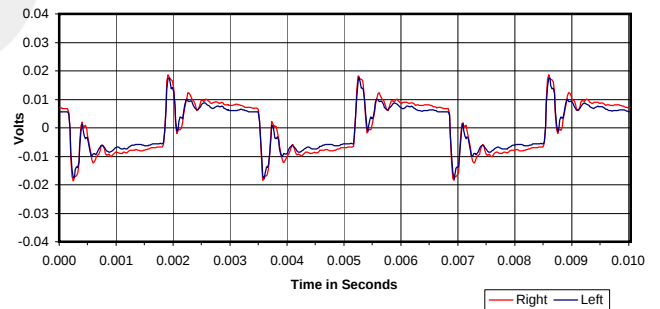
30 Hz Square Wave



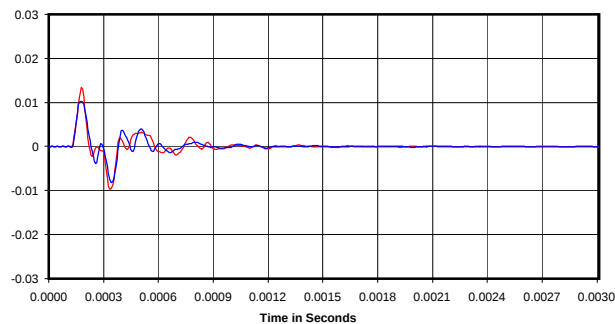
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



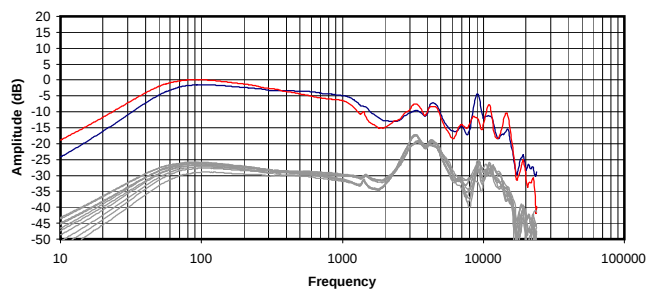
Impulse Response



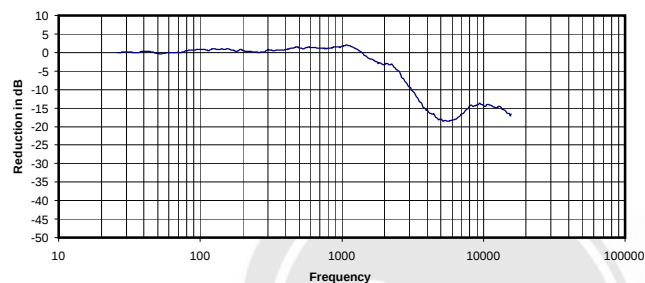
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.066 Vrms
42 Ohms
0.11 mW
-15 dB

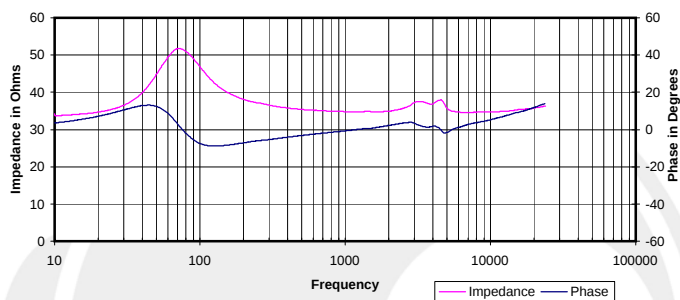
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



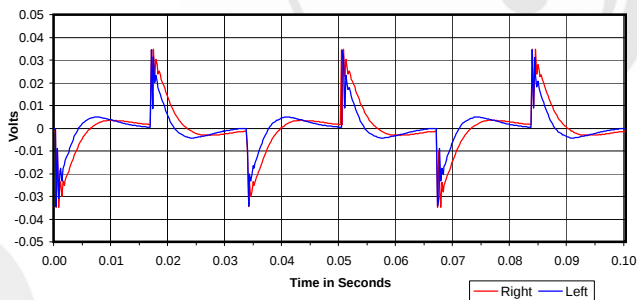
Isolation
Attenuation of External Sound vs. Frequency



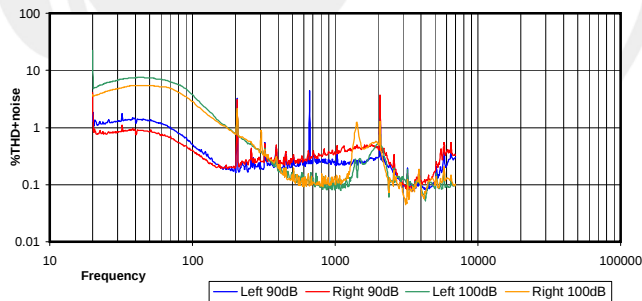
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



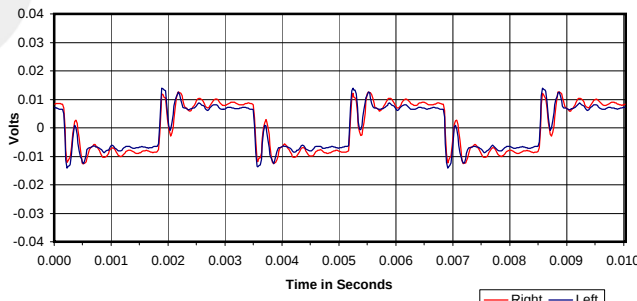
30 Hz Square Wave



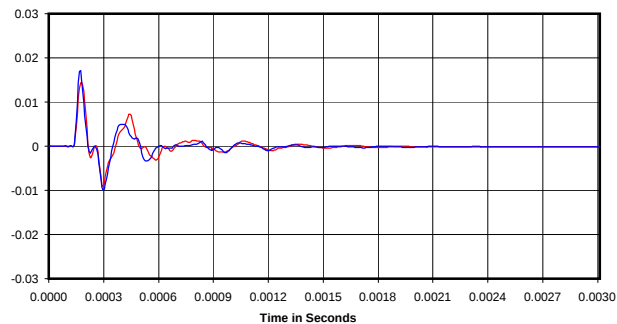
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



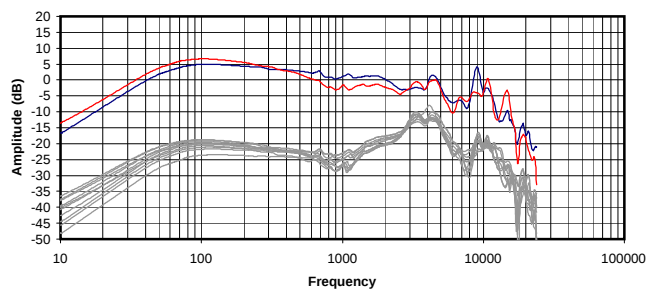
Impulse Response



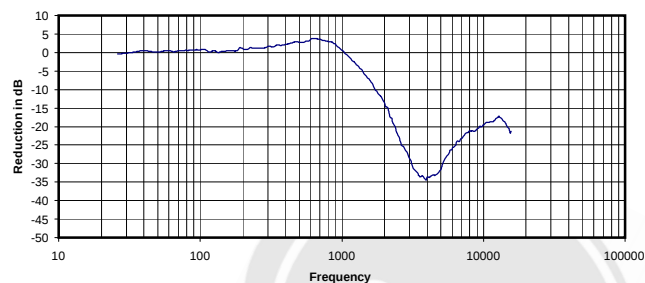
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.037 Vrms
35 Ohms
0.04 mW
-3 dBr

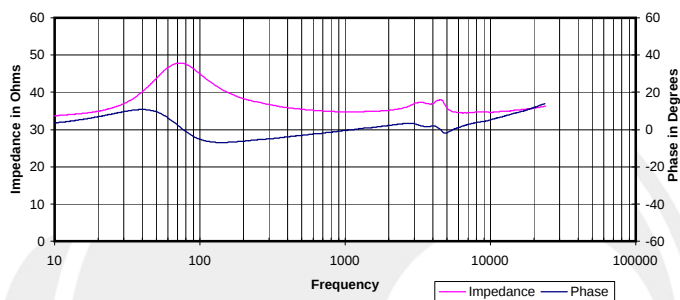
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



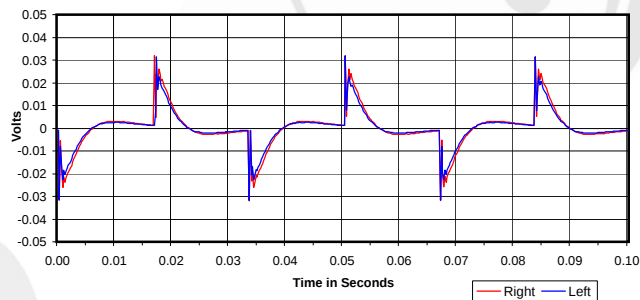
Isolation
Attenuation of External Sound vs. Frequency



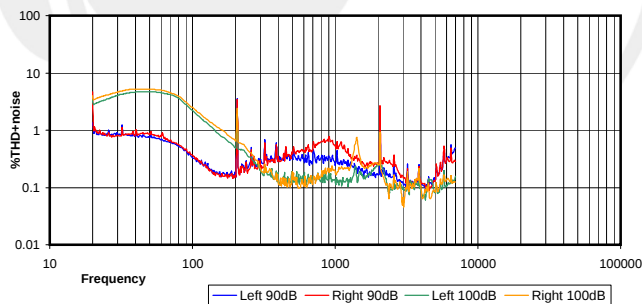
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



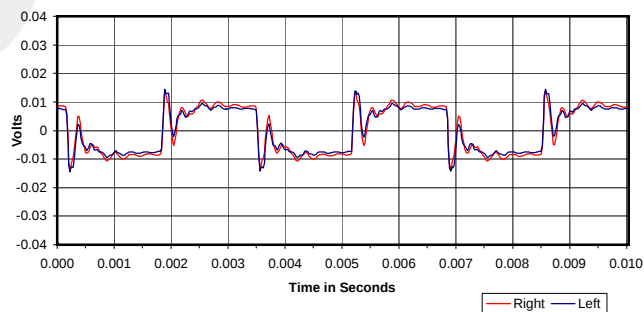
30 Hz Square Wave



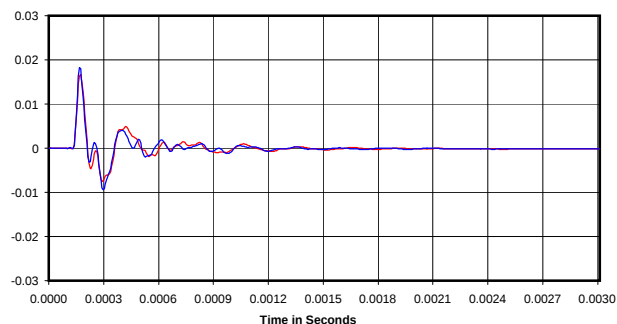
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



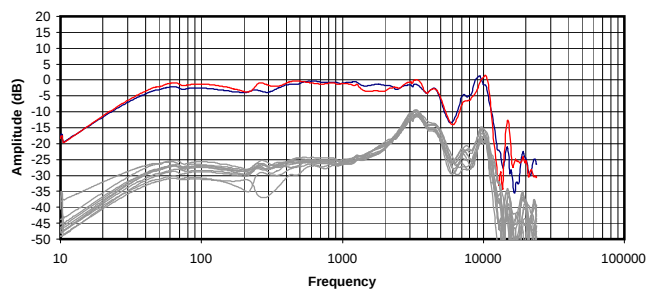
Impulse Response



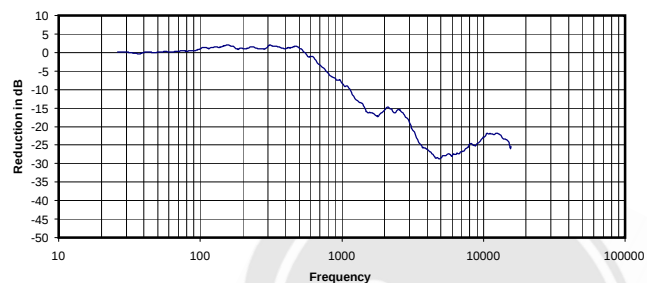
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.055 Vrms
35 Ohms
0.09 mW
-8 dBr

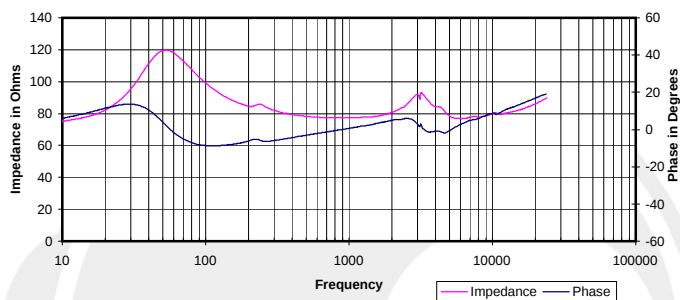
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



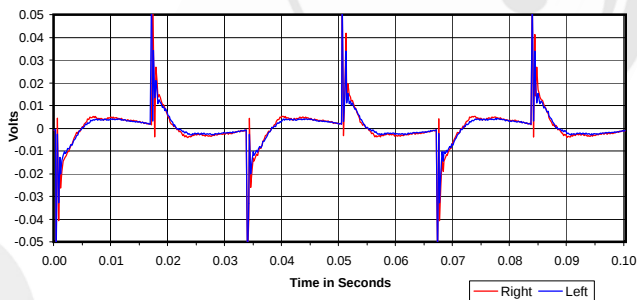
Isolation
Attenuation of External Sound vs. Frequency



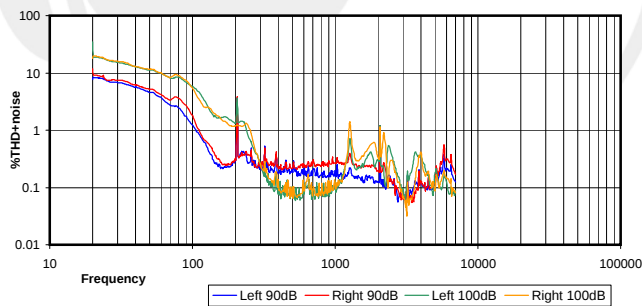
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



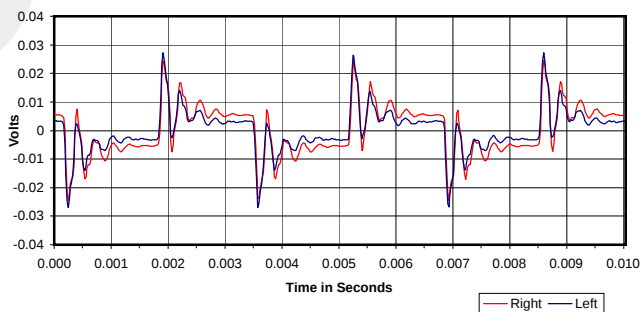
30 Hz Square Wave



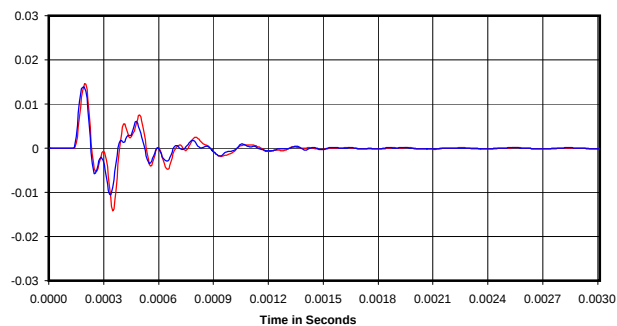
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



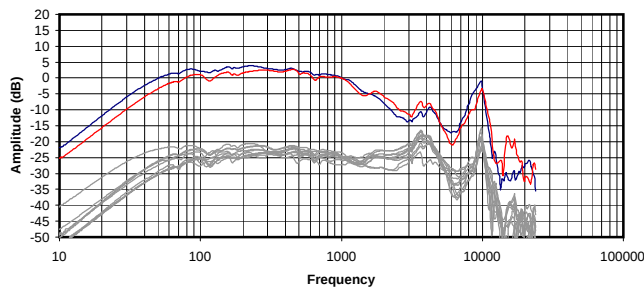
Impulse Response



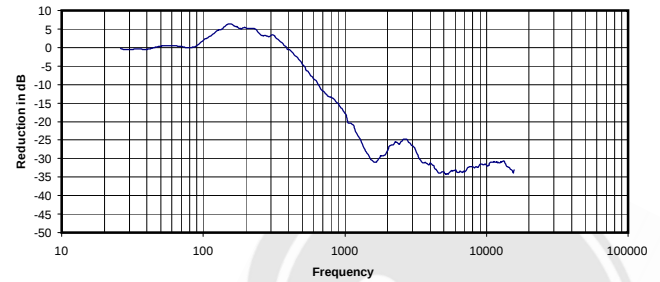
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.061 Vrms
77 Ohms
0.05 mW
-8 dBr

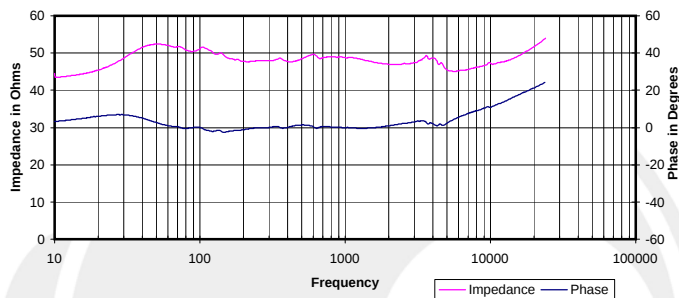
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



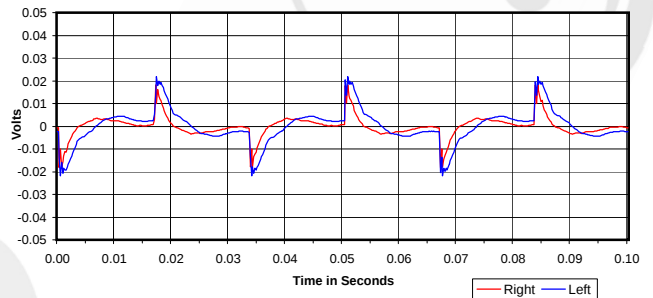
Isolation
Attenuation of External Sound vs. Frequency



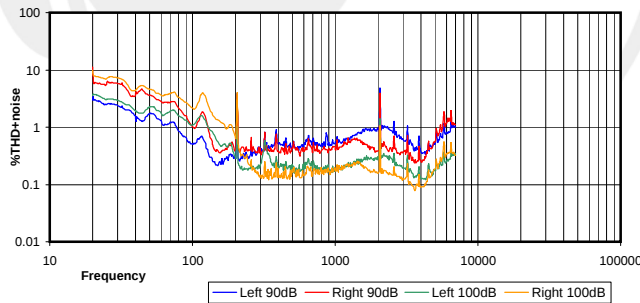
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



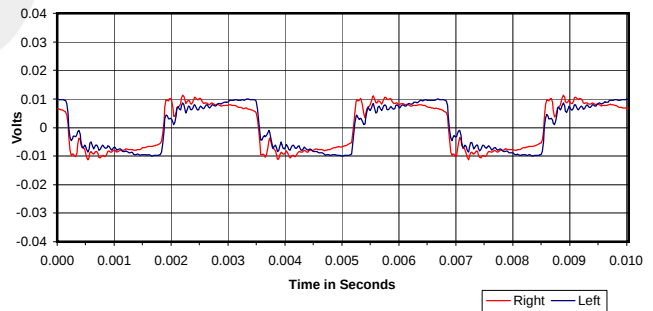
30 Hz Square Wave



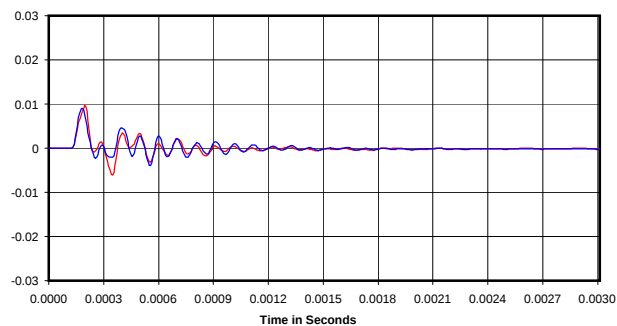
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



Impulse Response



Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

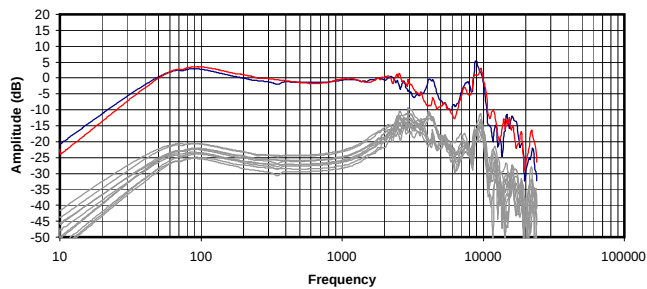
0.030 Vrms
49 Ohms
0.02 mW
-13 dBr

Headphone Measurement Datasheets

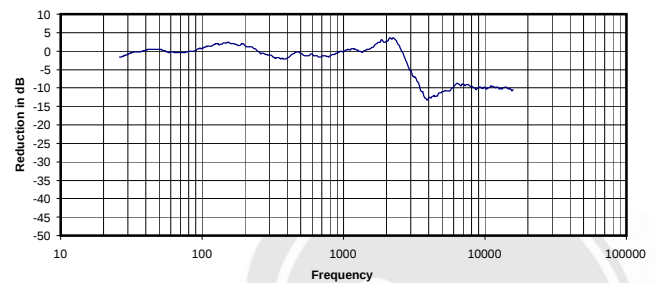
Earpad Open



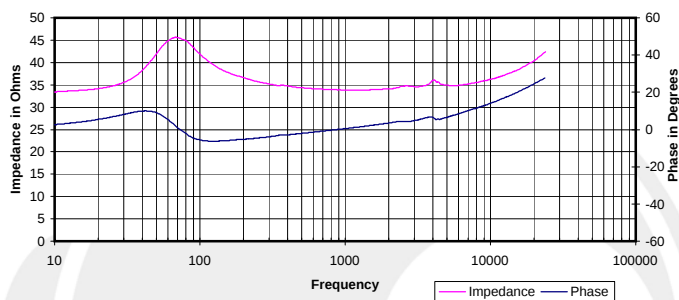
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



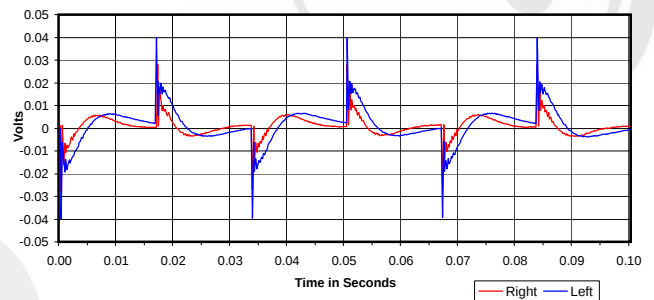
Isolation
Attenuation of External Sound vs. Frequency



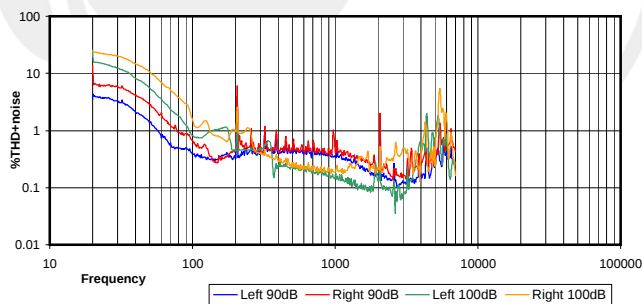
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



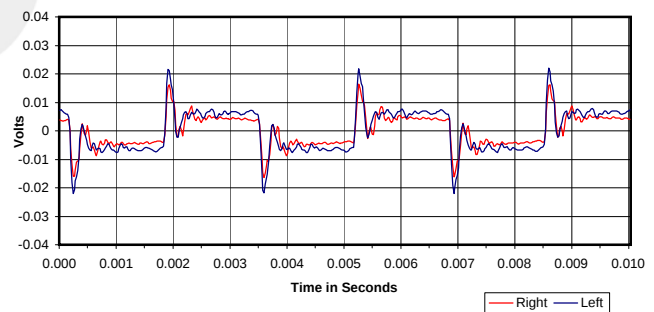
30 Hz Square Wave



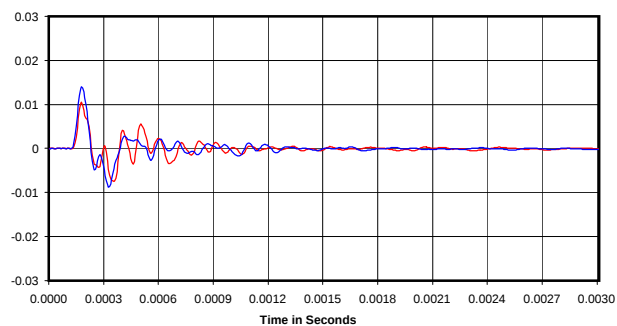
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



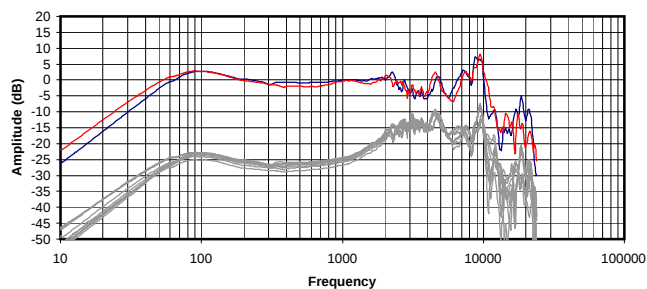
Impulse Response



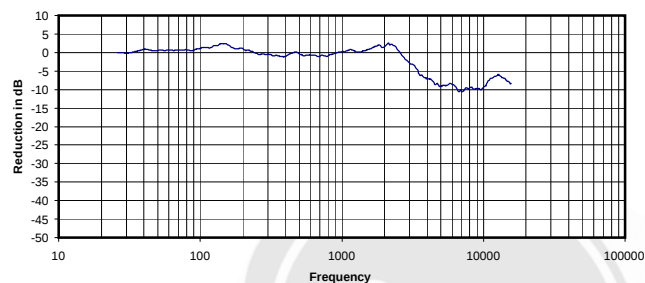
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.073 Vrms
34 Ohms
0.16 mW
-2 dBr

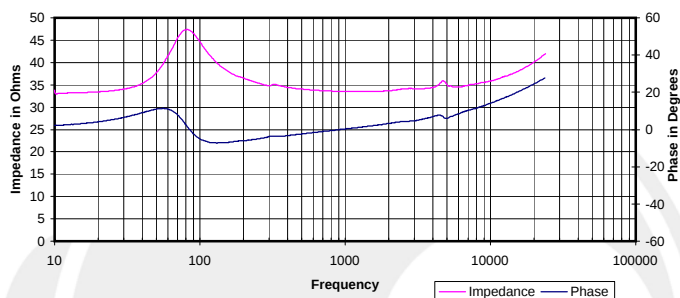
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



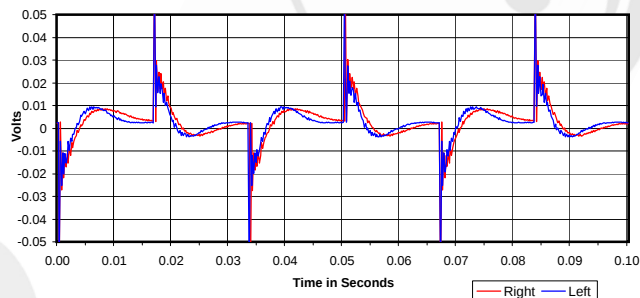
Isolation
Attenuation of External Sound vs. Frequency



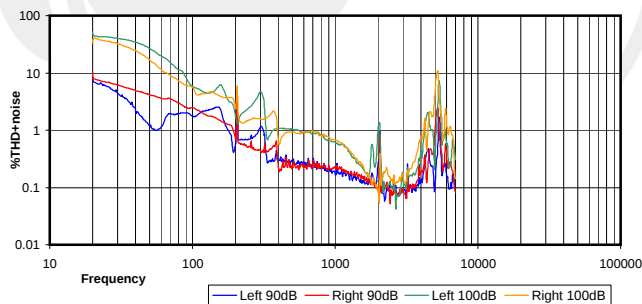
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



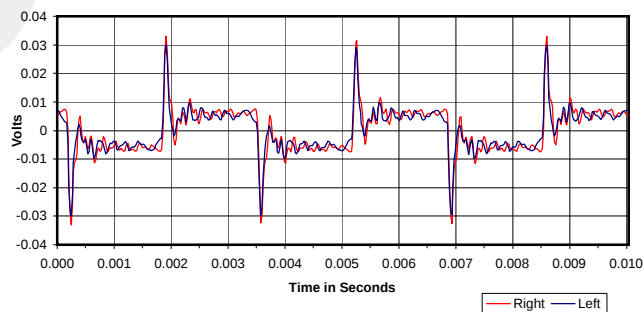
30 Hz Square Wave



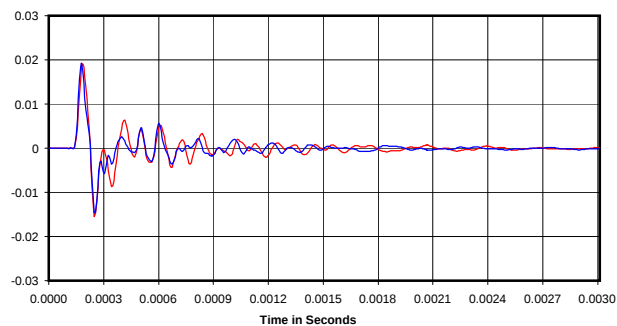
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



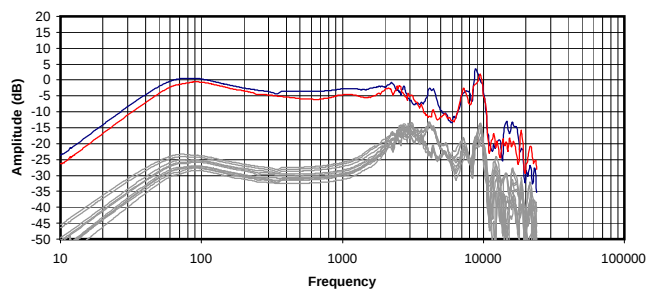
Impulse Response



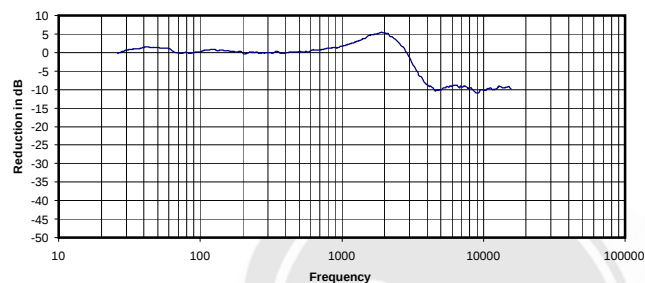
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.126 Vrms
34 Ohms
0.47 mW
-1 dBr

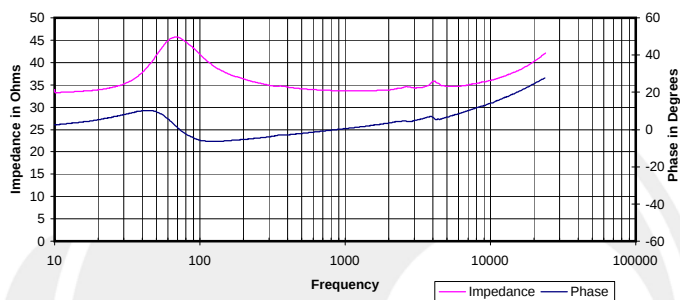
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



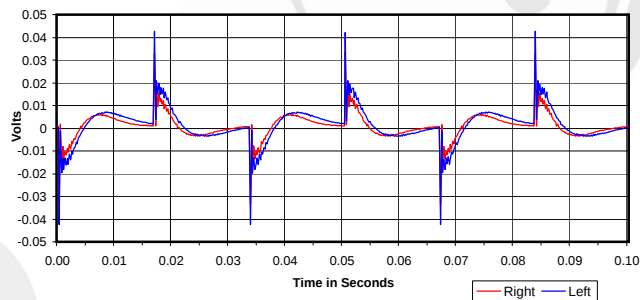
Isolation
Attenuation of External Sound vs. Frequency



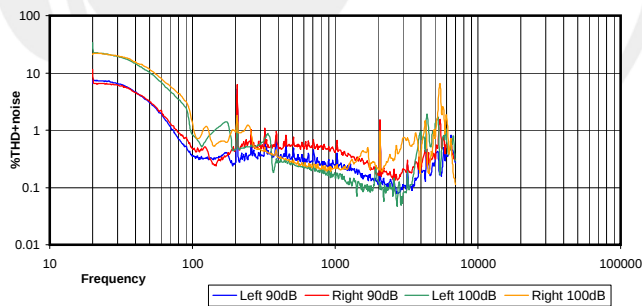
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



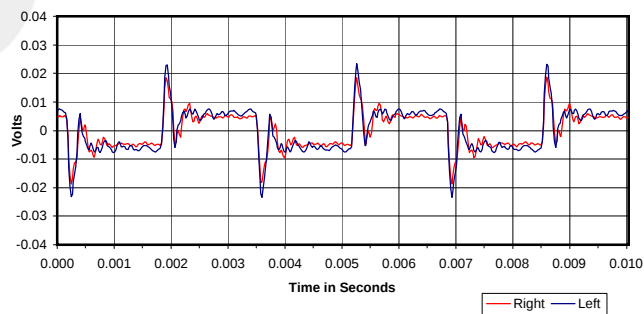
30 Hz Square Wave



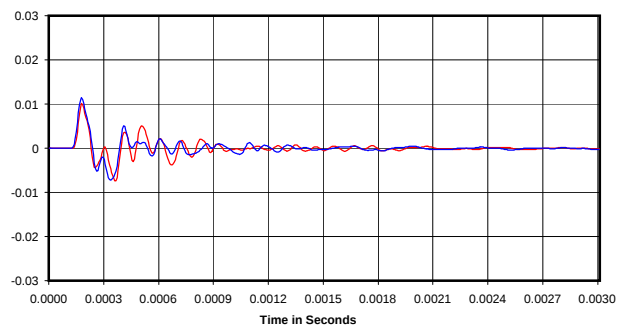
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



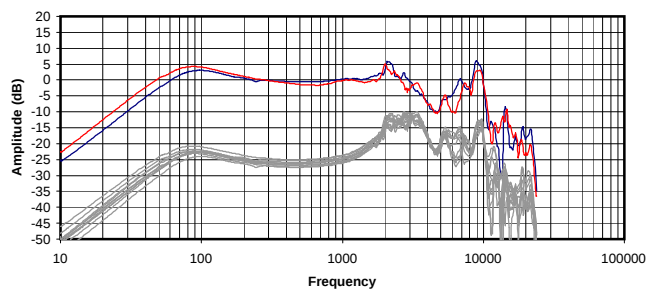
Impulse Response



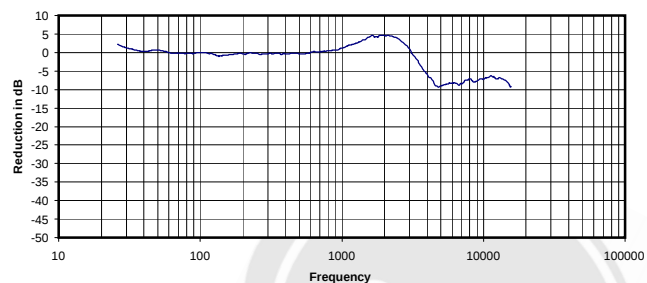
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.079 Vrms
34 Ohms
0.19 mW
0 dBr

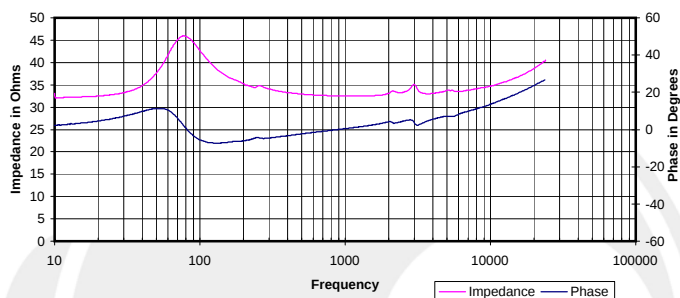
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



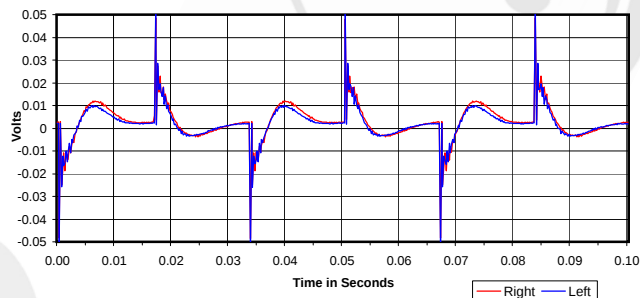
Isolation
Attenuation of External Sound vs. Frequency



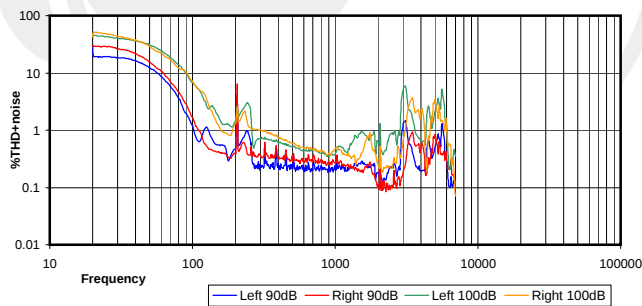
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



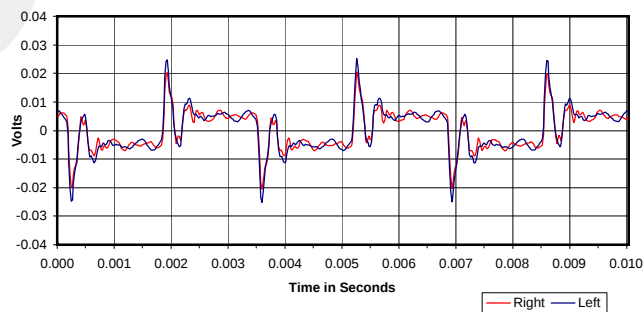
30 Hz Square Wave



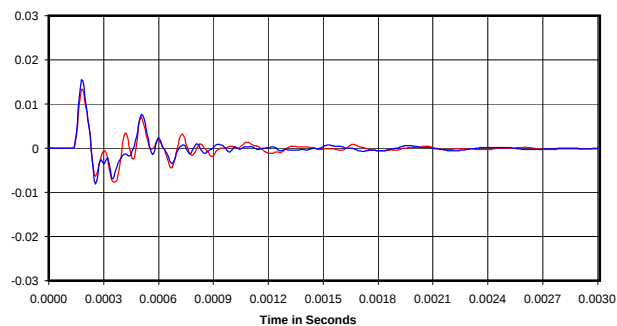
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



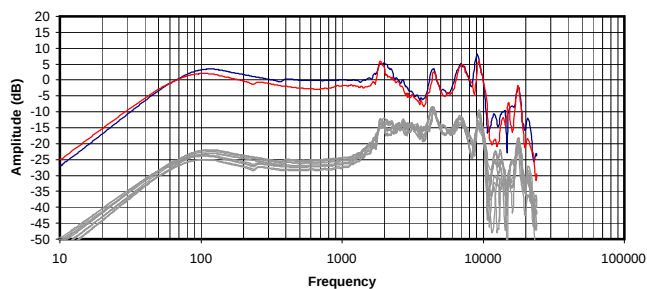
Impulse Response



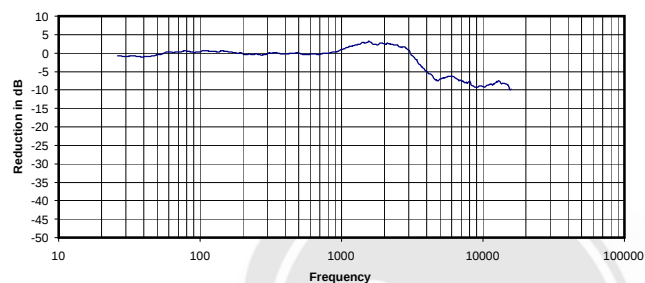
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.110 Vrms
32 Ohms
0.37 mW
0 dBr

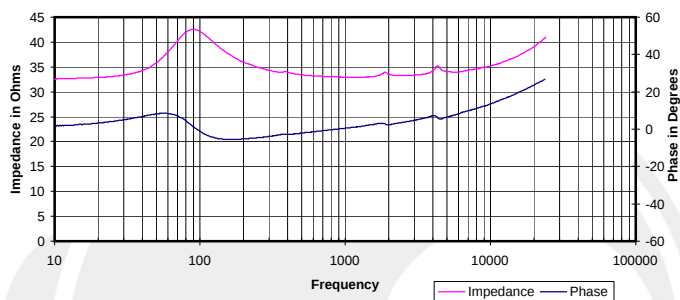
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



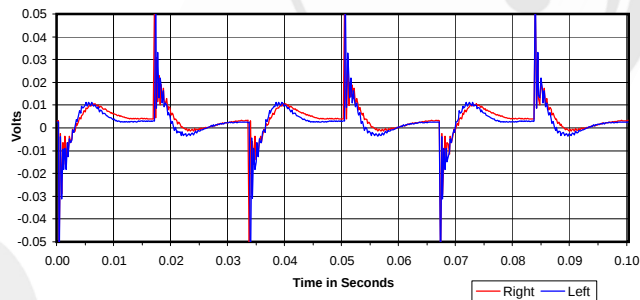
Isolation
Attenuation of External Sound vs. Frequency



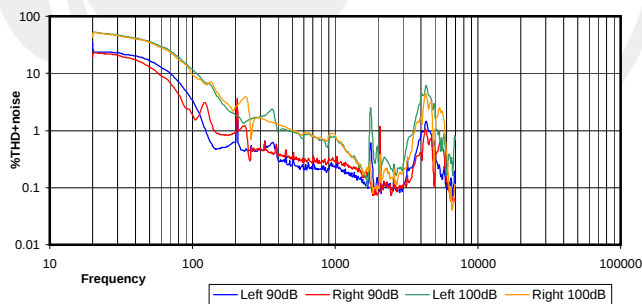
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



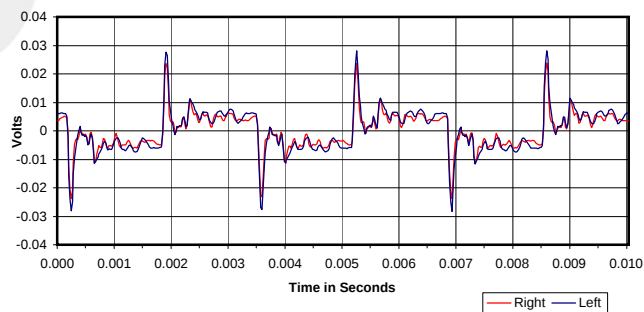
30 Hz Square Wave



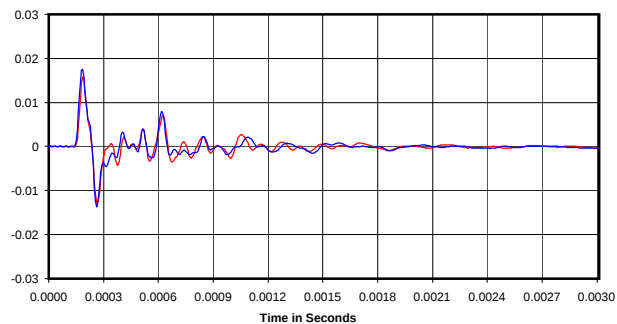
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



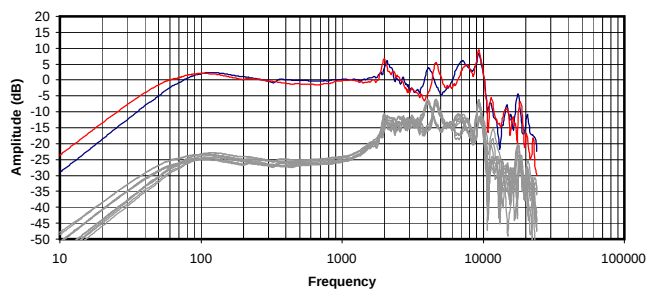
Impulse Response



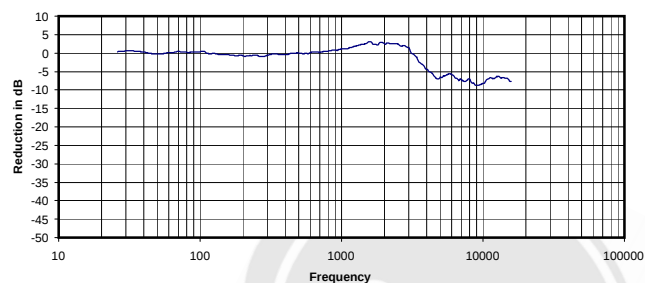
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.161 Vrms
33 Ohms
0.78 mW
0 dBr

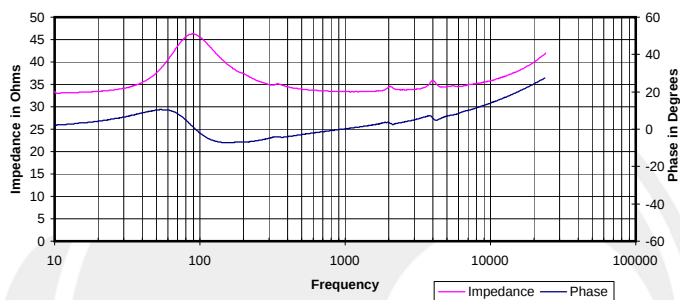
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



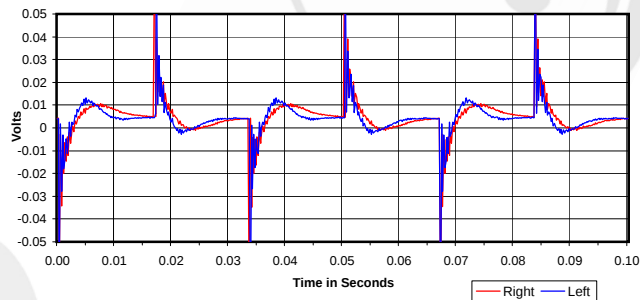
Isolation
Attenuation of External Sound vs. Frequency



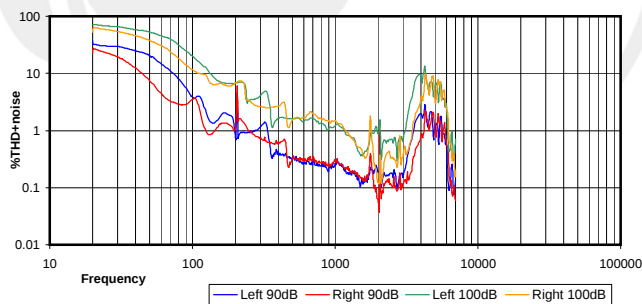
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



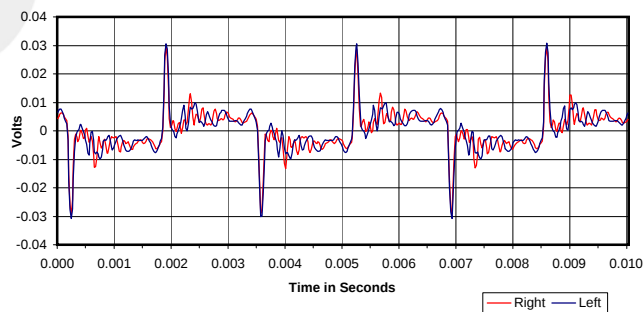
30 Hz Square Wave



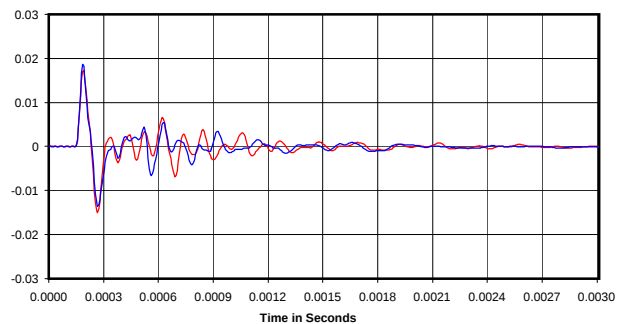
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



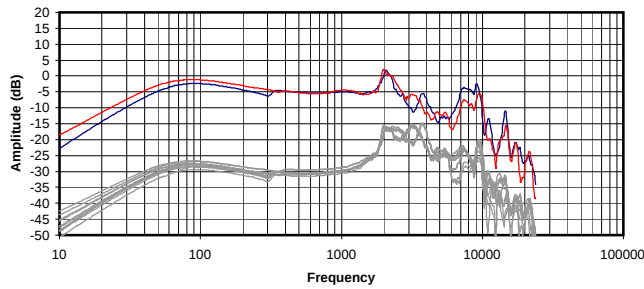
Impulse Response



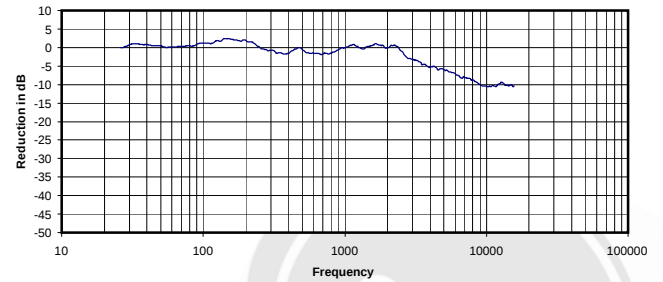
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.175 Vrms
33 Ohms
0.92 mW
0 dBr

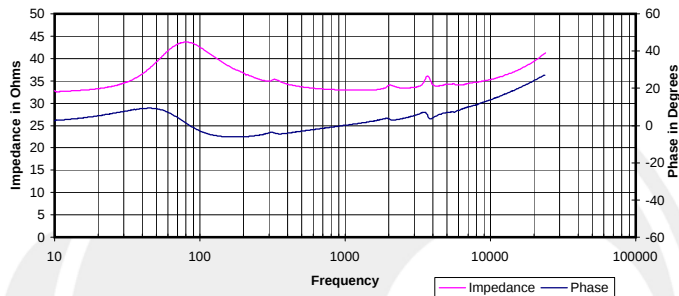
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



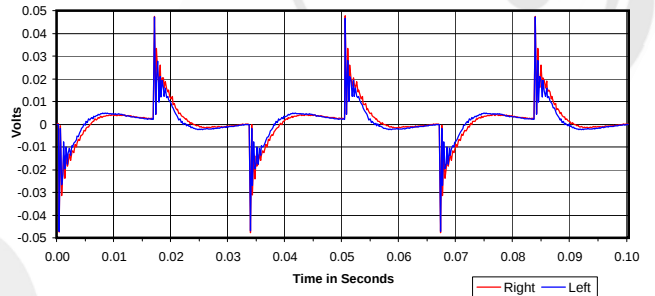
Isolation
Attenuation of External Sound vs. Frequency



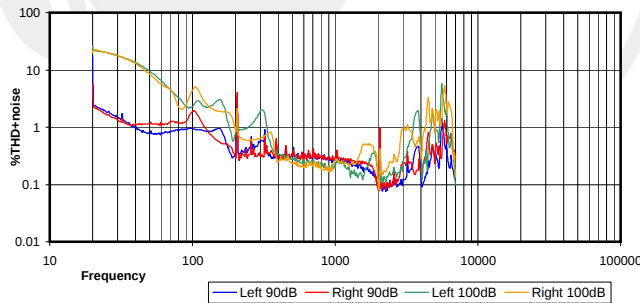
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



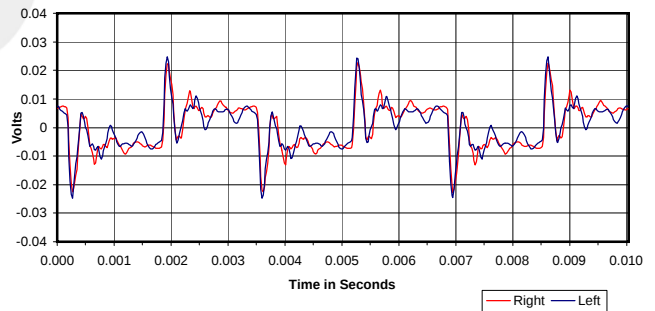
30 Hz Square Wave



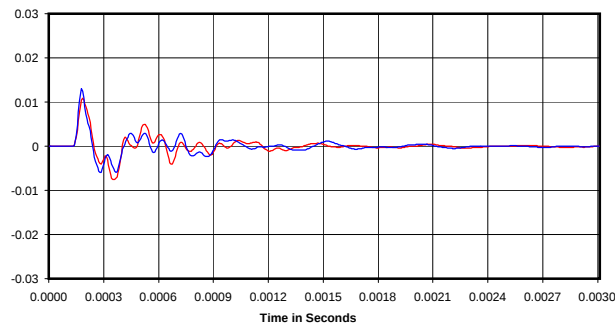
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



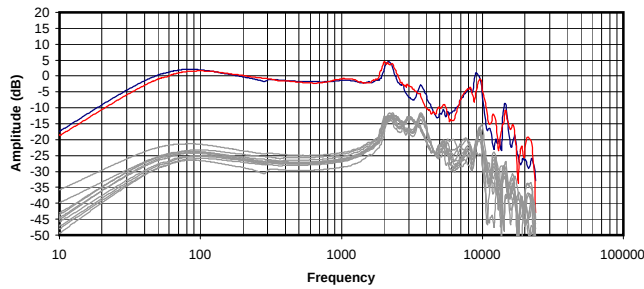
Impulse Response



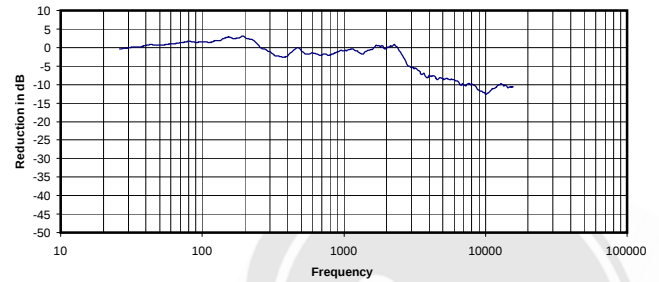
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.104 Vrms
33 Ohms
0.33 mW
-1 dBr

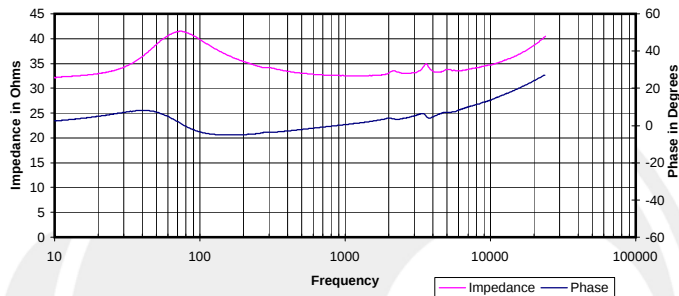
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



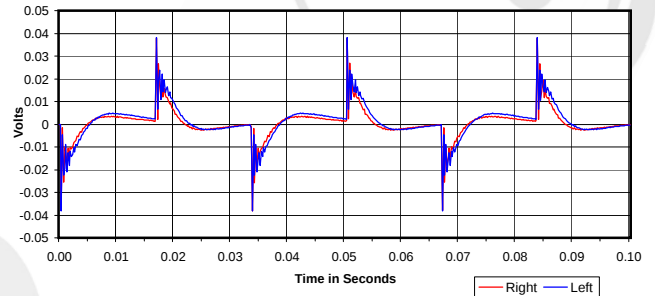
Isolation
Attenuation of External Sound vs. Frequency



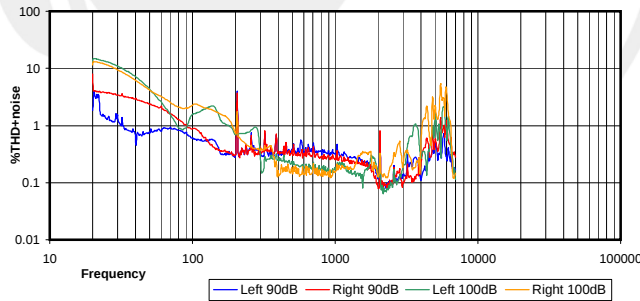
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



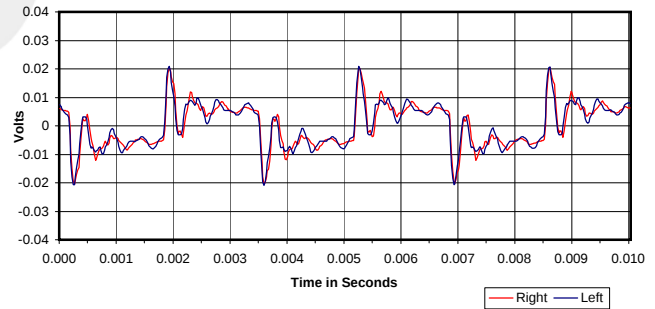
30 Hz Square Wave



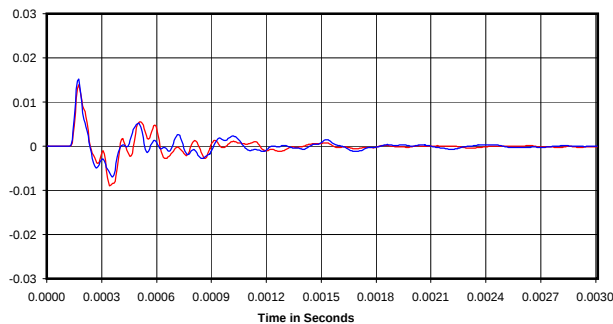
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



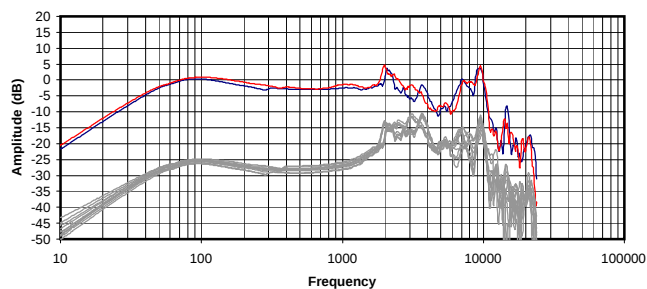
Impulse Response



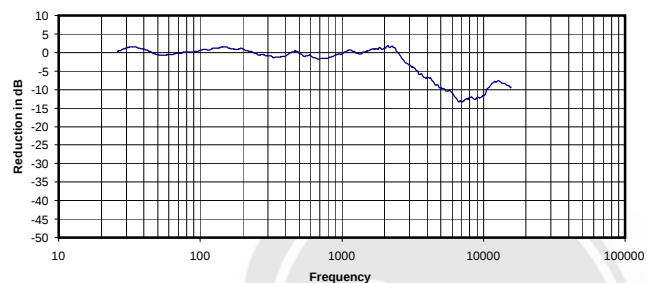
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

4.727 Vrms
33 Ohms
686.40 mW
-2 dBr

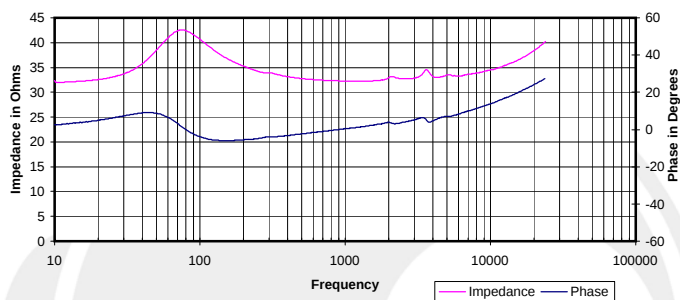
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



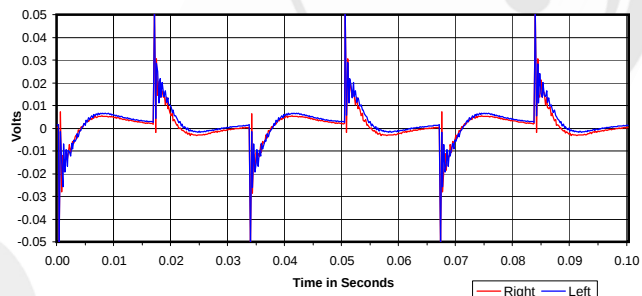
Isolation
Attenuation of External Sound vs. Frequency



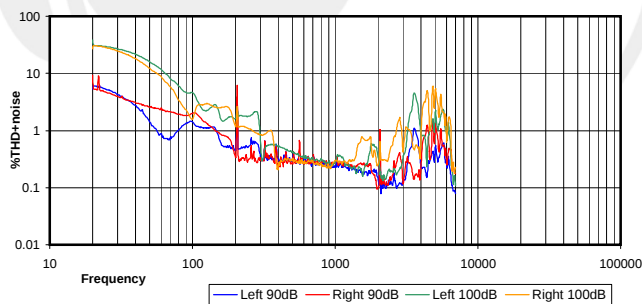
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



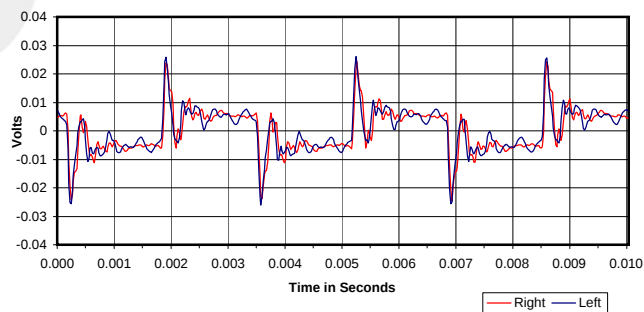
30 Hz Square Wave



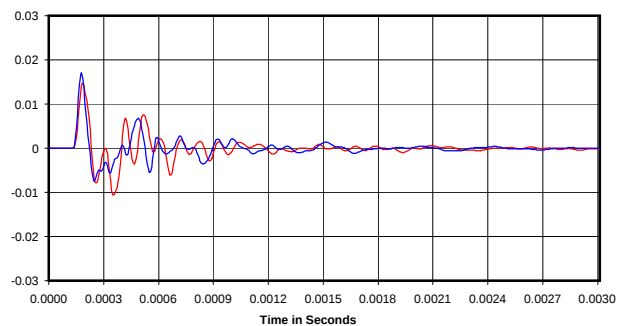
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



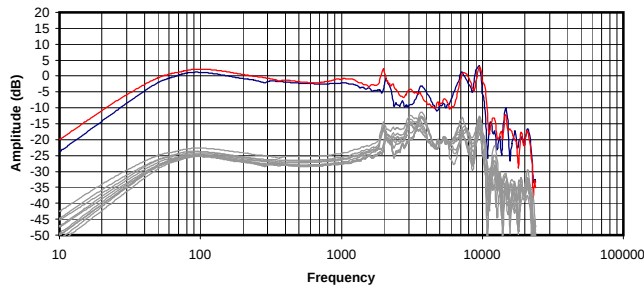
Impulse Response



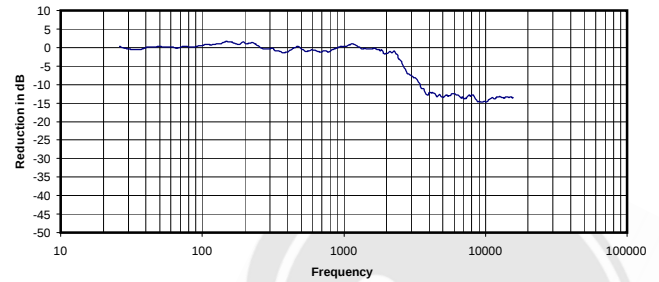
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.116 Vrms
32 Ohms
0.42 mW
-1 dBr

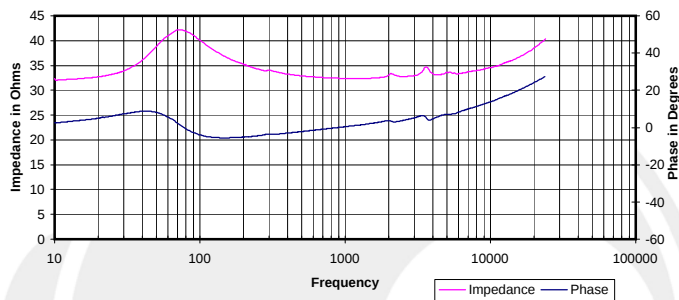
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



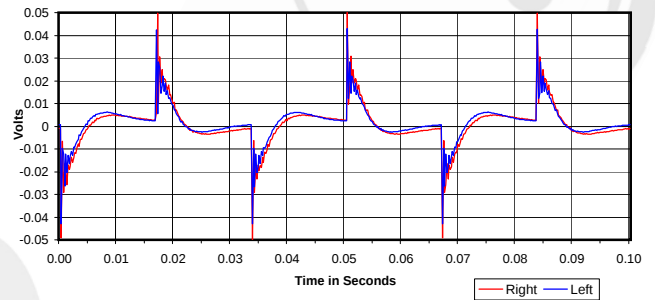
Isolation
Attenuation of External Sound vs. Frequency



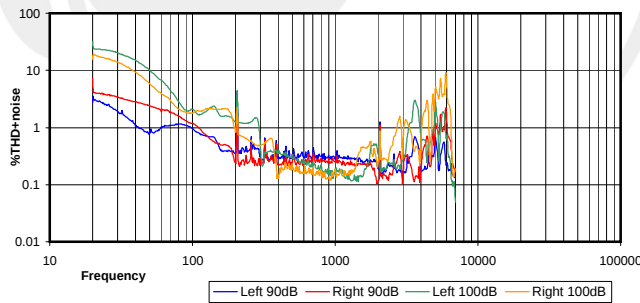
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



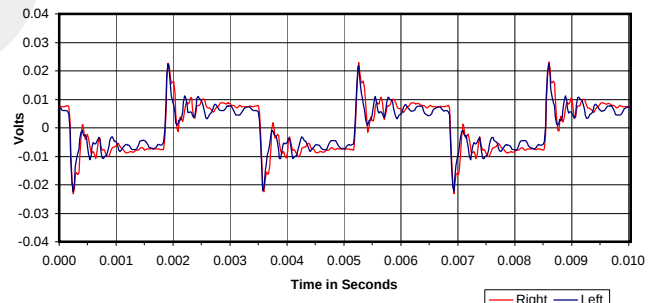
30 Hz Square Wave



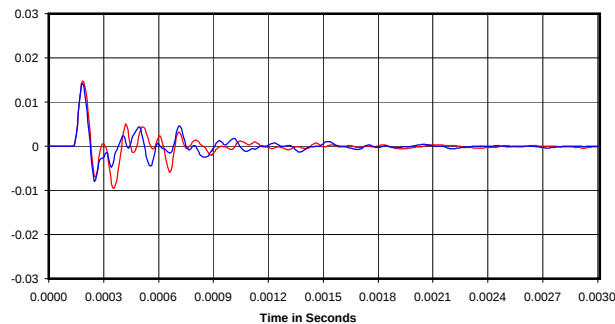
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



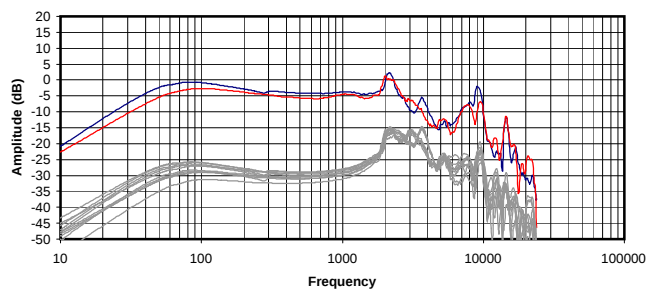
Impulse Response



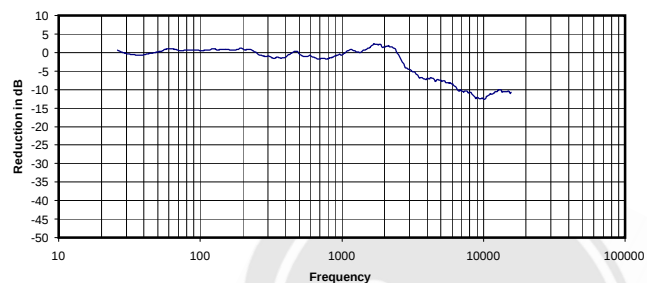
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.094 Vrms
32 Ohms
0.27 mW
-3 dBr

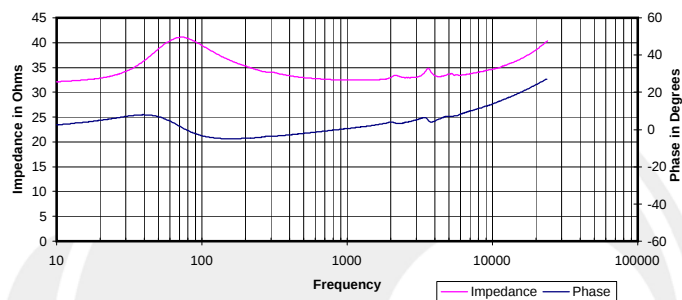
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



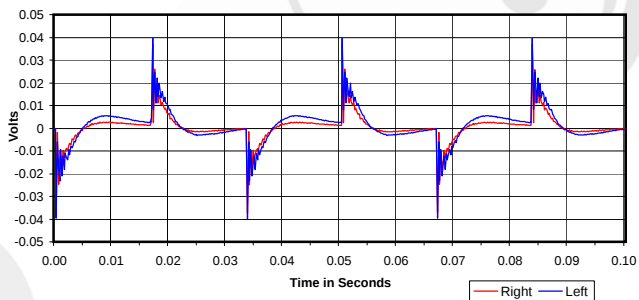
Isolation
Attenuation of External Sound vs. Frequency



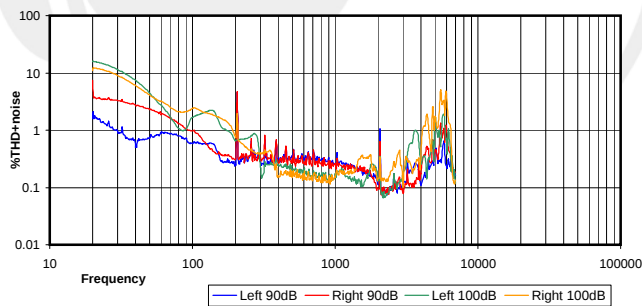
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



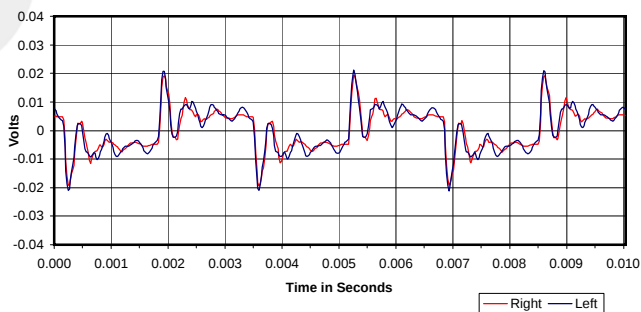
30 Hz Square Wave



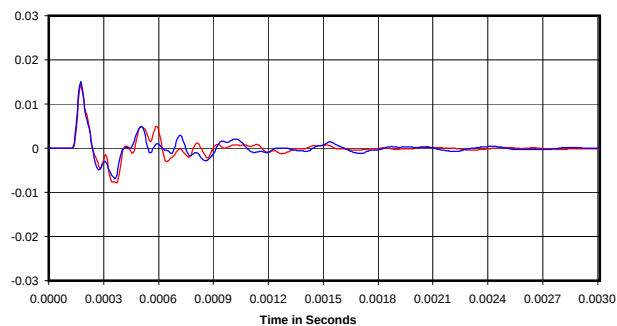
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



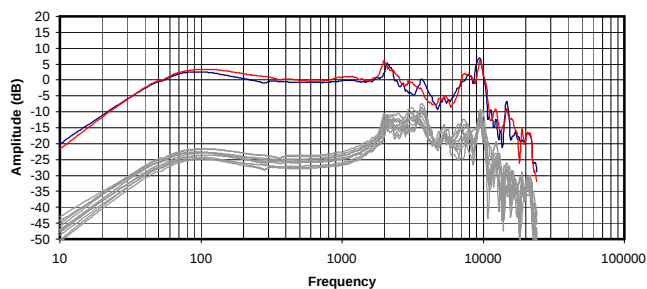
Impulse Response



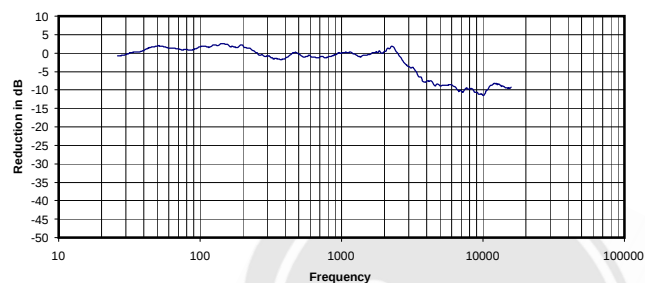
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.079 Vrms
32 Ohms
0.19 mW
-1 dBr

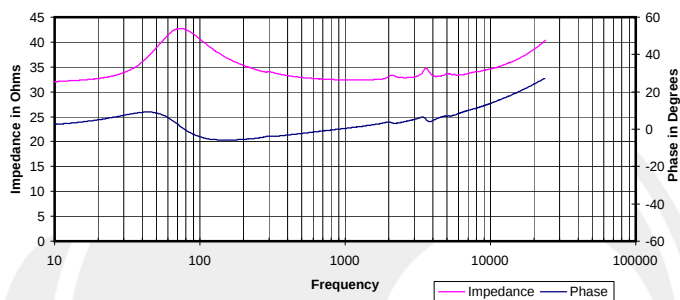
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



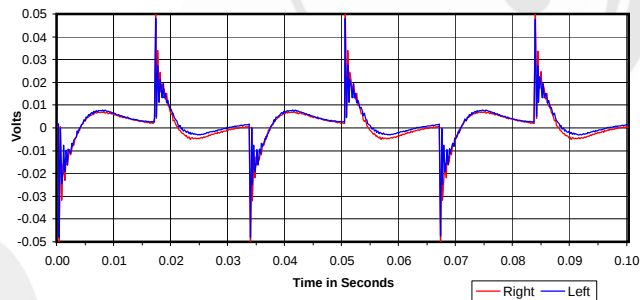
Isolation
Attenuation of External Sound vs. Frequency



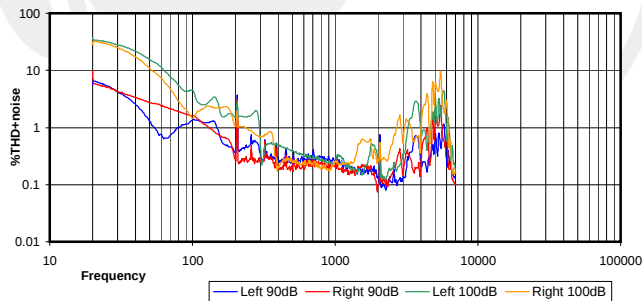
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



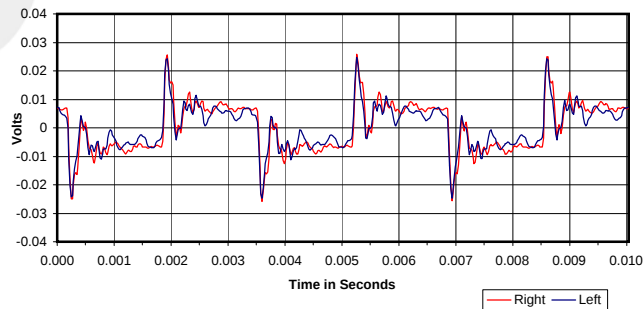
30 Hz Square Wave



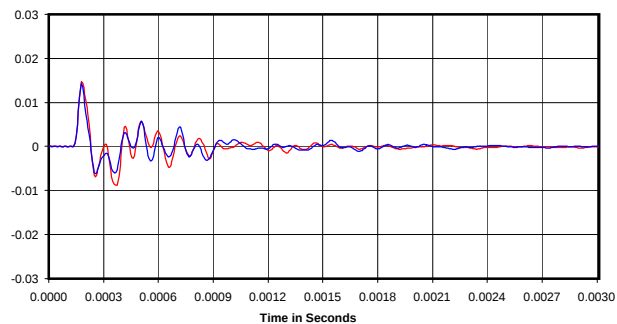
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



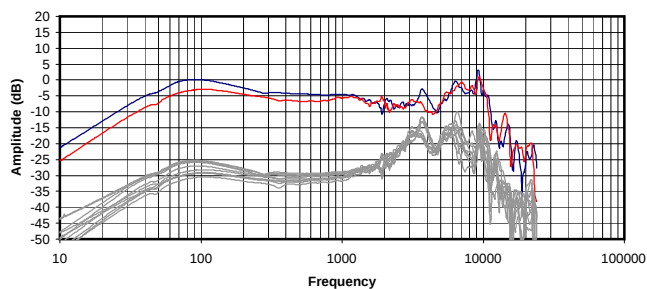
Impulse Response



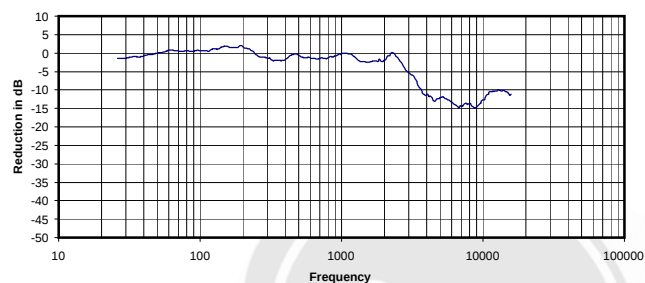
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.112 Vrms
32 Ohms
0.39 mW
-1 dBr

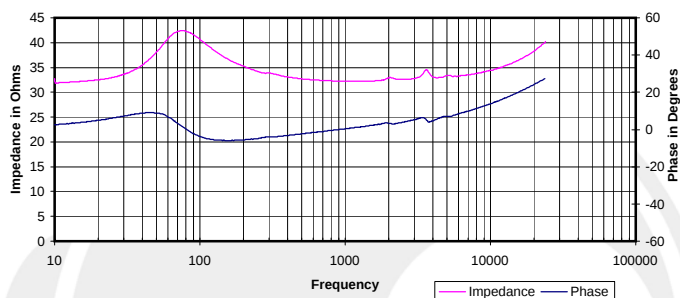
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



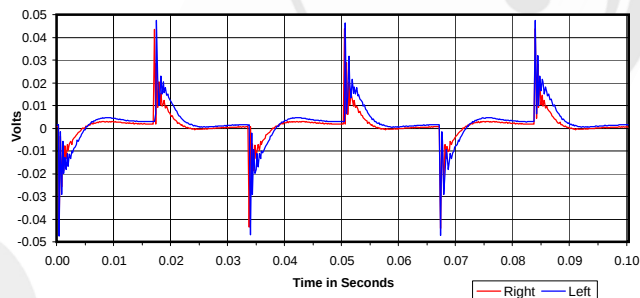
Isolation
Attenuation of External Sound vs. Frequency



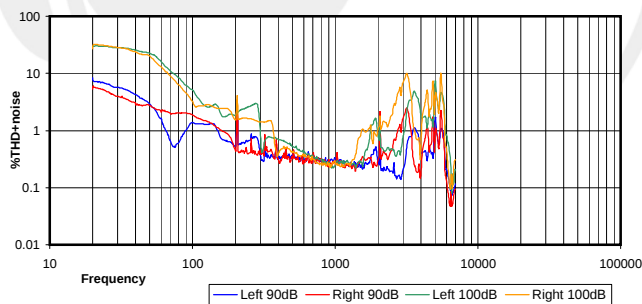
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



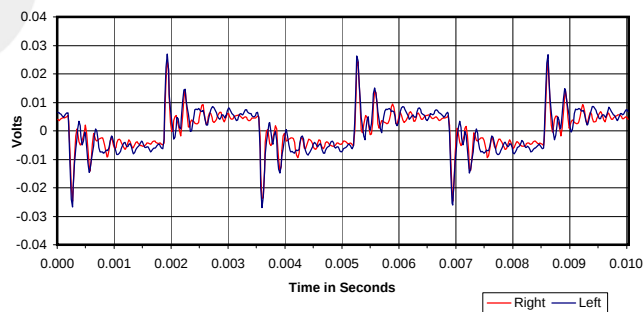
30 Hz Square Wave



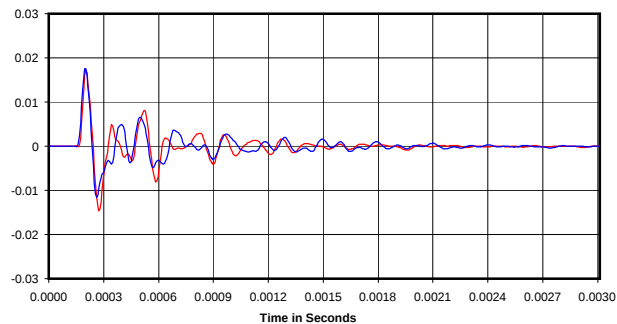
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



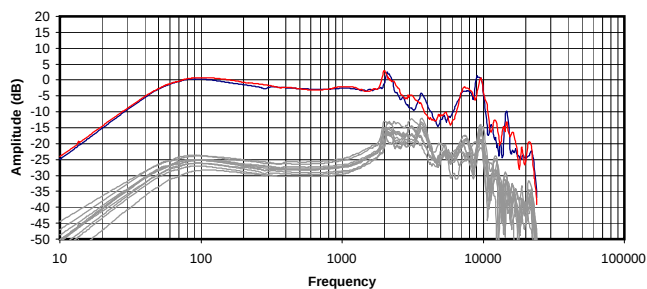
Impulse Response



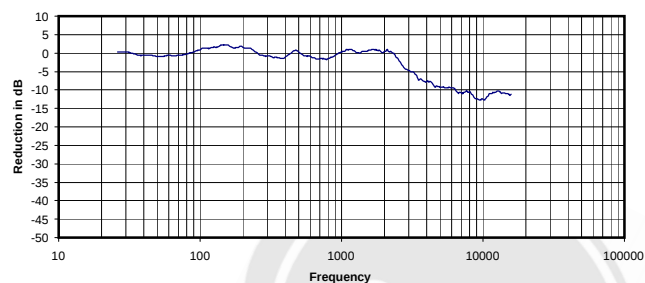
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.151 Vrms
32 Ohms
0.71 mW
-3 dB

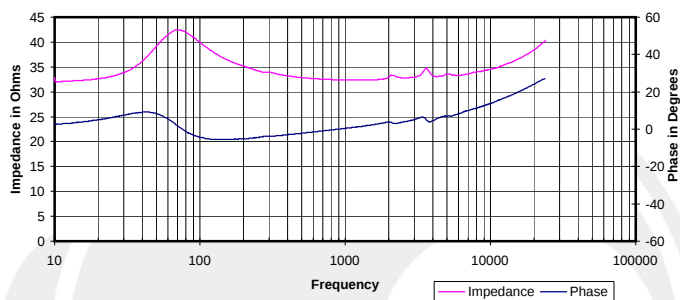
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



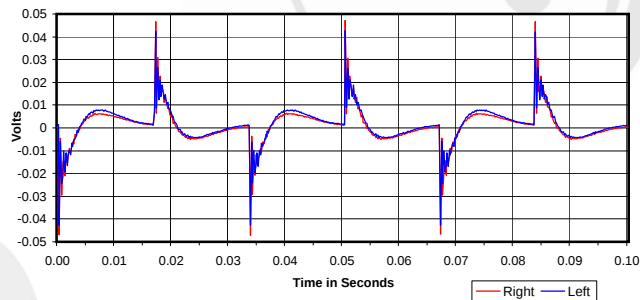
Isolation
Attenuation of External Sound vs. Frequency



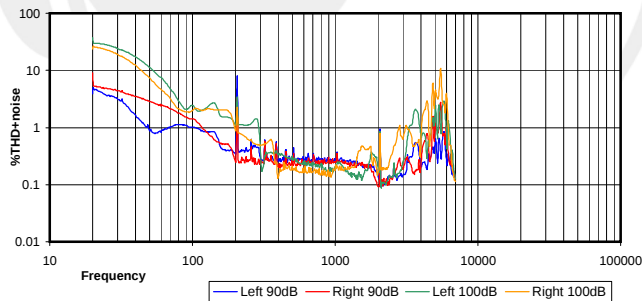
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



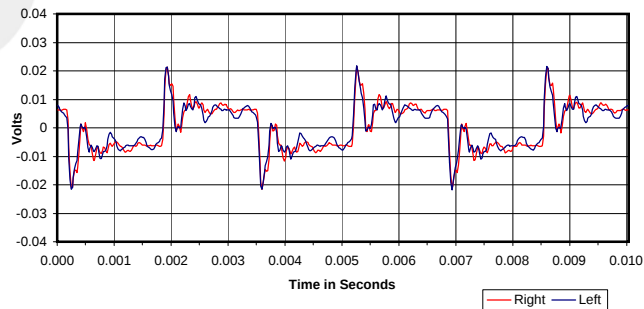
30 Hz Square Wave



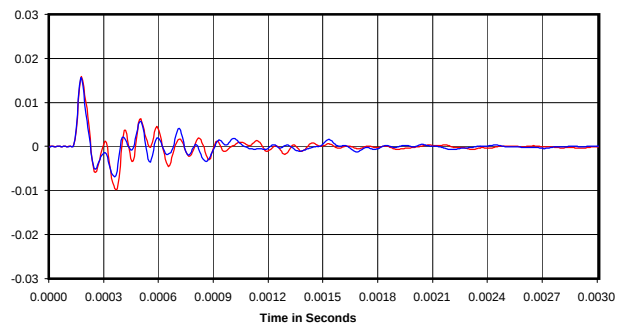
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



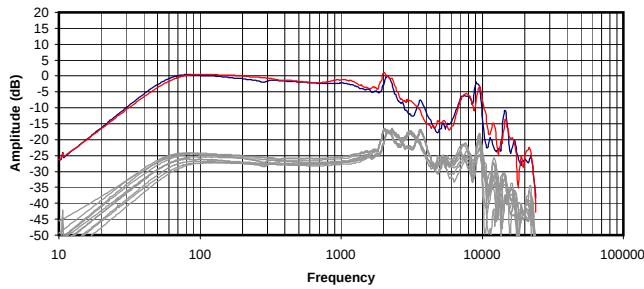
Impulse Response



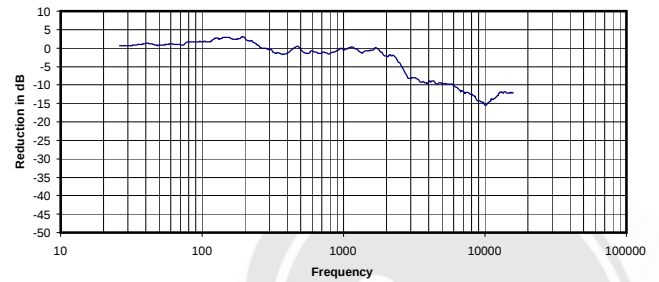
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.091 Vrms
32 Ohms
0.25 mW
-1 dBr

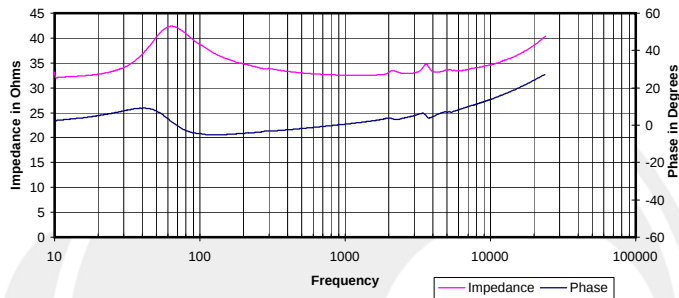
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



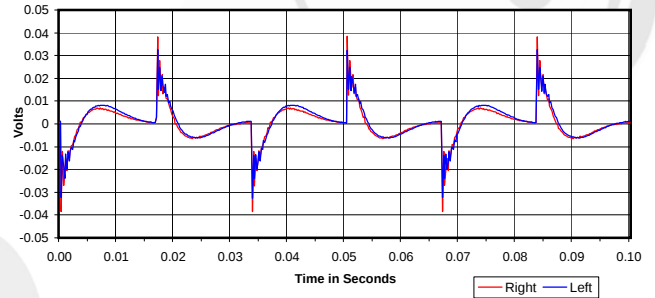
Isolation
Attenuation of External Sound vs. Frequency



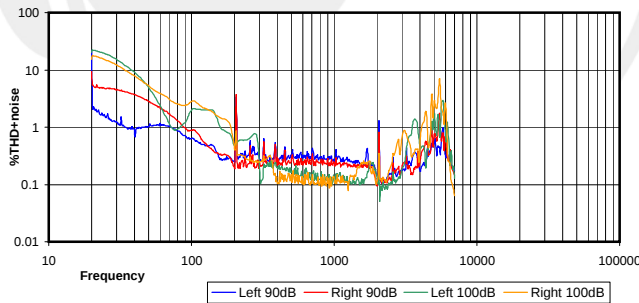
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



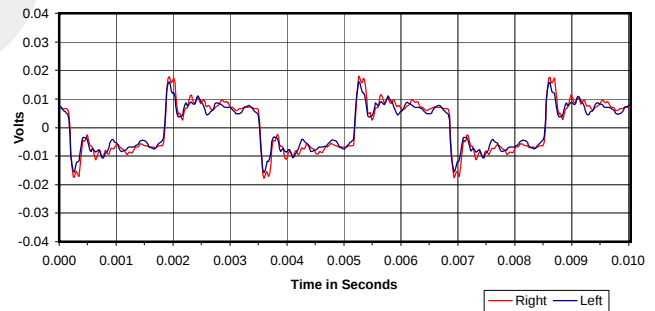
30 Hz Square Wave



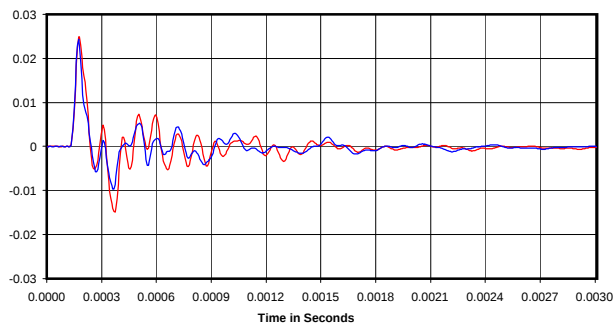
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



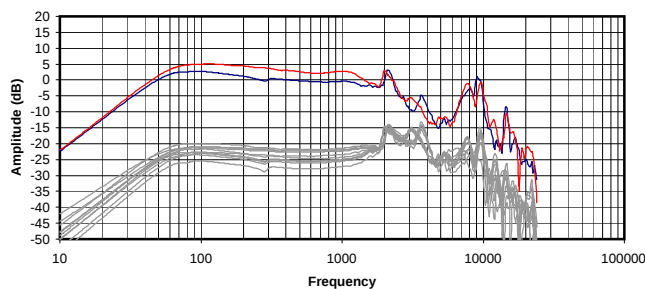
Impulse Response



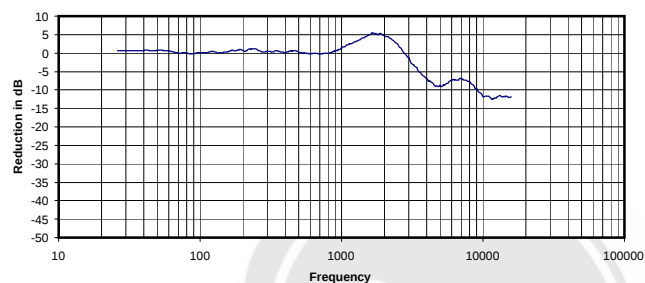
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.063 Vrms
33 Ohms
0.12 mW
-2 dBr

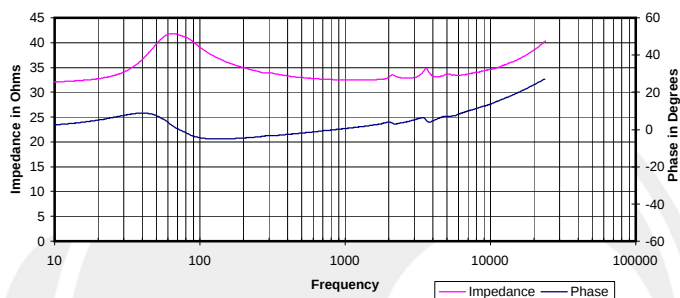
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



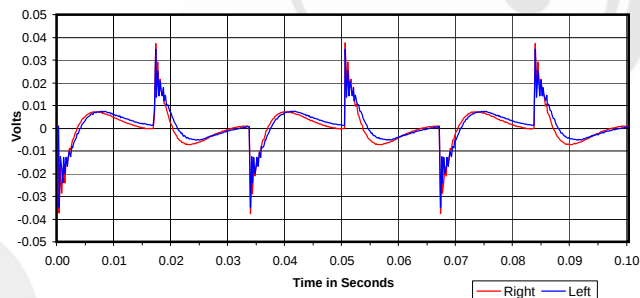
Isolation
Attenuation of External Sound vs. Frequency



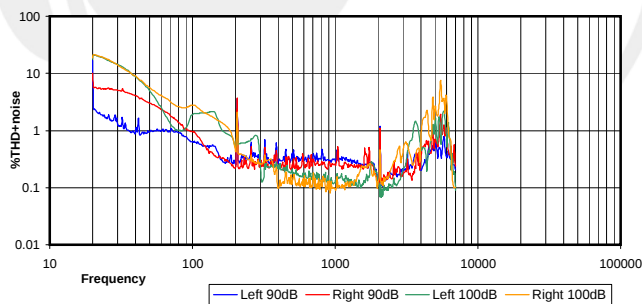
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



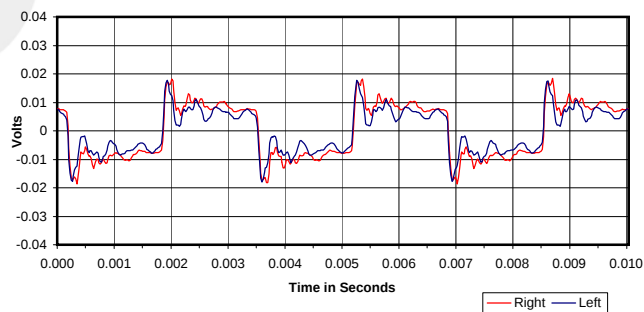
30 Hz Square Wave



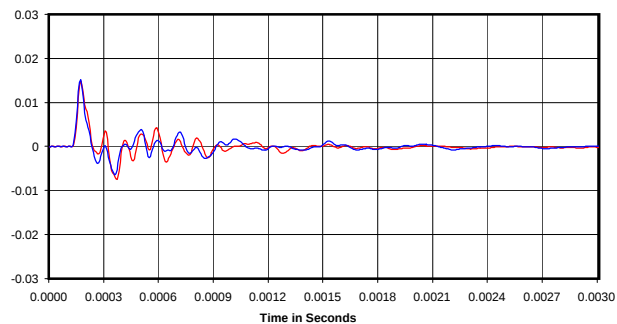
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



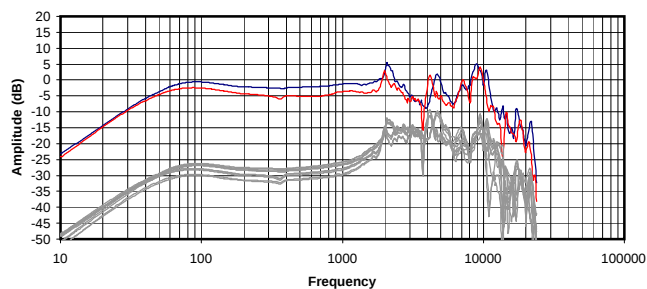
Impulse Response



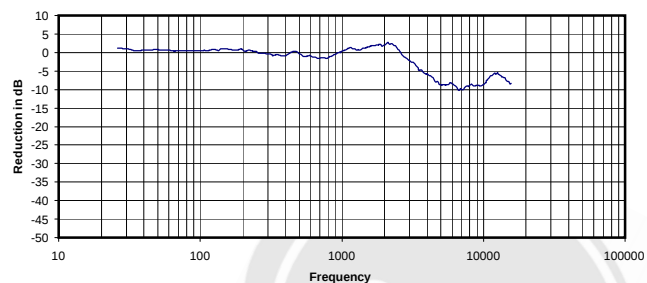
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.069 Vrms
32 Ohms
0.14 mW
0 dBr

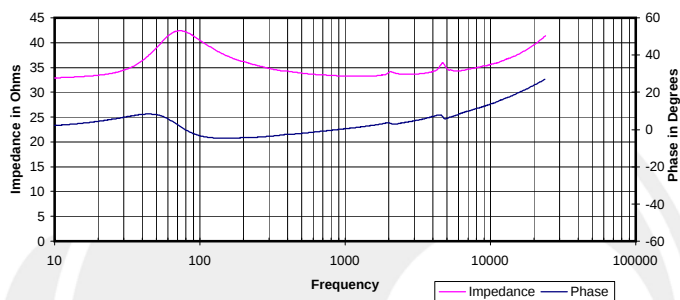
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



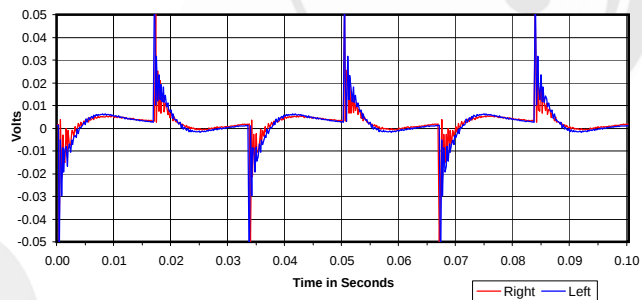
Isolation
Attenuation of External Sound vs. Frequency



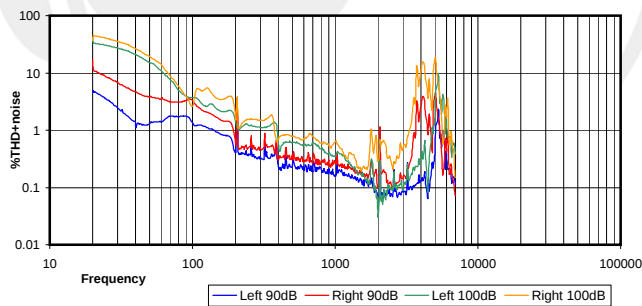
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



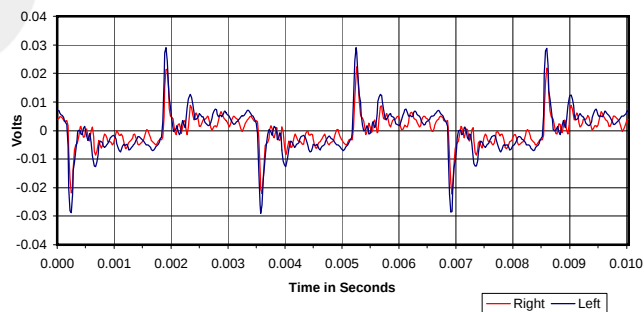
30 Hz Square Wave



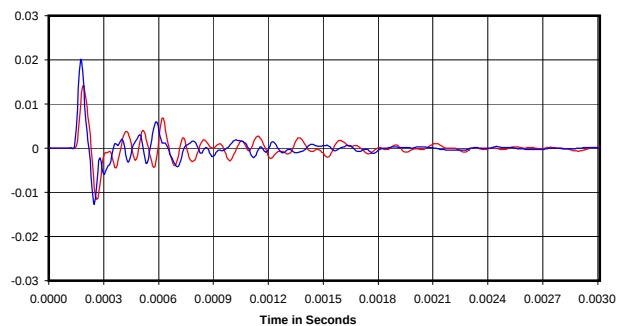
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



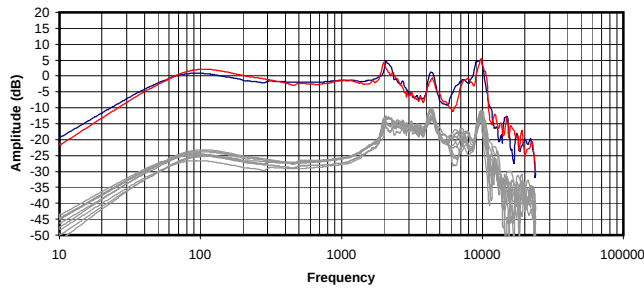
Impulse Response



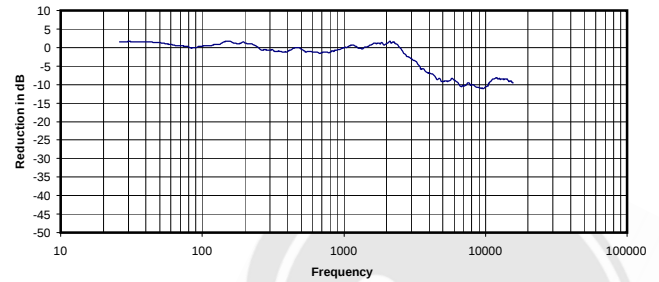
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.120 Vrms
33 Ohms
0.43 mW
-1 dBr

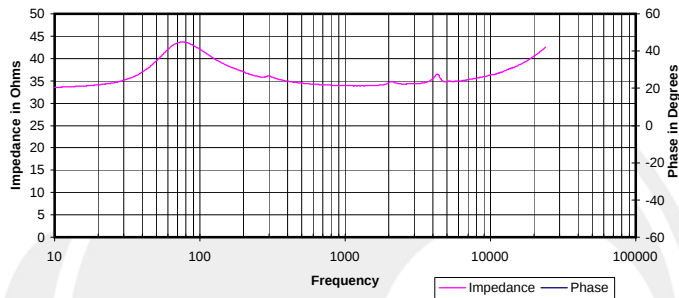
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



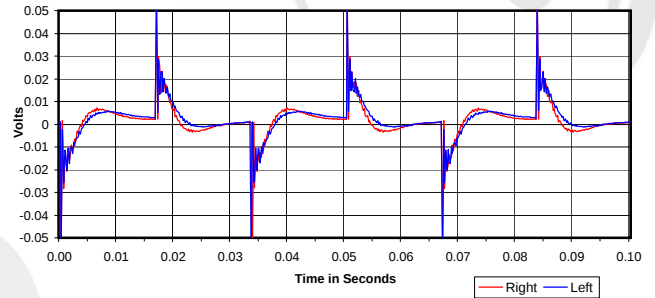
Isolation
Attenuation of External Sound vs. Frequency



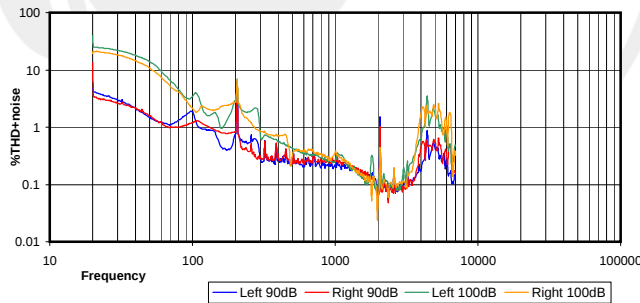
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



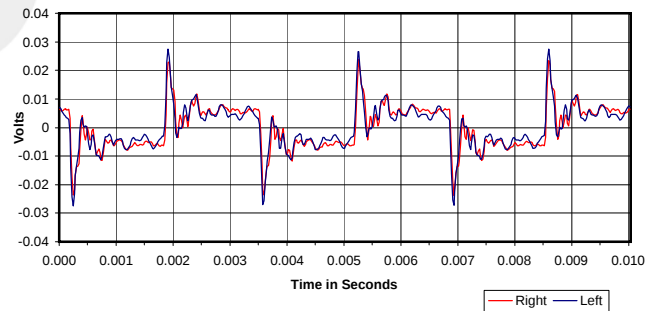
30 Hz Square Wave



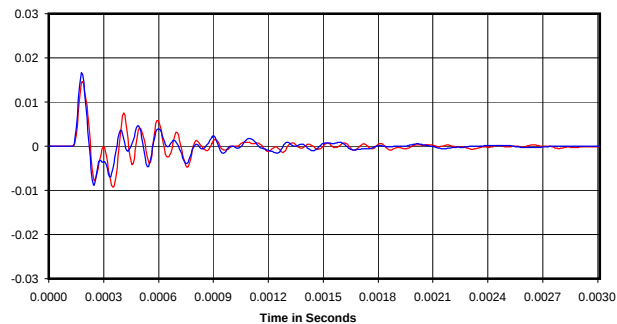
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



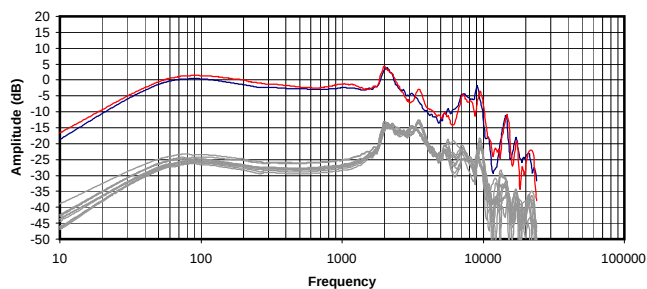
Impulse Response



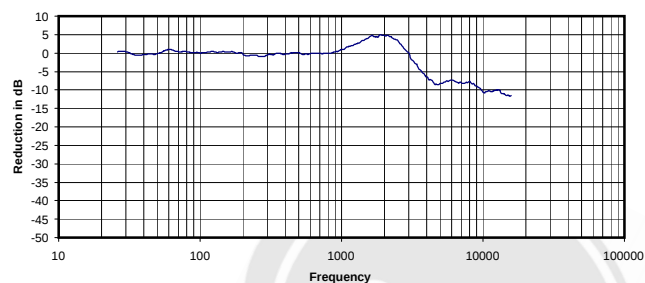
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.112 Vrms
34 Ohms
0.37 mW
-1 dBr

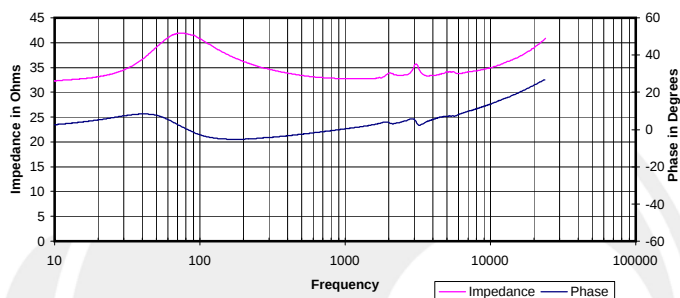
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



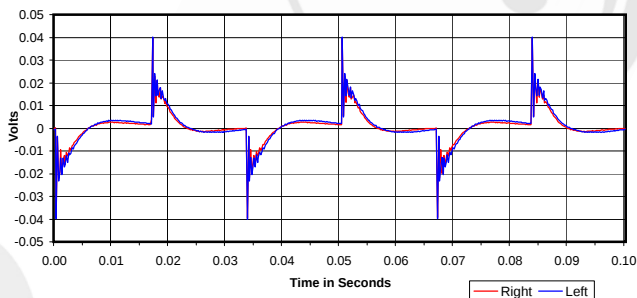
Isolation
Attenuation of External Sound vs. Frequency



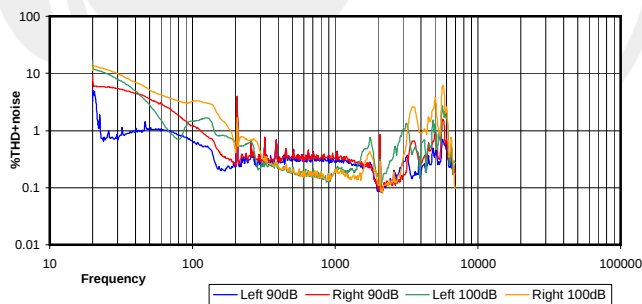
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



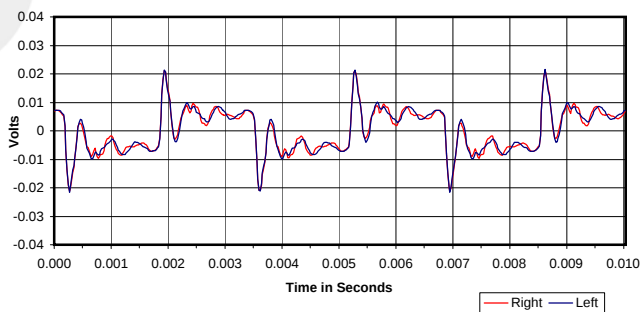
30 Hz Square Wave



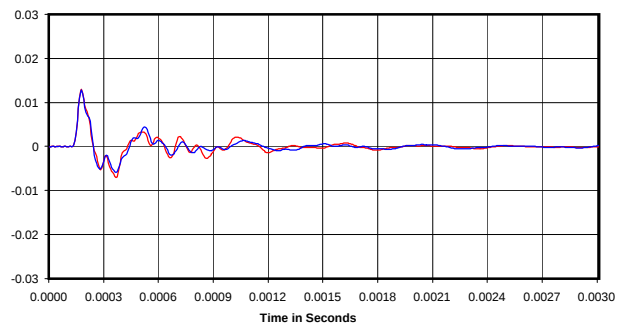
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



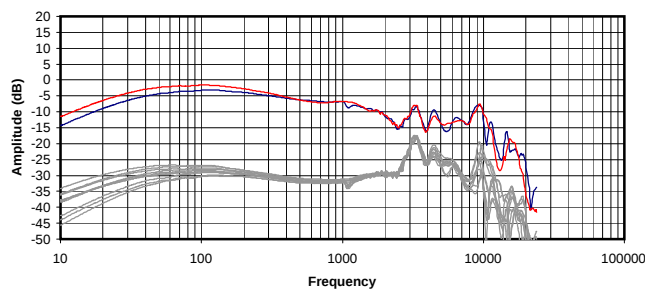
Impulse Response



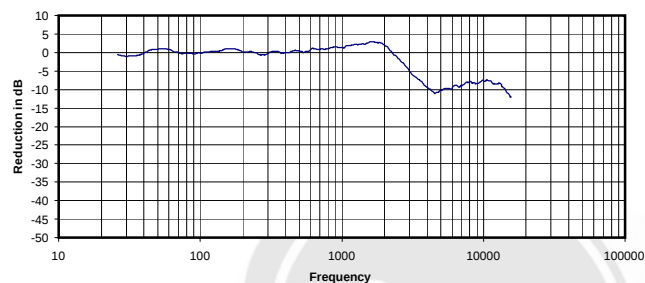
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.088 Vrms
33 Ohms
0.24 mW
0 dBr

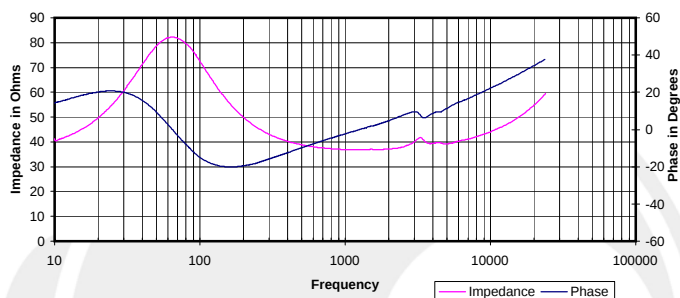
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



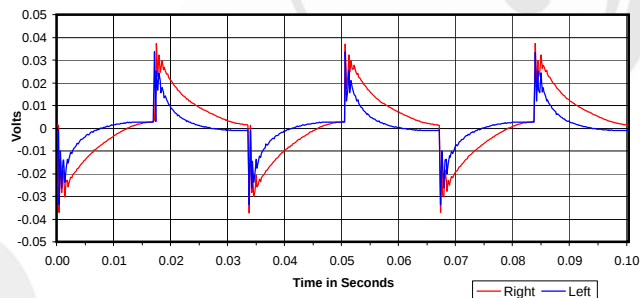
Isolation
Attenuation of External Sound vs. Frequency



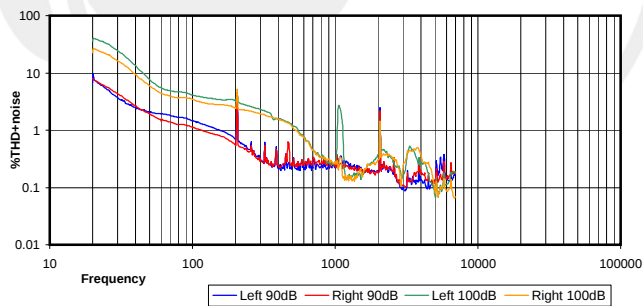
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



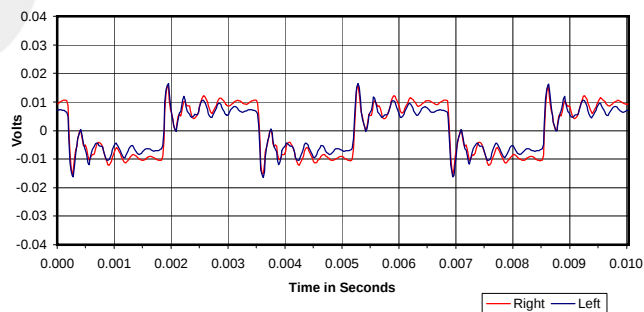
30 Hz Square Wave



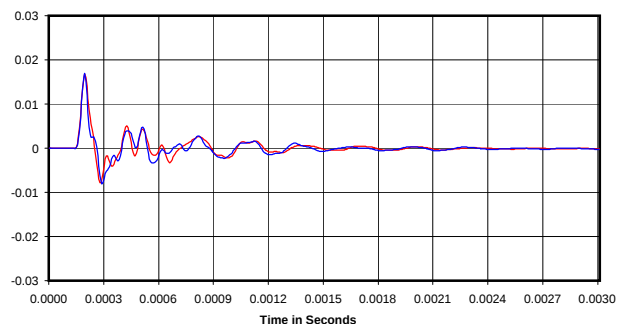
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



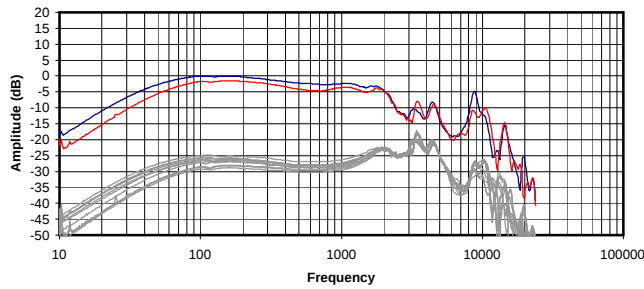
Impulse Response



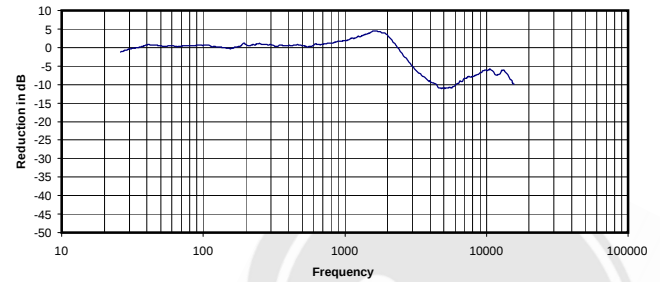
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.119 Vrms
37 Ohms
0.38 mW
-1 dBr

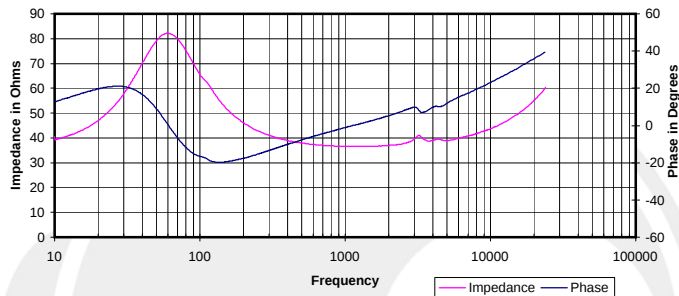
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



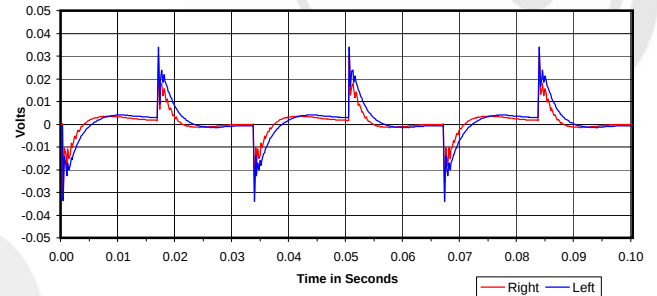
Isolation
Attenuation of External Sound vs. Frequency



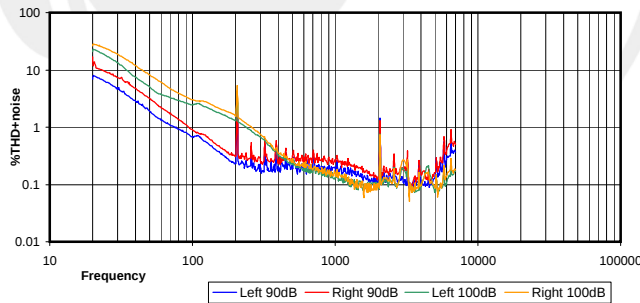
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



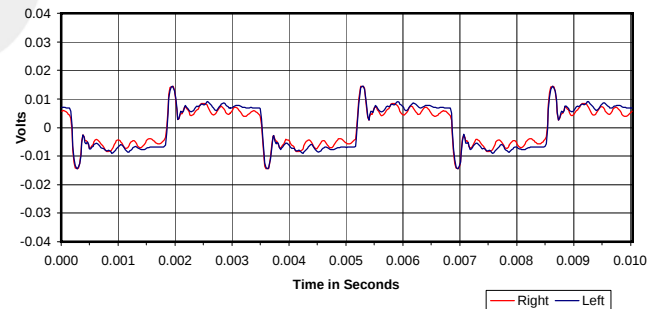
30 Hz Square Wave



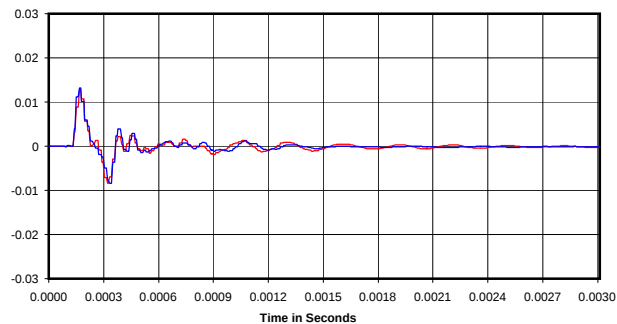
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



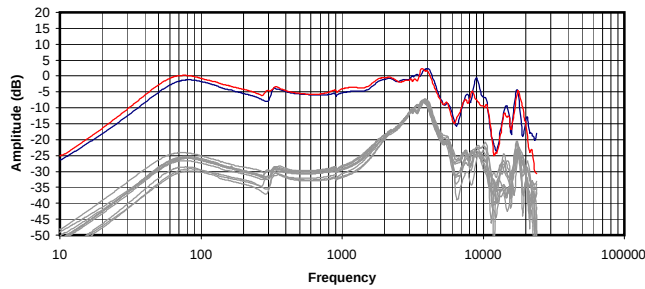
Impulse Response



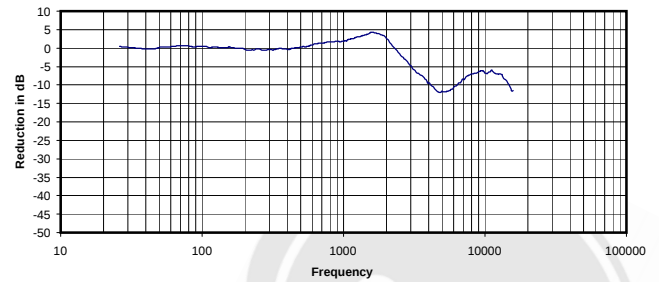
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.054 Vrms
37 Ohms
0.08 mW
-1 dBr

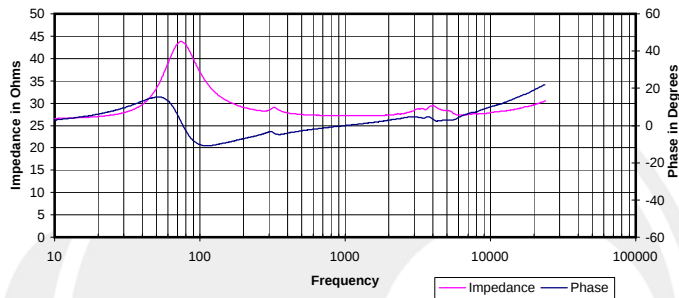
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



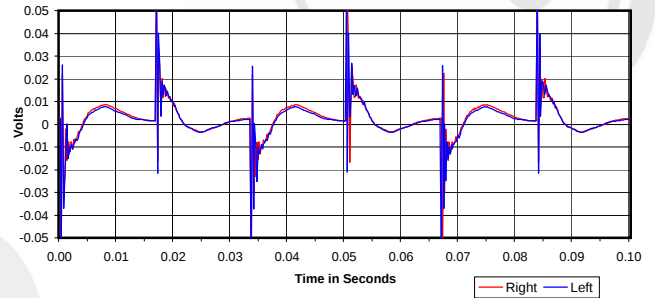
Isolation
Attenuation of External Sound vs. Frequency



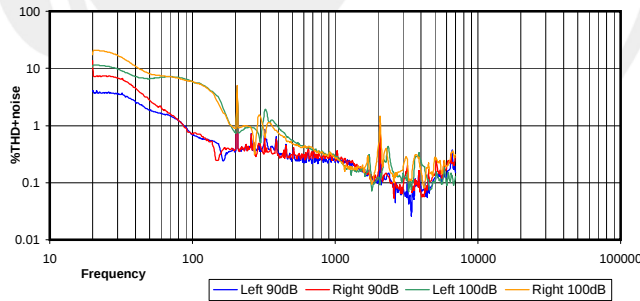
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



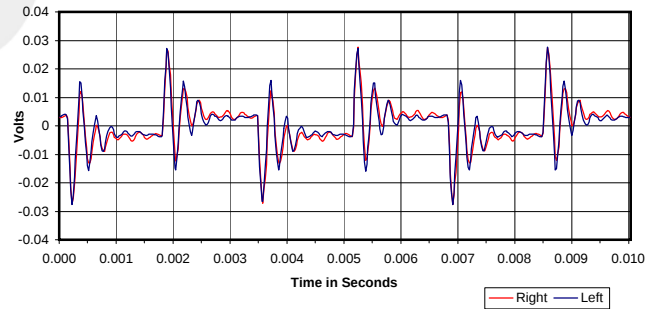
30 Hz Square Wave



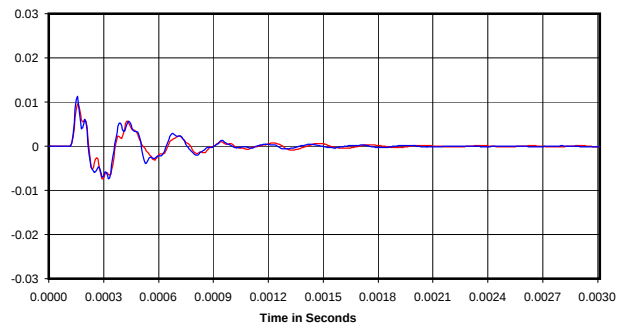
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



Impulse Response



Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

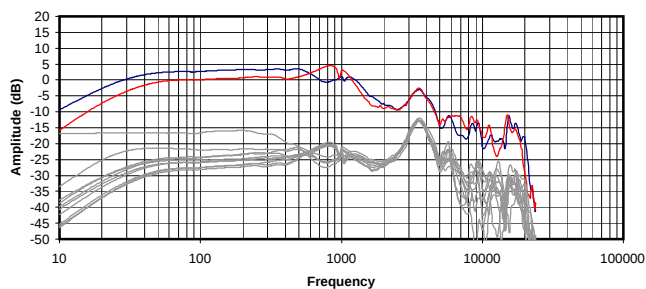
0.071 Vrms
27 Ohms
0.19 mW
-1 dBr

Headphone Measurement Datasheets

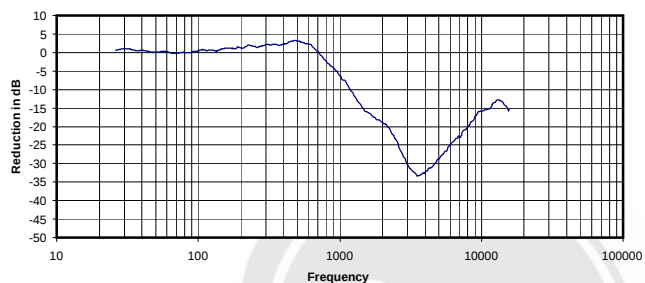
Earpad Sealed



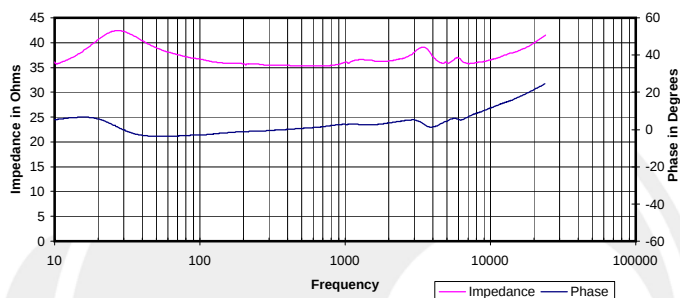
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



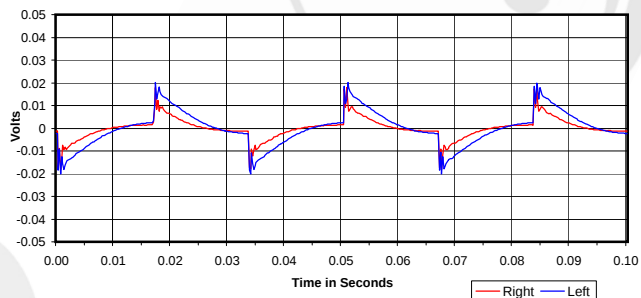
Isolation
Attenuation of External Sound vs. Frequency



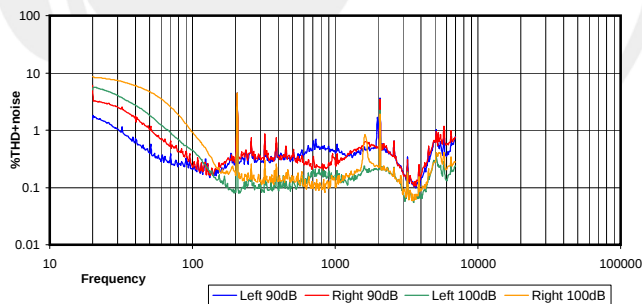
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



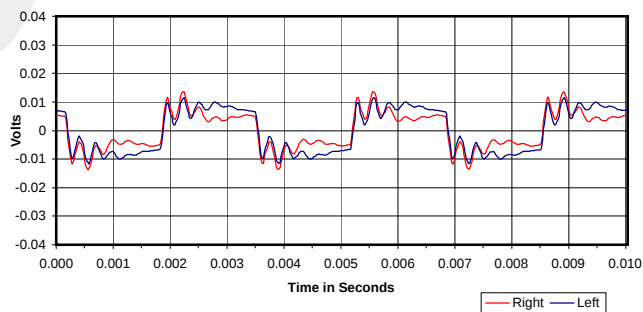
30 Hz Square Wave



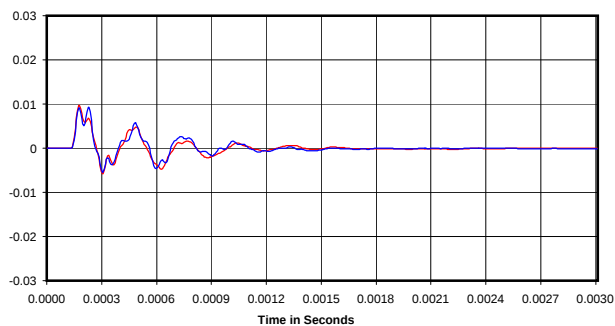
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



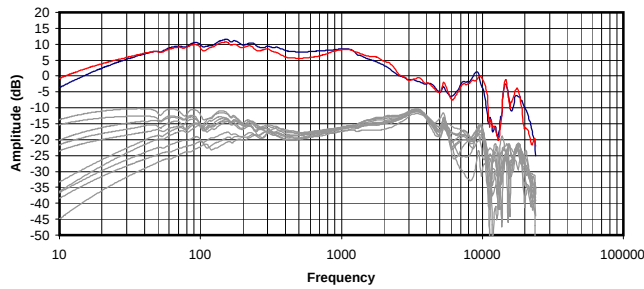
Impulse Response



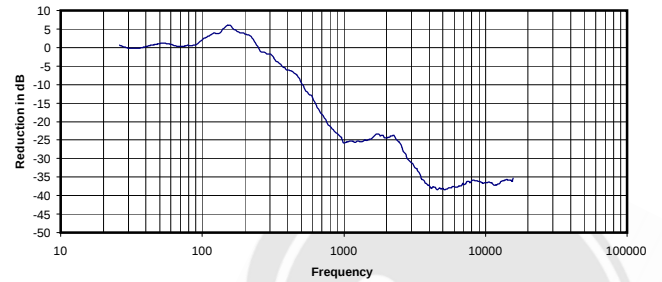
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.024 Vrms
36 Ohms
0.02 mW
-9 dBr

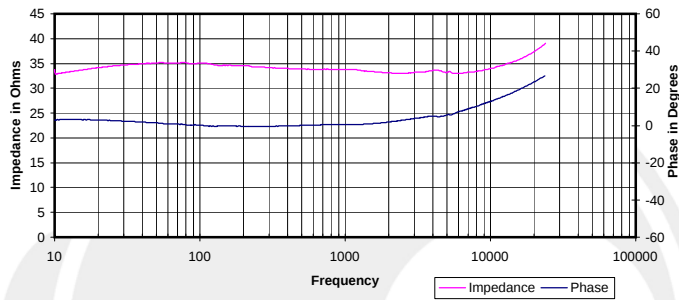
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



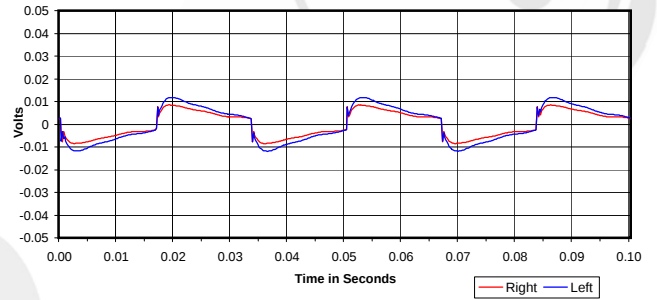
Isolation
Attenuation of External Sound vs. Frequency



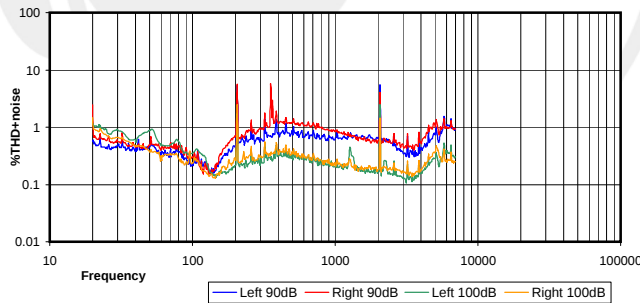
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



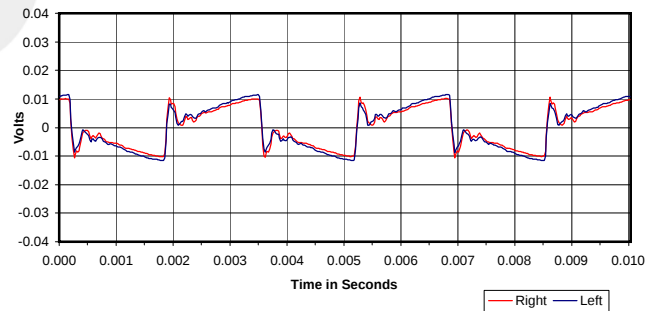
30 Hz Square Wave



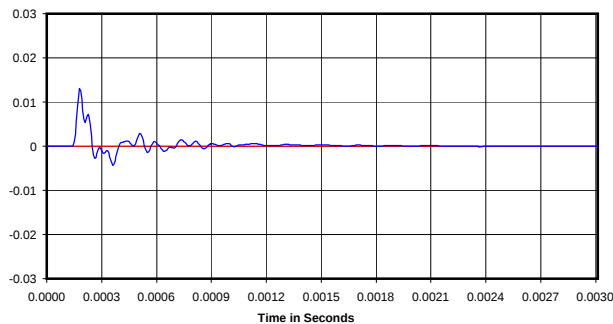
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



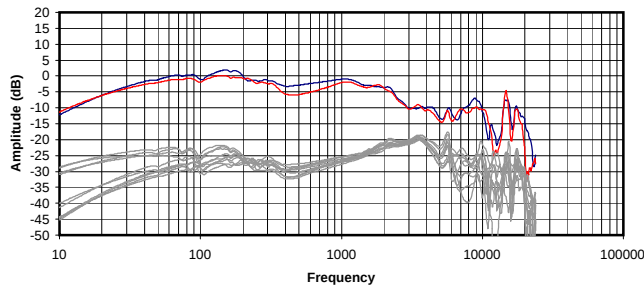
Impulse Response



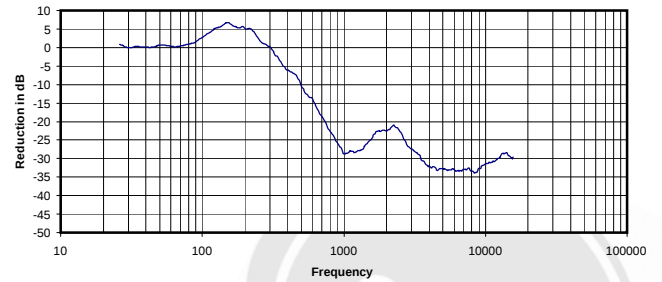
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.056 Vrms
34 Ohms
0.09 mW
-16 dBr

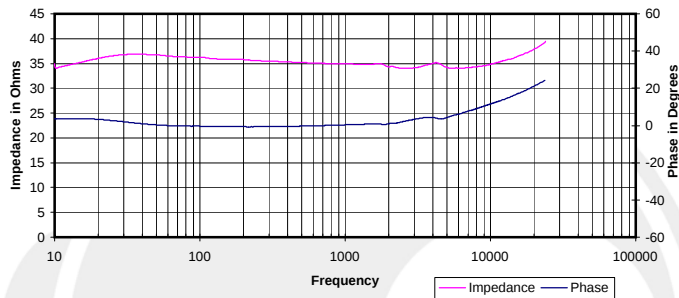
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



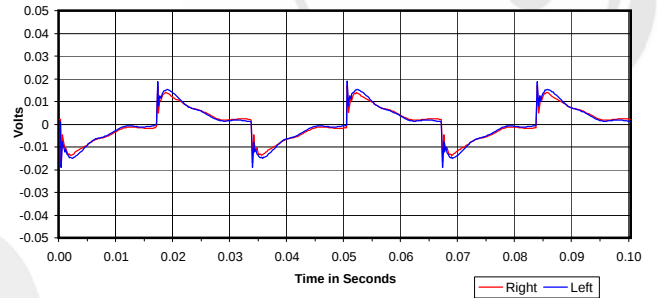
Isolation
Attenuation of External Sound vs. Frequency



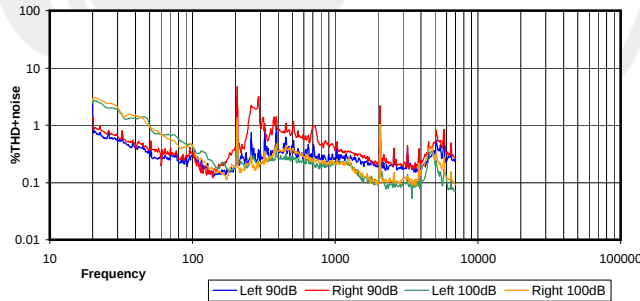
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



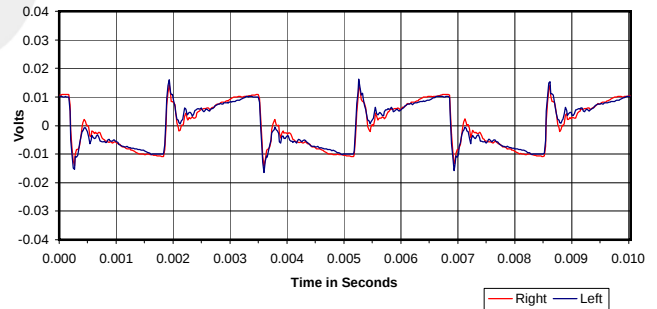
30 Hz Square Wave



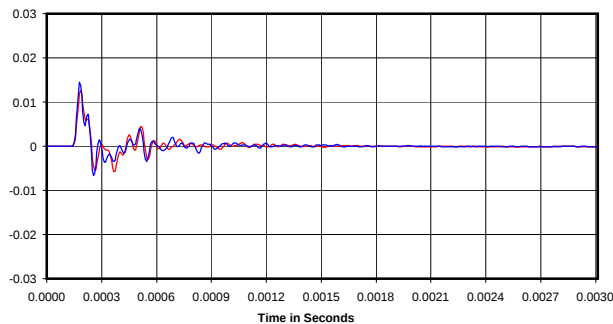
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



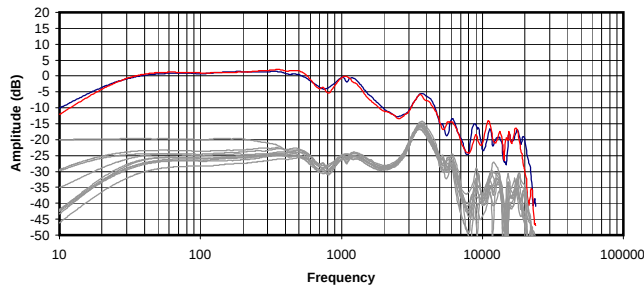
Impulse Response



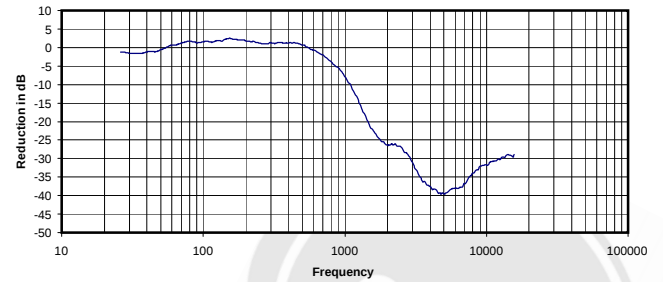
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.060 Vrms
35 Ohms
0.10 mW
-15 dBr

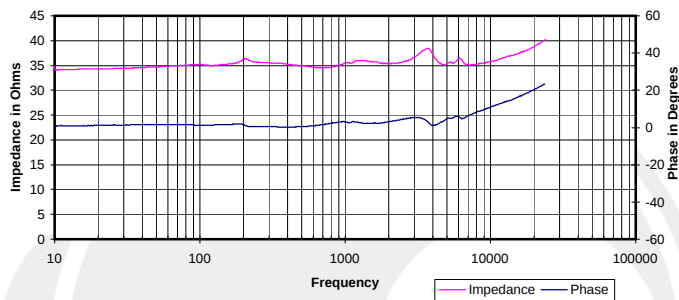
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



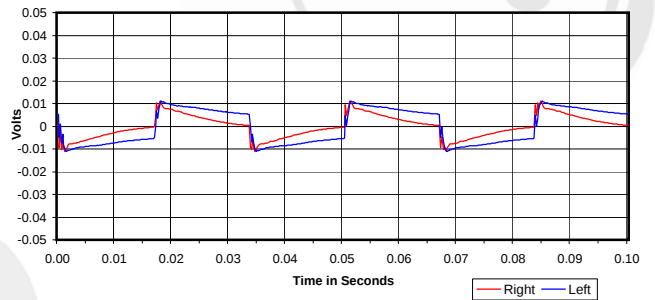
Isolation
Attenuation of External Sound vs. Frequency



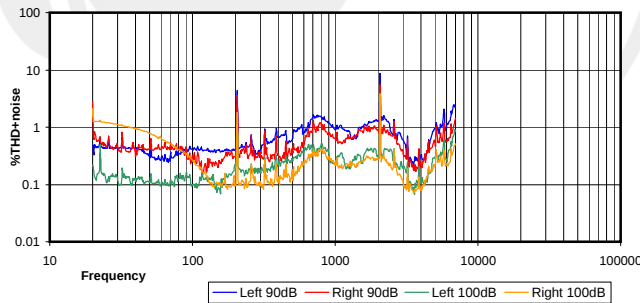
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



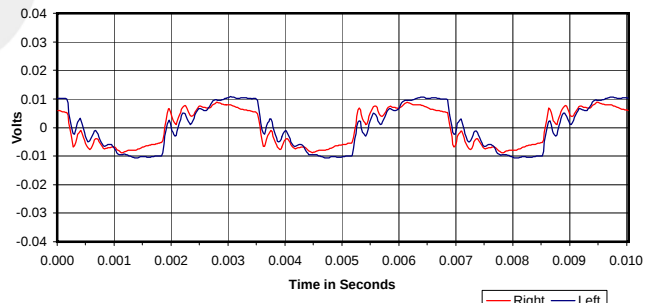
30 Hz Square Wave



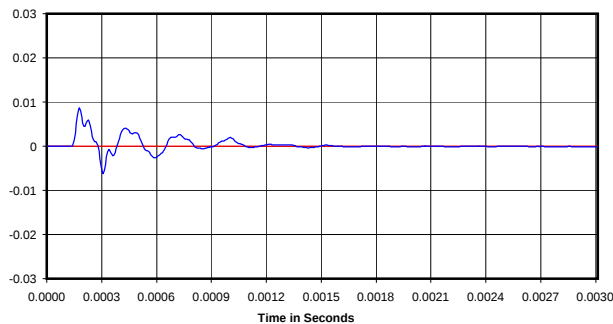
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



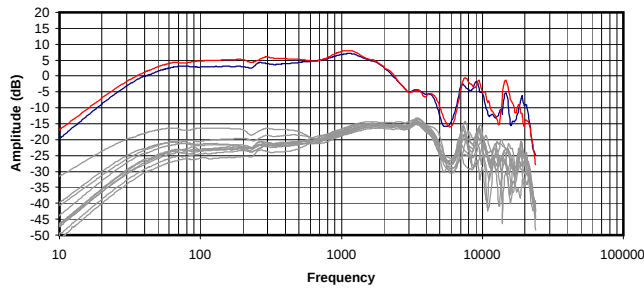
Impulse Response



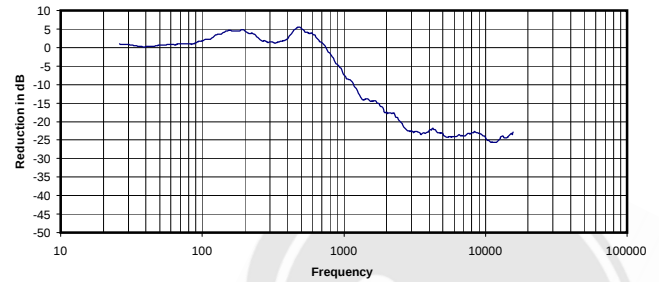
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.023 Vrms
35 Ohms
0.01 mW
-12 dBr

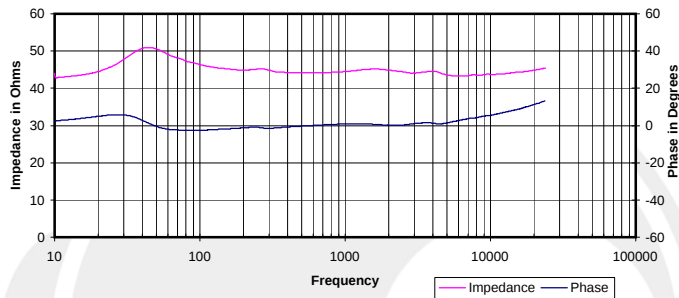
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



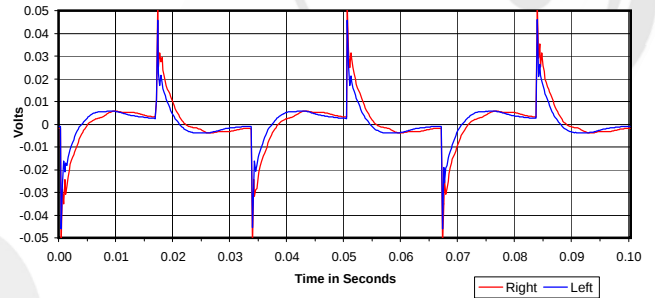
Isolation
Attenuation of External Sound vs. Frequency



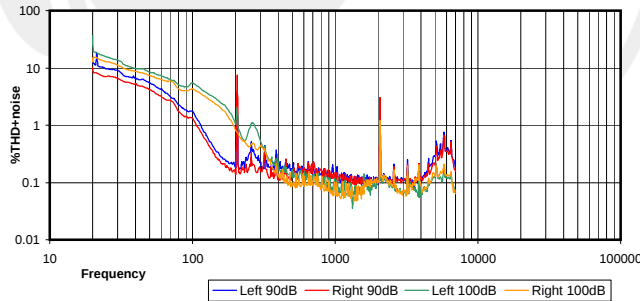
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



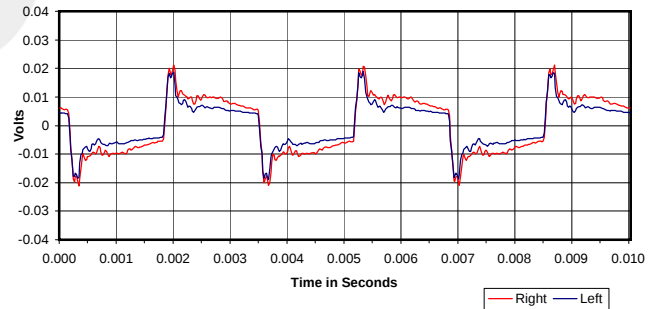
30 Hz Square Wave



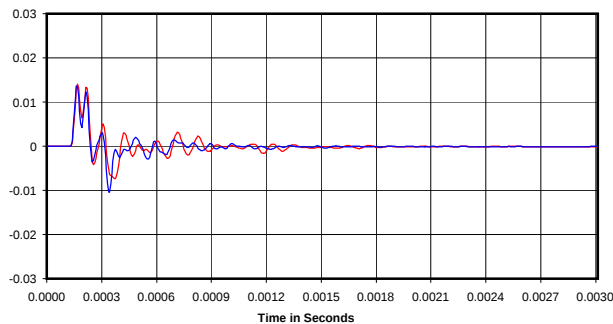
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



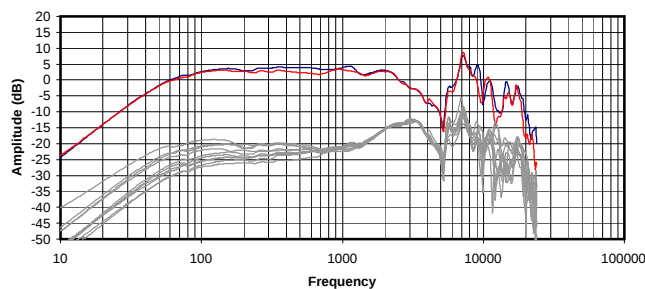
Impulse Response



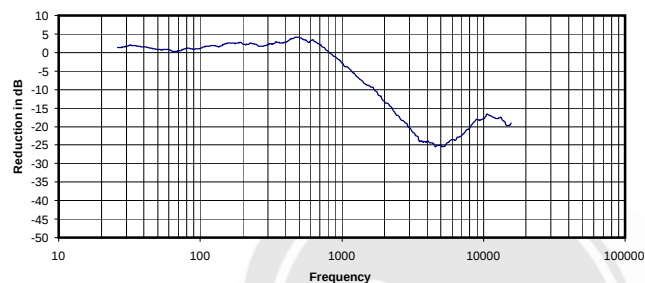
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.043 Vrms
44 Ohms
0.04 mW
-7 dBr

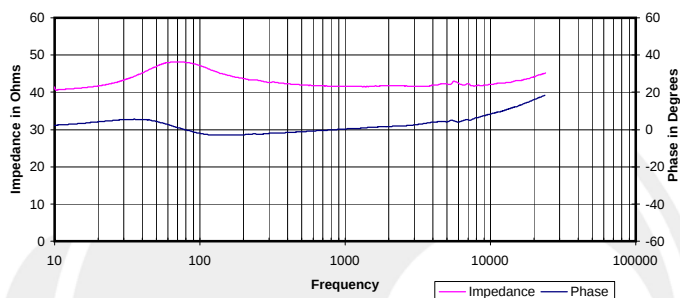
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



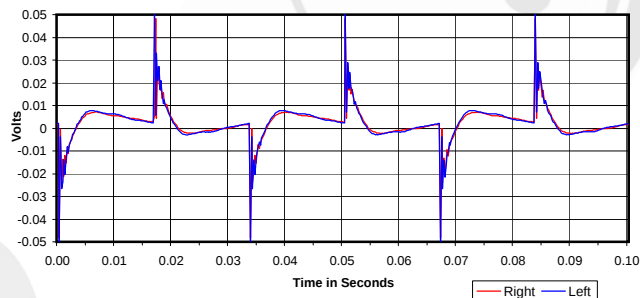
Isolation
Attenuation of External Sound vs. Frequency



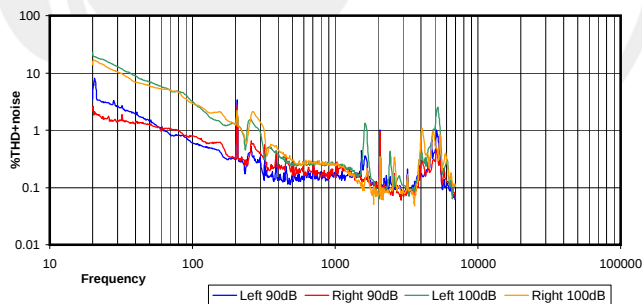
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



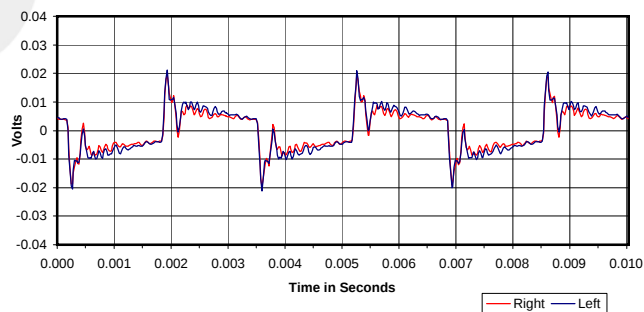
30 Hz Square Wave



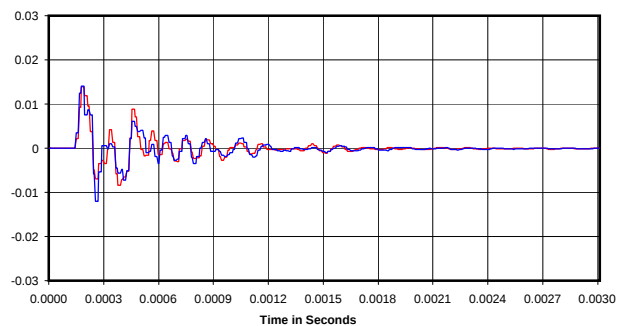
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



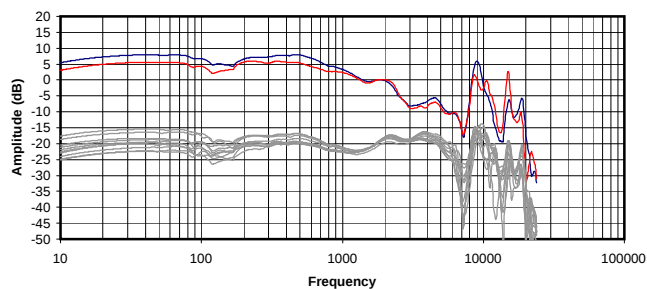
Impulse Response



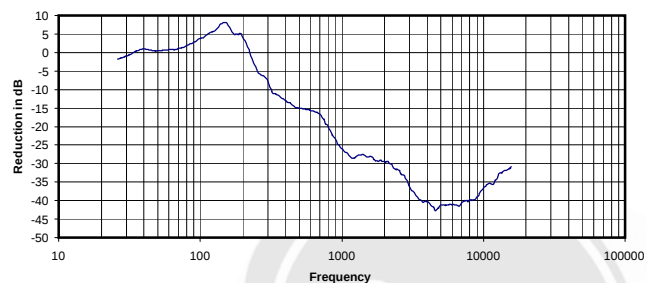
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.074 Vrms
42 Ohms
0.13 mW
-6 dBr

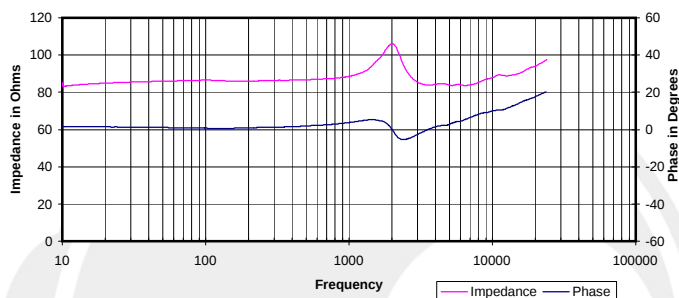
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



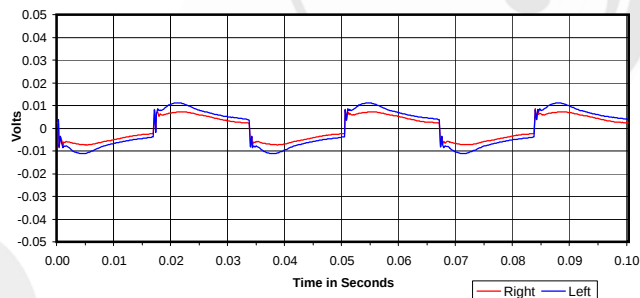
Isolation
Attenuation of External Sound vs. Frequency



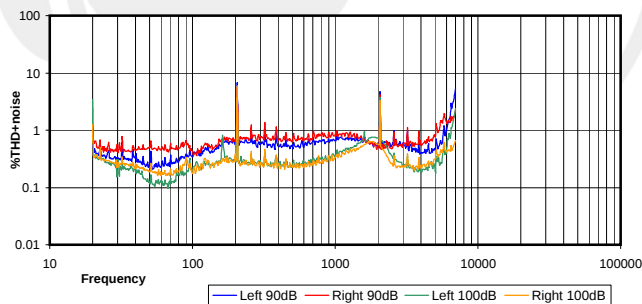
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



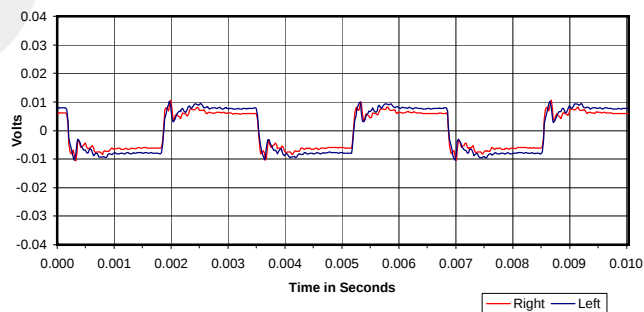
30 Hz Square Wave



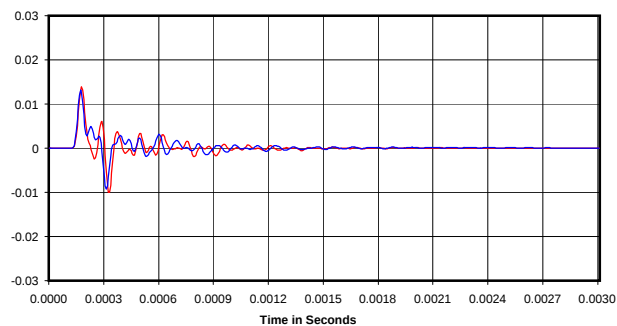
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



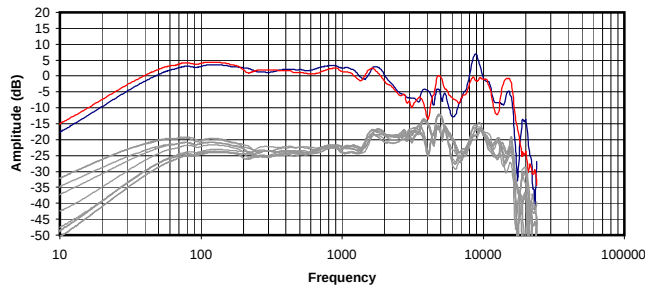
Impulse Response



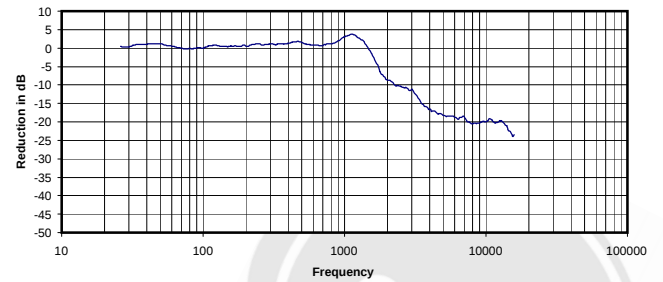
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.051 Vrms
89 Ohms
0.03 mW
-19 dBr

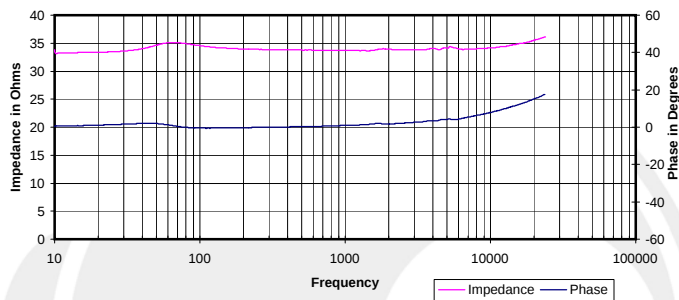
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



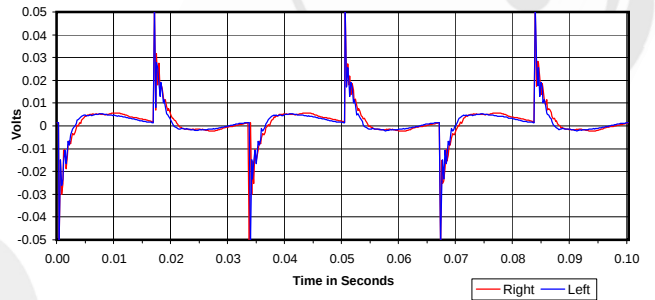
Isolation
Attenuation of External Sound vs. Frequency



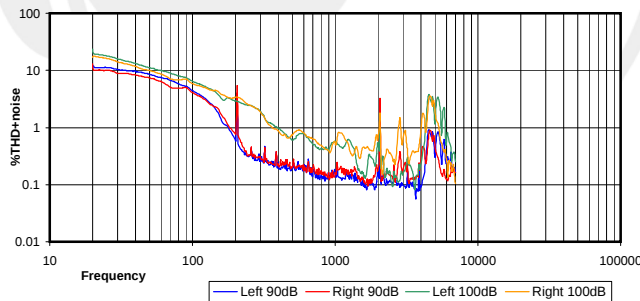
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



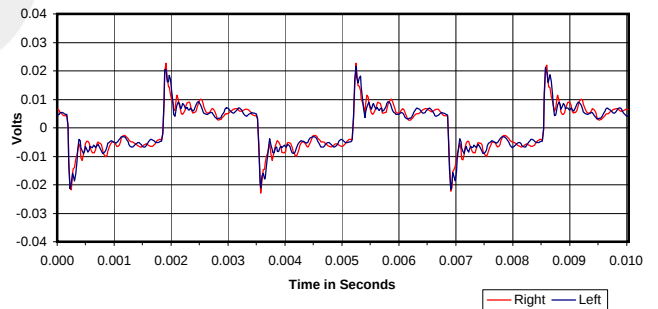
30 Hz Square Wave



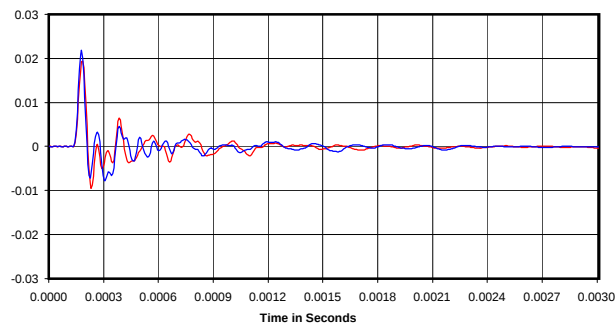
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



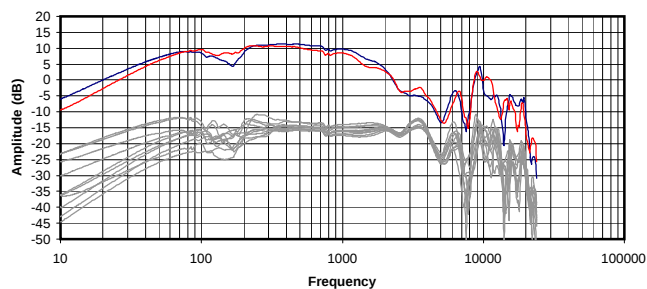
Impulse Response



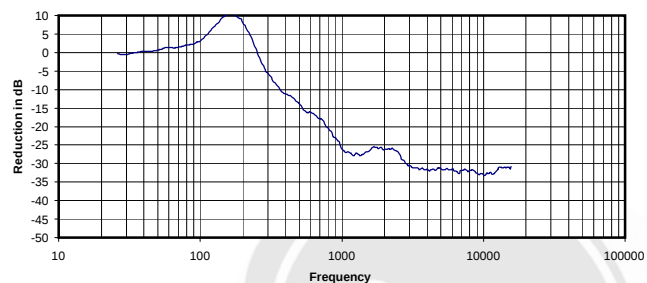
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.099 Vrms
34 Ohms
0.29 mW
-3 dBr

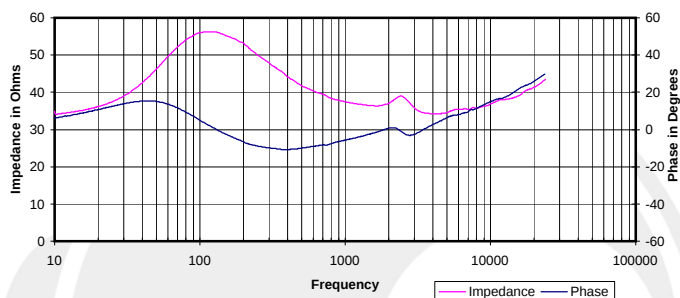
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



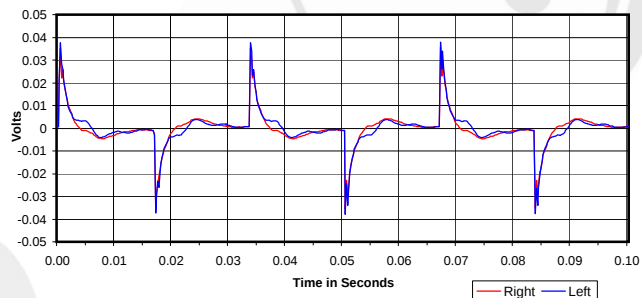
Isolation
Attenuation of External Sound vs. Frequency



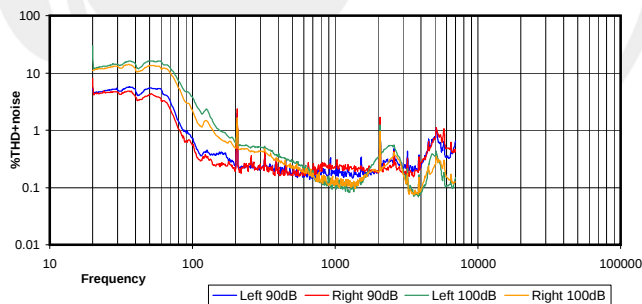
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



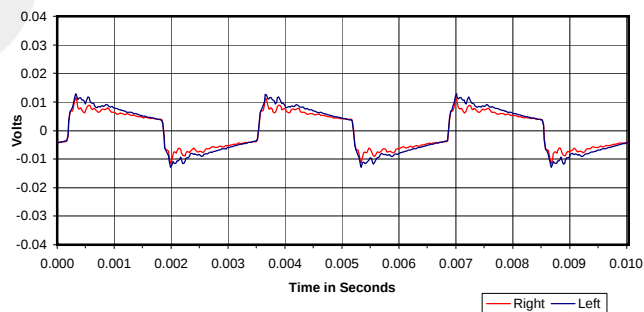
30 Hz Square Wave



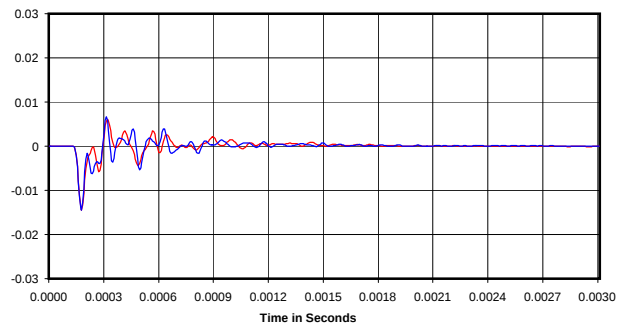
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



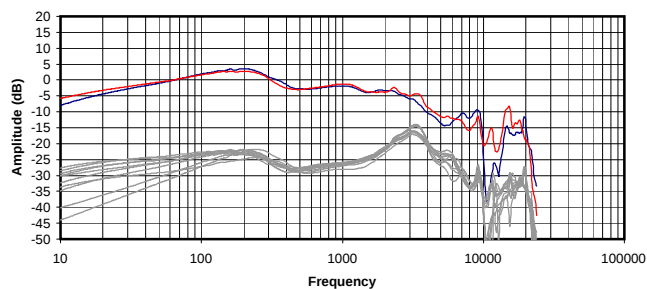
Impulse Response



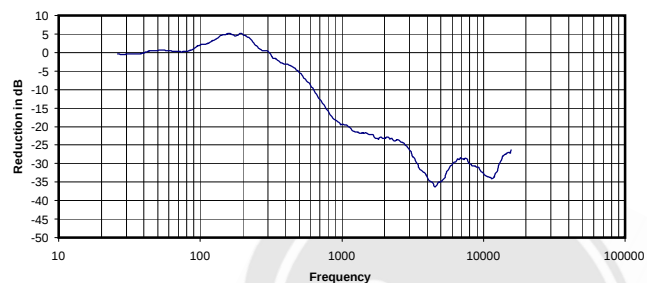
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.020 Vrms
37 Ohms
0.01 mW
-15 dB

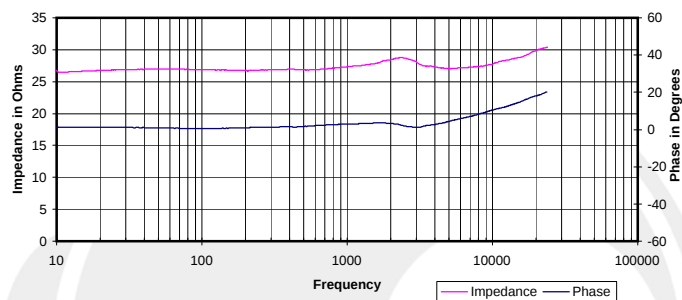
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



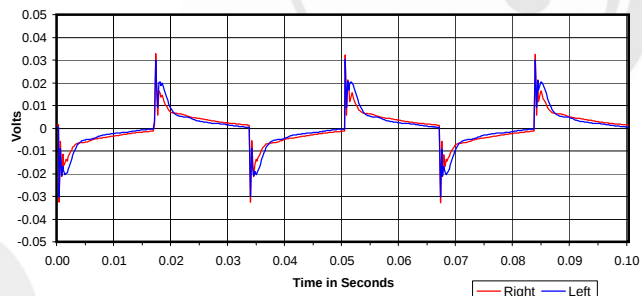
Isolation
Attenuation of External Sound vs. Frequency



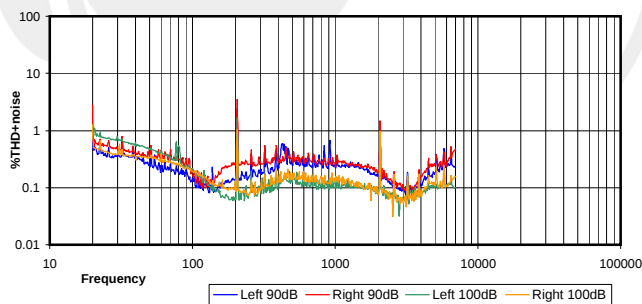
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



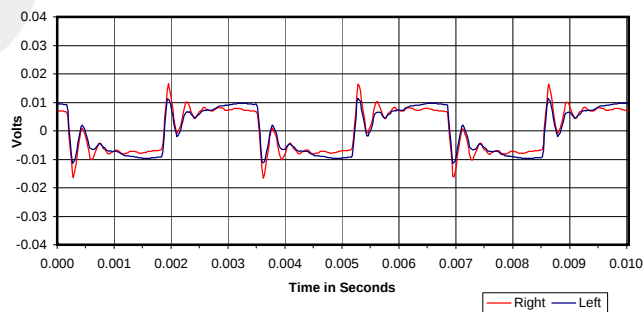
30 Hz Square Wave



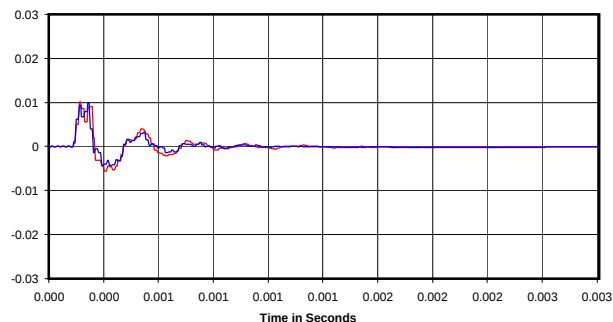
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



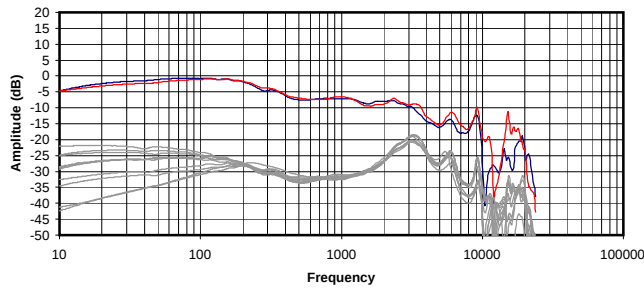
Impulse Response



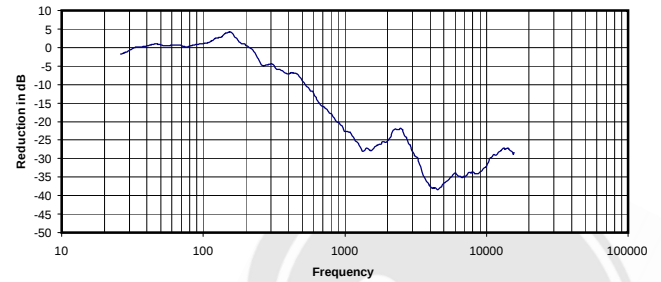
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.039 Vrms
27 Ohms
0.06 mW
-13 dBr

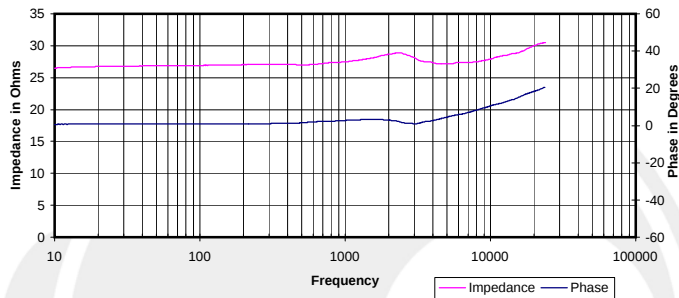
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



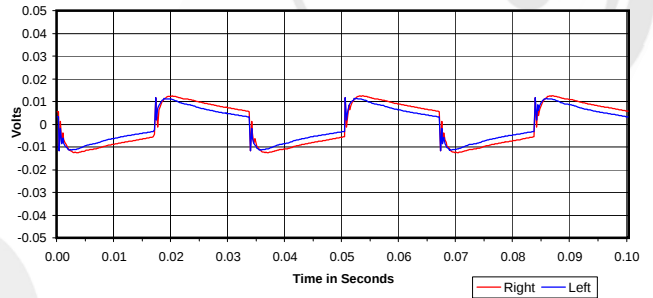
Isolation
Attenuation of External Sound vs. Frequency



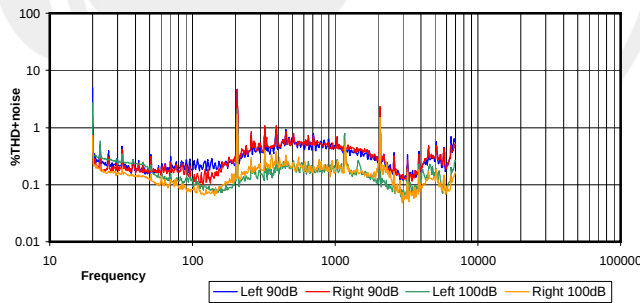
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



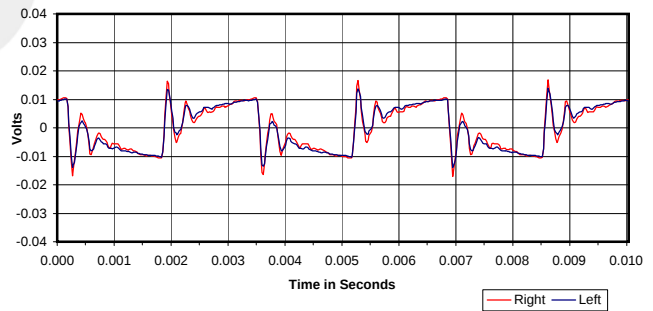
30 Hz Square Wave



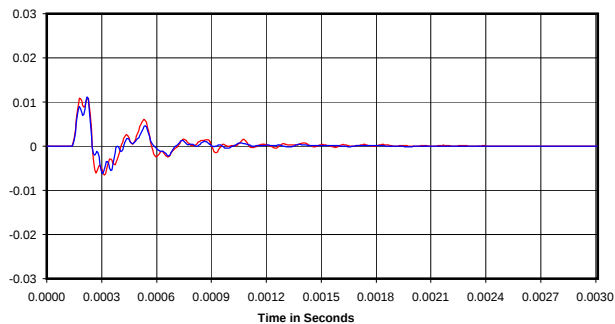
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



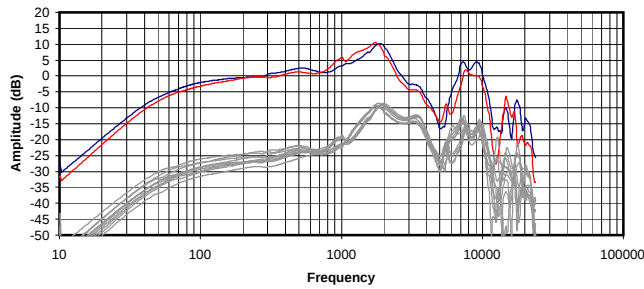
Impulse Response



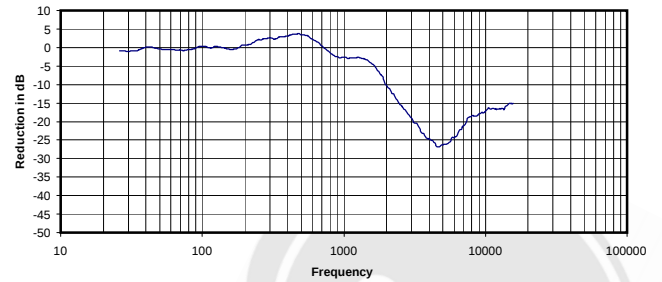
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.051 Vrms
27 Ohms
0.09 mW
-16 dBr

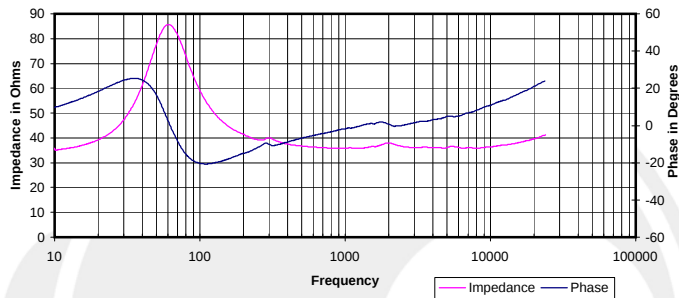
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



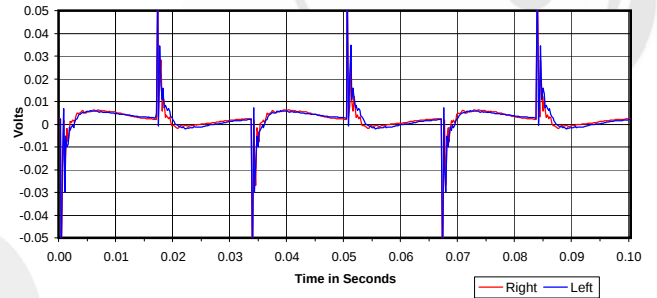
Isolation
Attenuation of External Sound vs. Frequency



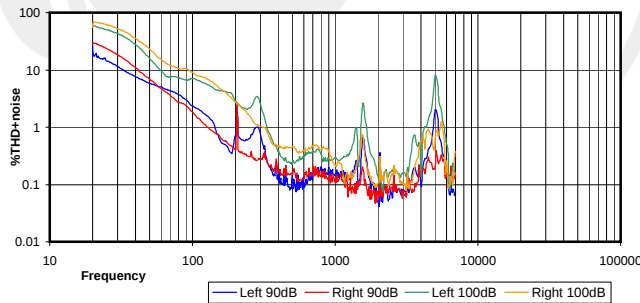
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



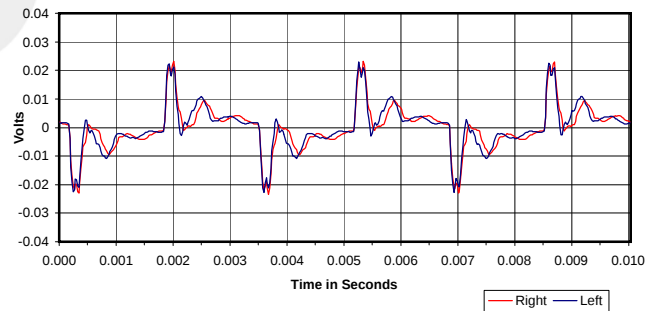
30 Hz Square Wave



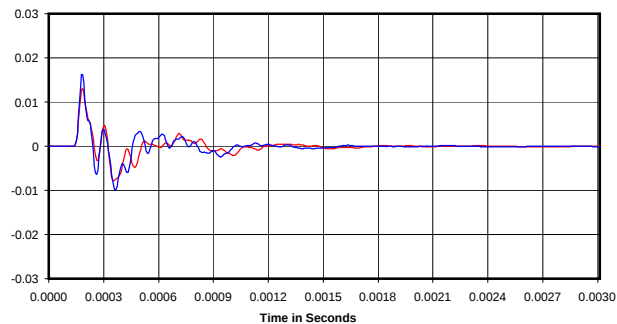
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



Impulse Response



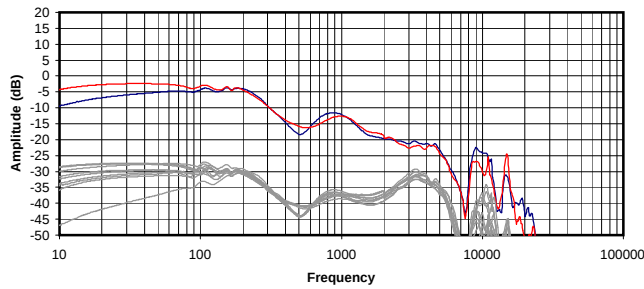
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.047 Vrms
36 Ohms
0.06 mW
-6 dBr

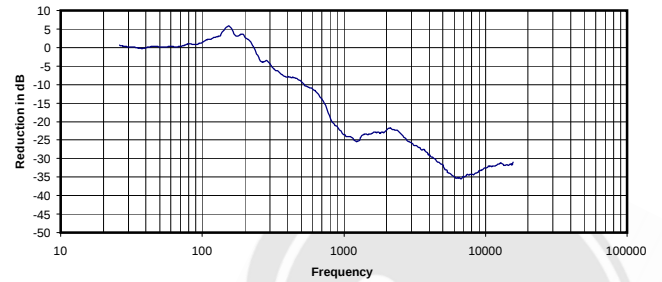


Headphone Measurements: Monster Beats Solo

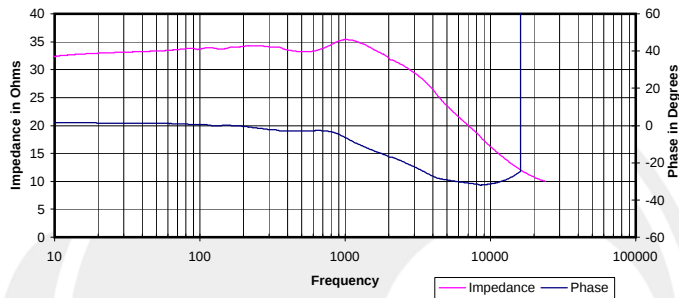
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



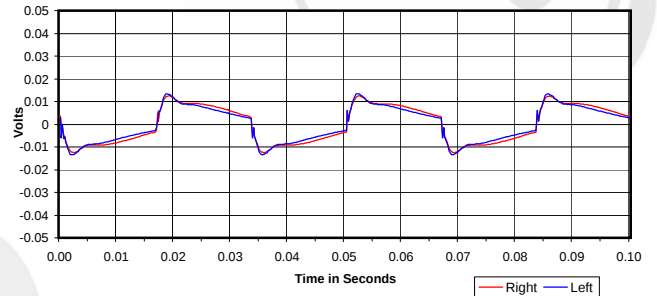
Isolation
Attenuation of External Sound vs. Frequency



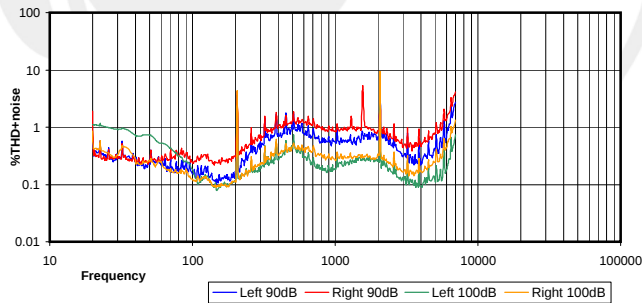
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



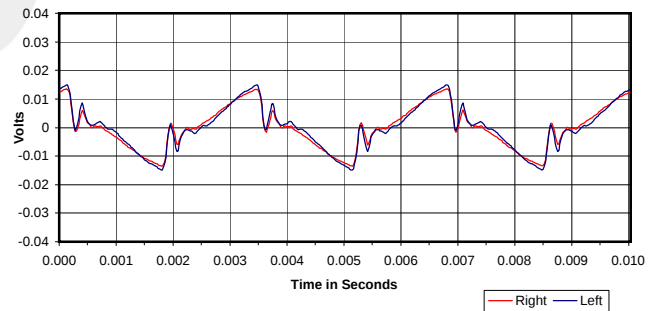
30 Hz Square Wave



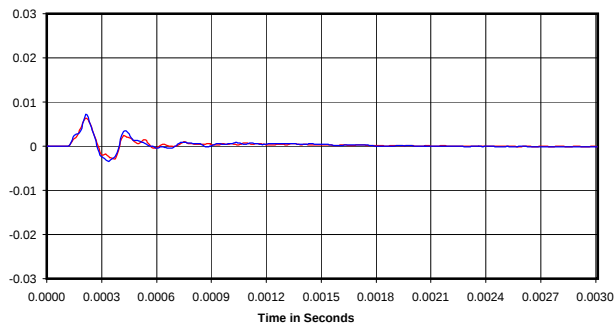
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



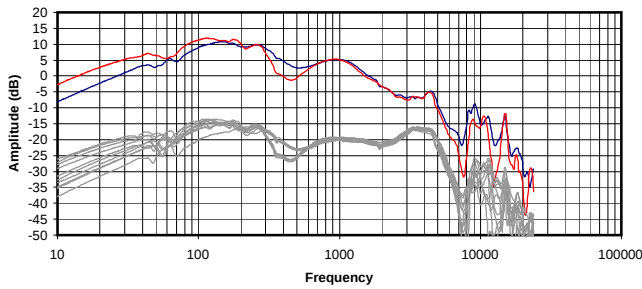
Impulse Response



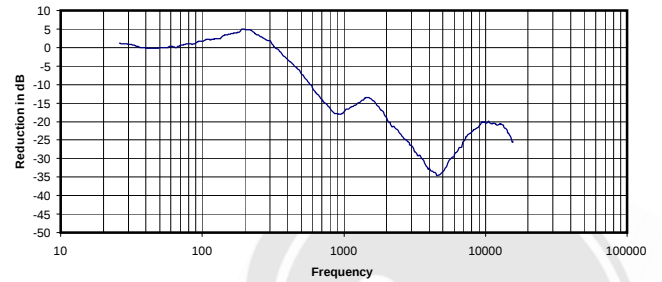
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.038 Vrms
35 Ohms
0.04 mW
-14 dBr

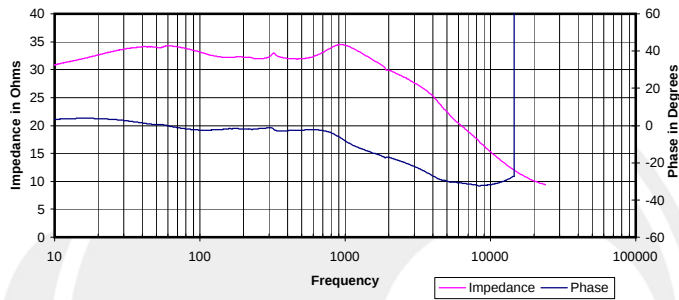
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



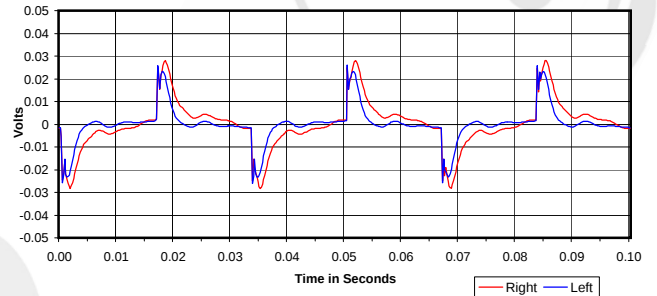
Isolation
Attenuation of External Sound vs. Frequency



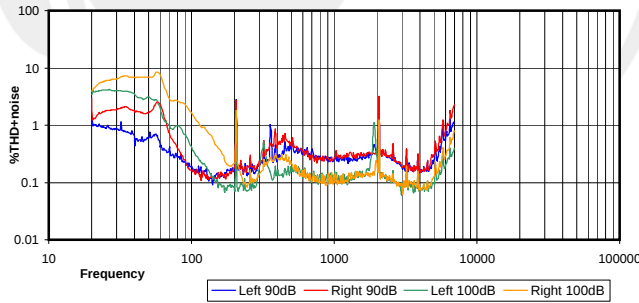
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



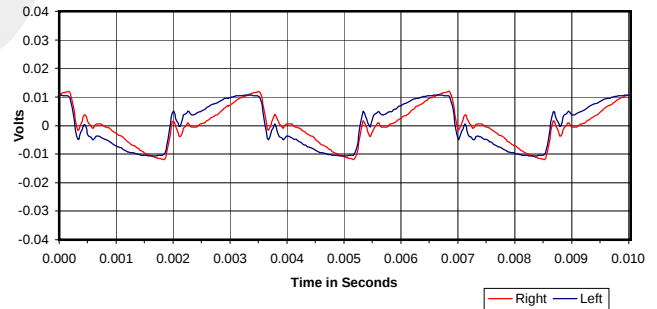
30 Hz Square Wave



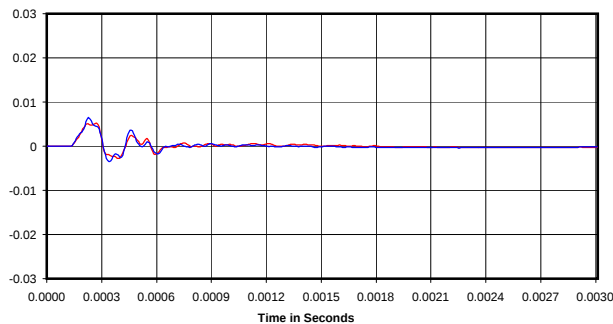
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



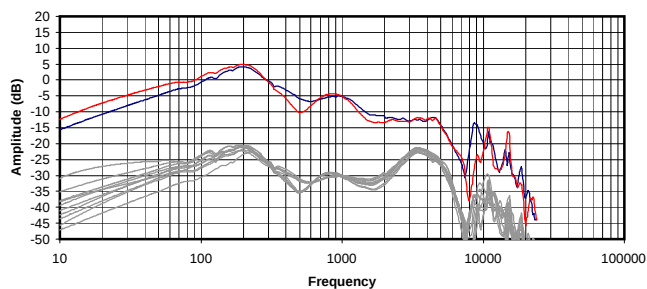
Impulse Response



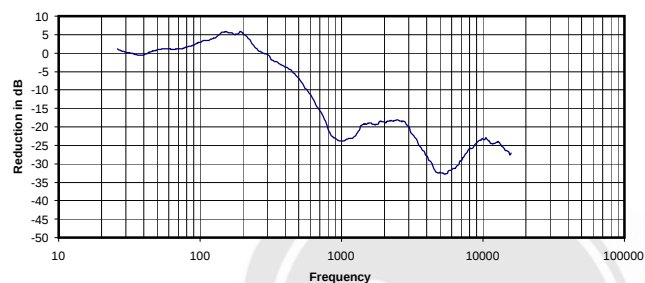
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.033 Vrms
34 Ohms
0.03 mW
-12 dBr

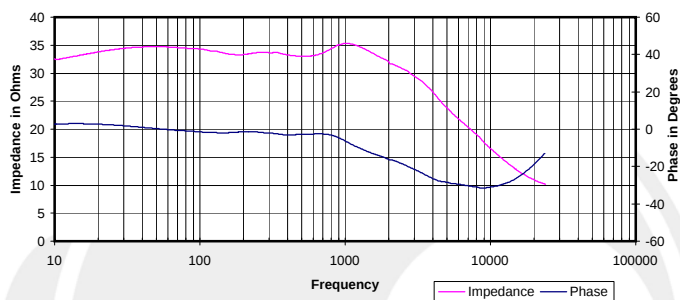
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



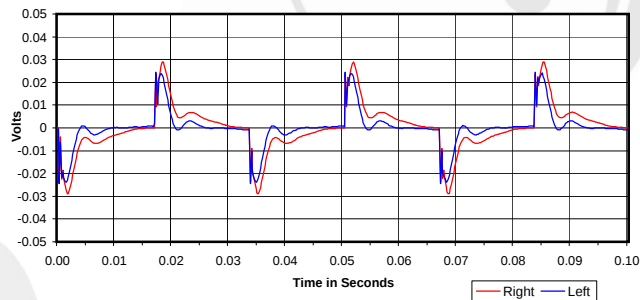
Isolation
Attenuation of External Sound vs. Frequency



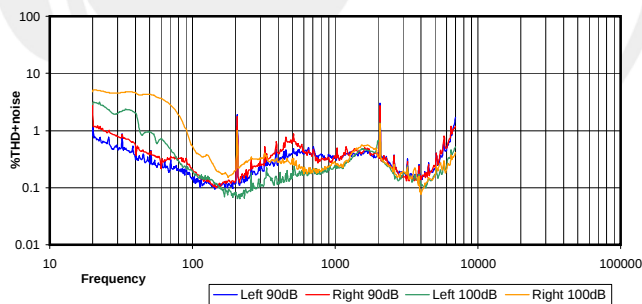
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



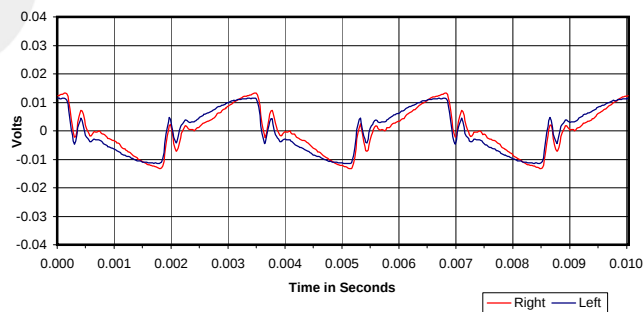
30 Hz Square Wave



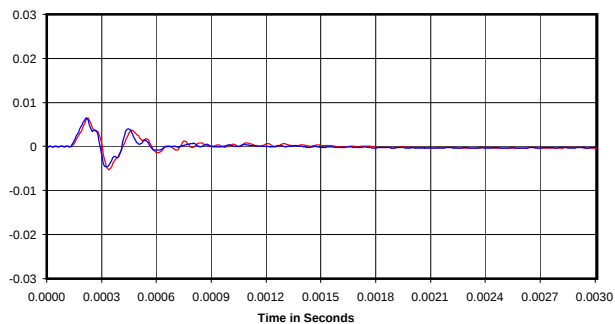
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



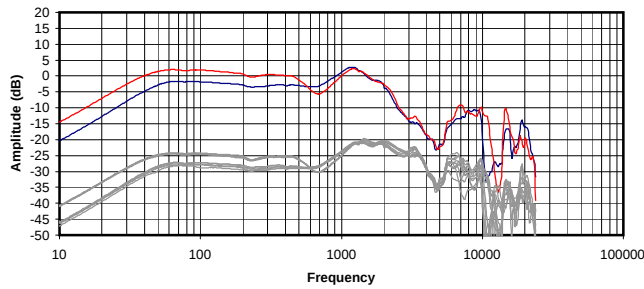
Impulse Response



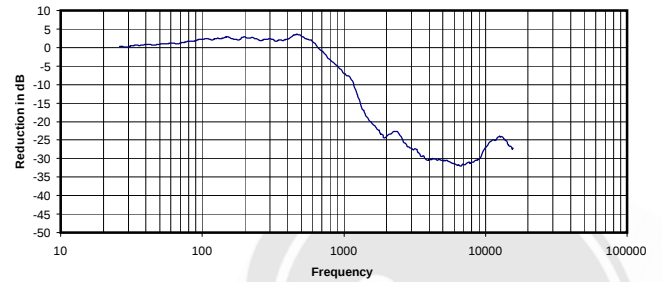
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.047 Vrms
35 Ohms
0.06 mW
-12 dBr

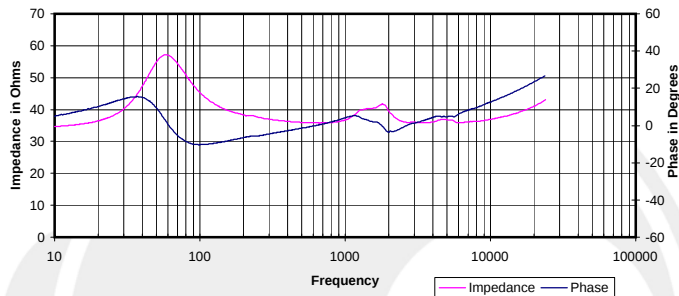
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



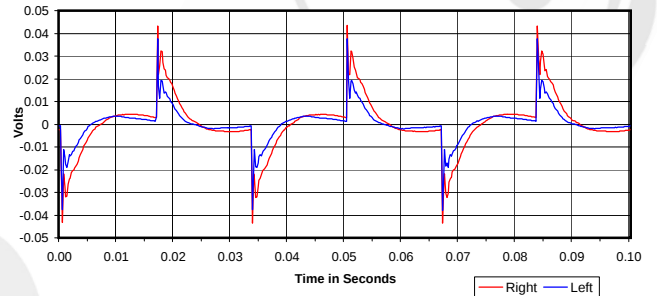
Isolation
Attenuation of External Sound vs. Frequency



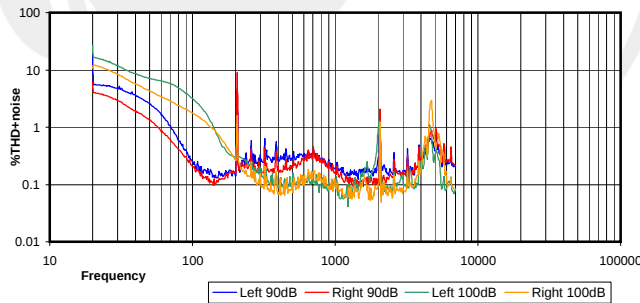
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



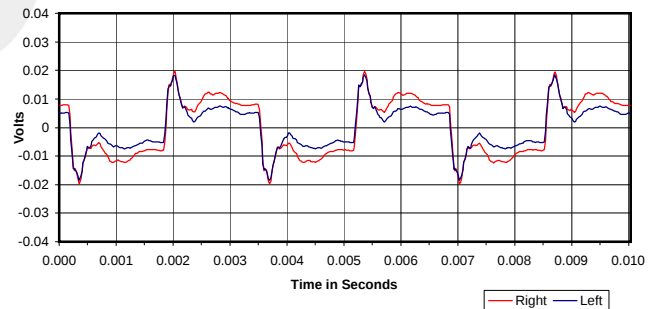
30 Hz Square Wave



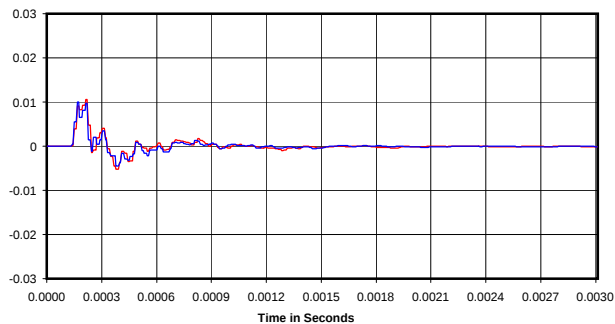
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



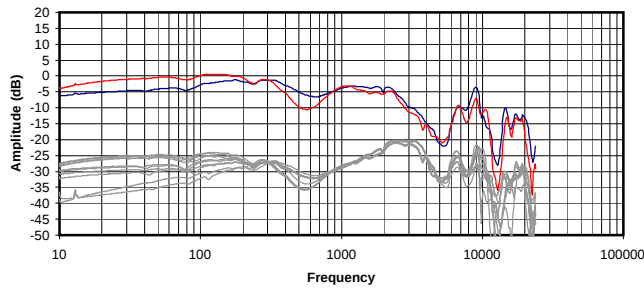
Impulse Response



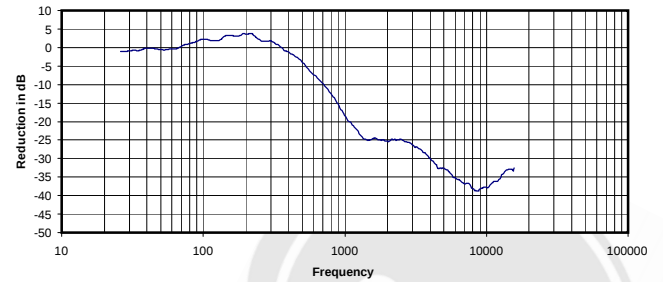
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.020 Vrms
37 Ohms
0.01 mW
-10 dBr

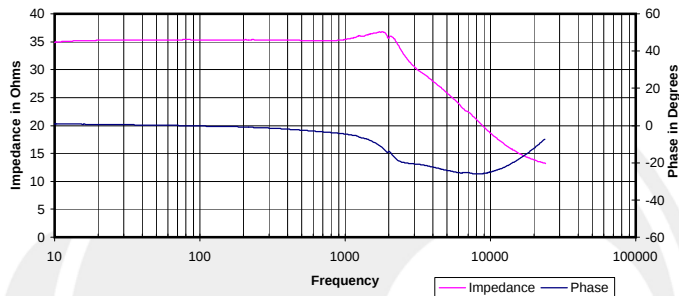
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



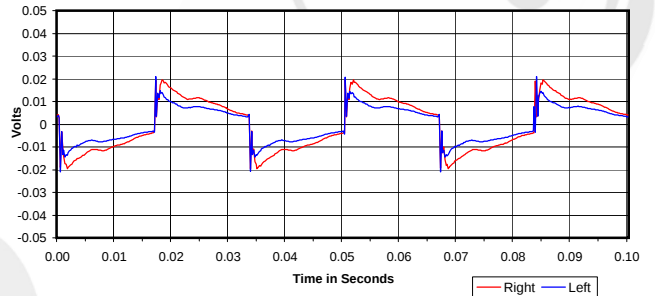
Isolation
Attenuation of External Sound vs. Frequency



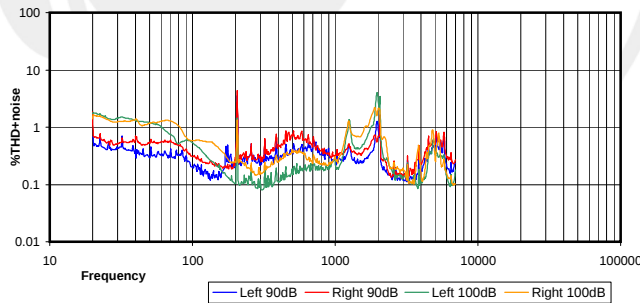
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



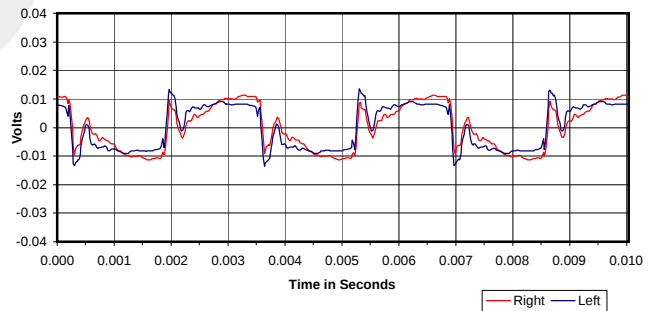
30 Hz Square Wave



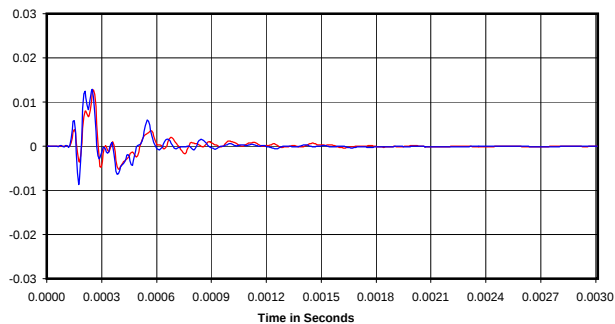
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



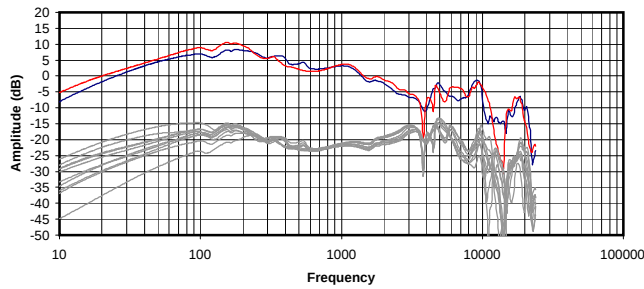
Impulse Response



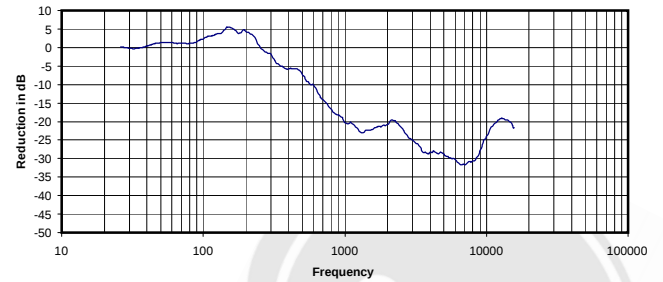
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.050 Vrms
35 Ohms
0.07 mW
-13 dBr

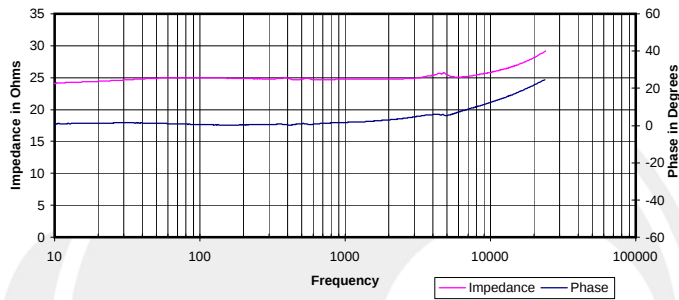
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



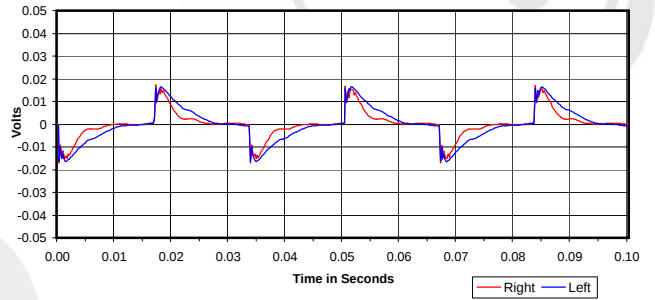
Isolation
Attenuation of External Sound vs. Frequency



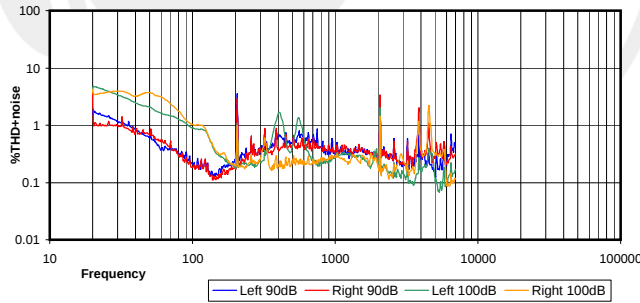
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



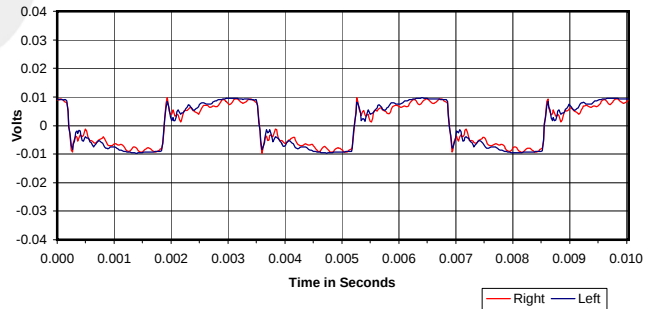
30 Hz Square Wave



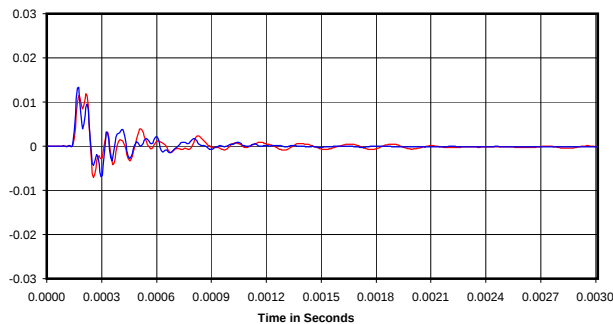
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



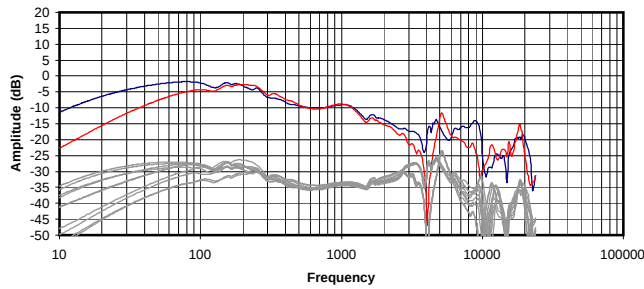
Impulse Response



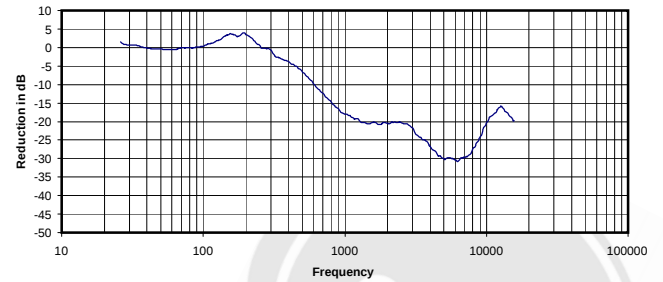
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.097 Vrms
25 Ohms
0.38 mW
-13 dBr

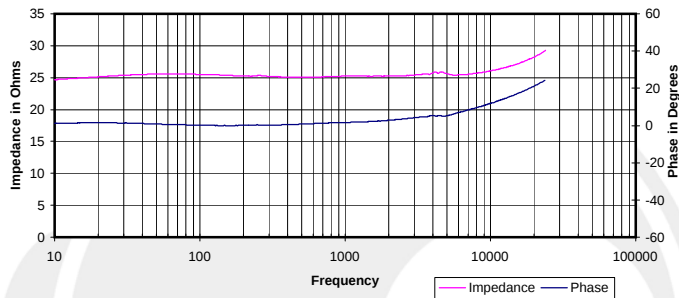
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



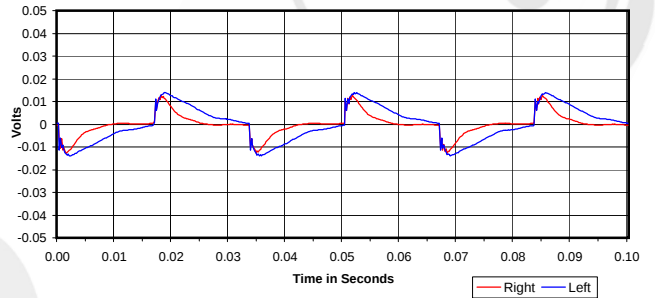
Isolation
Attenuation of External Sound vs. Frequency



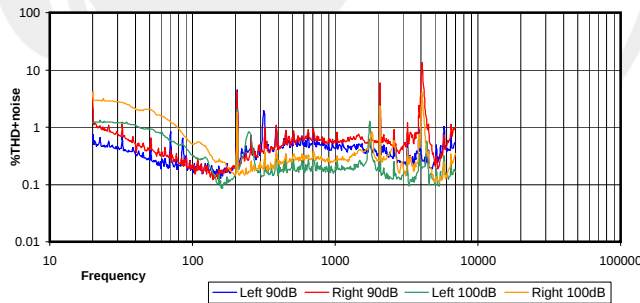
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



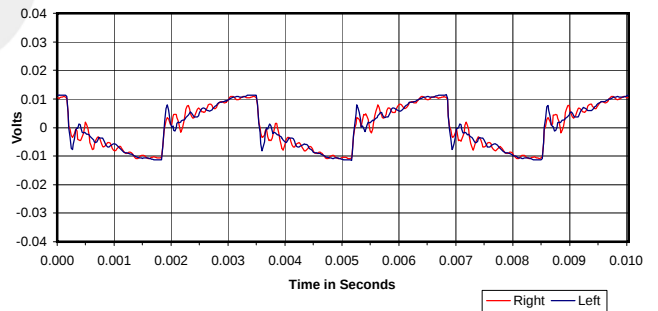
30 Hz Square Wave



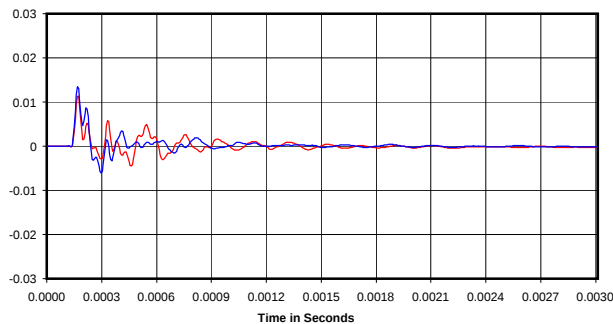
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



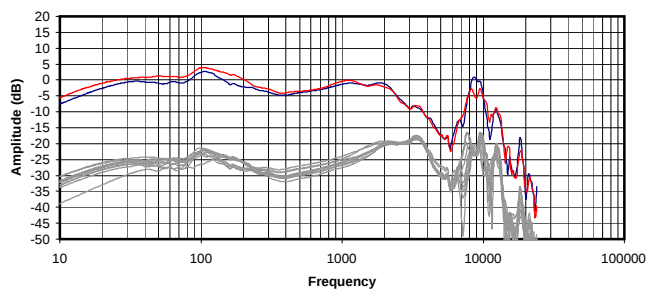
Impulse Response



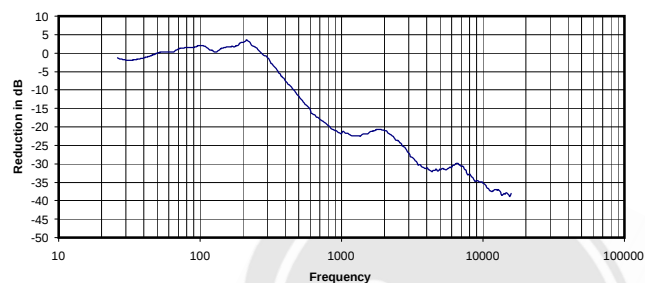
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.097 Vrms
25 Ohms
0.37 mW
-12 dBr

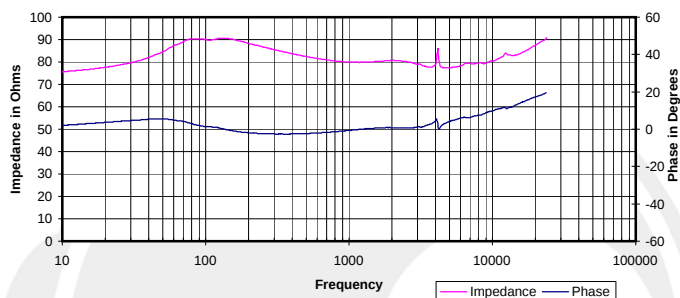
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



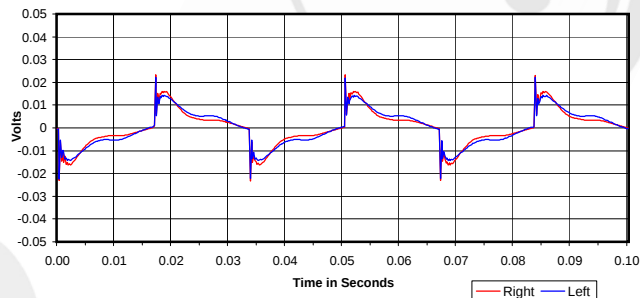
Isolation
Attenuation of External Sound vs. Frequency



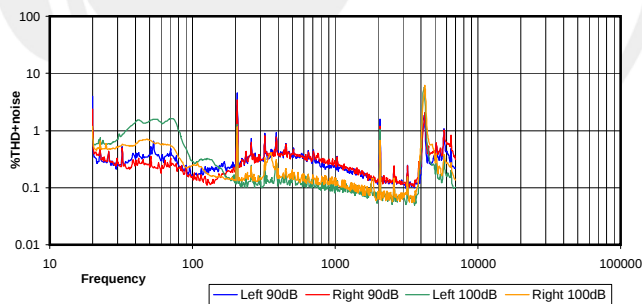
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



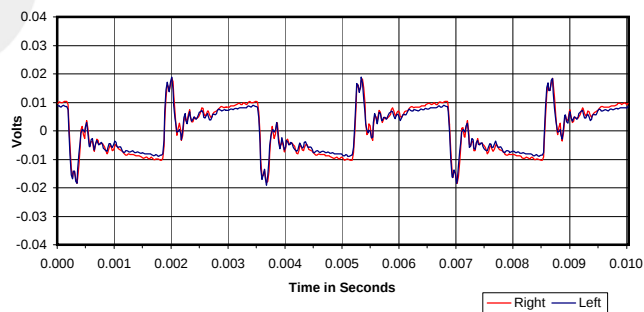
30 Hz Square Wave



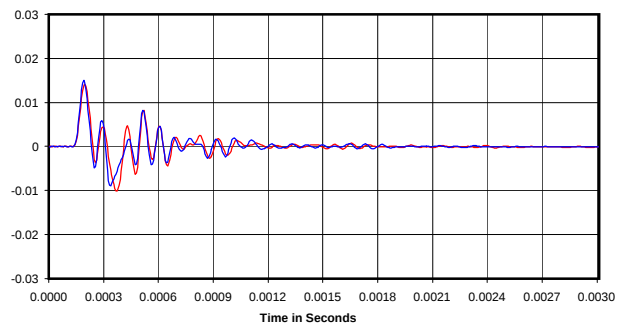
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



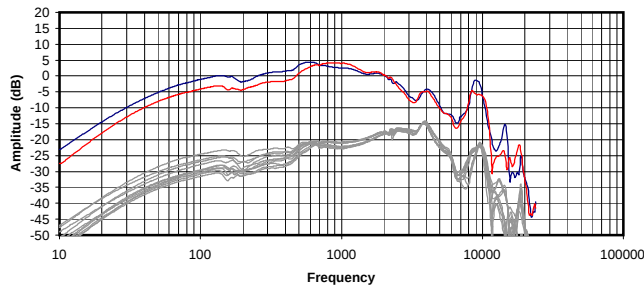
Impulse Response



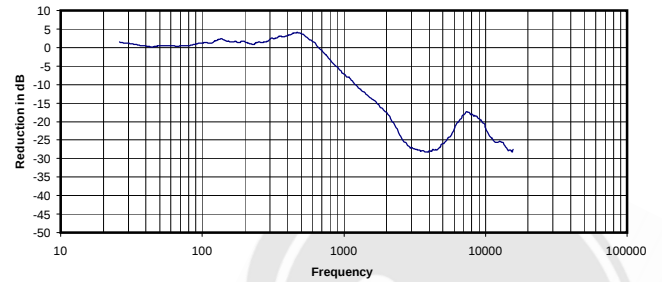
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.048 Vrms
80 Ohms
0.03 mW
-14 dBr

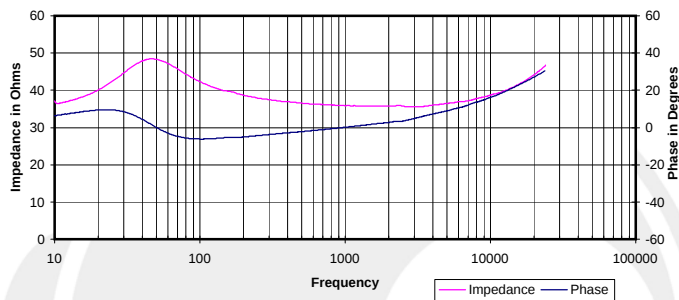
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



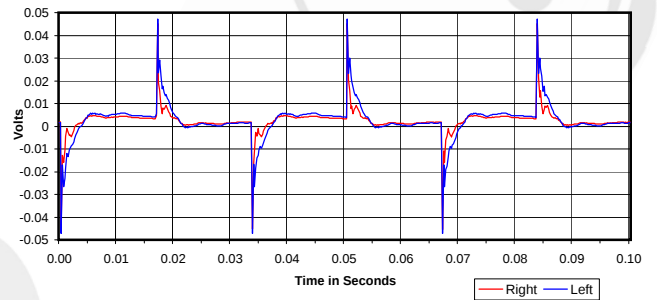
Isolation
Attenuation of External Sound vs. Frequency



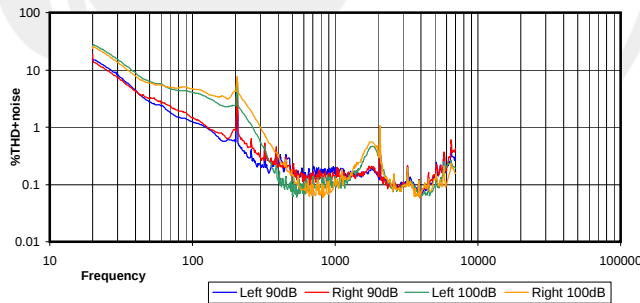
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



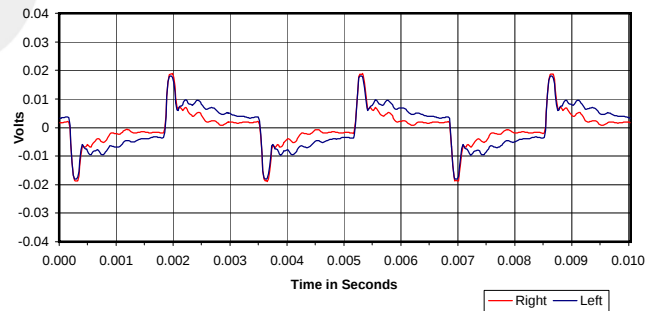
30 Hz Square Wave



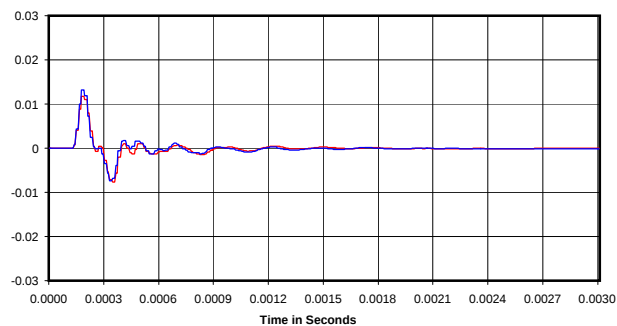
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



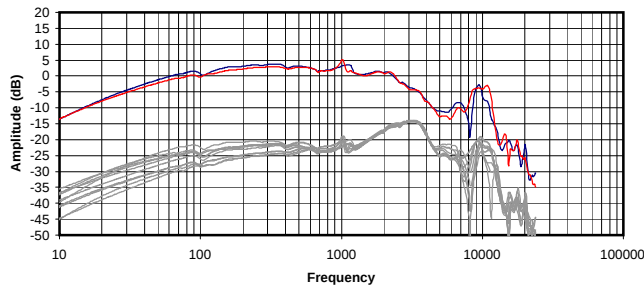
Impulse Response



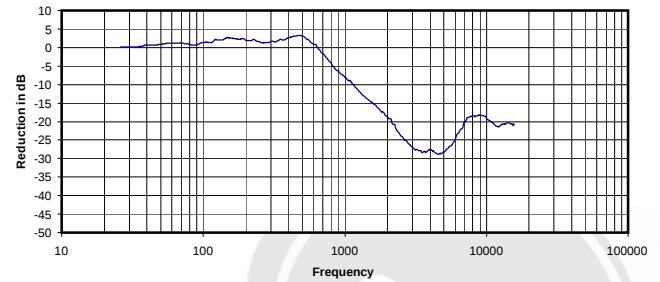
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.052 Vrms
36 Ohms
0.07 mW
-8 dBr

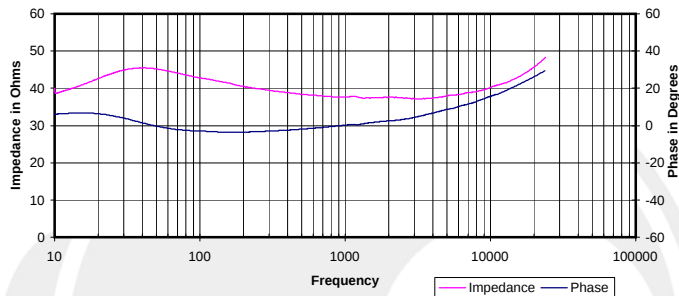
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



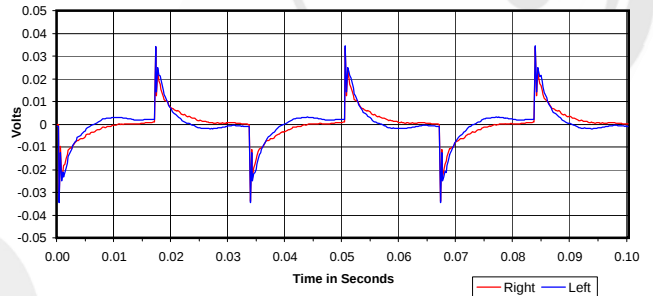
Isolation
Attenuation of External Sound vs. Frequency



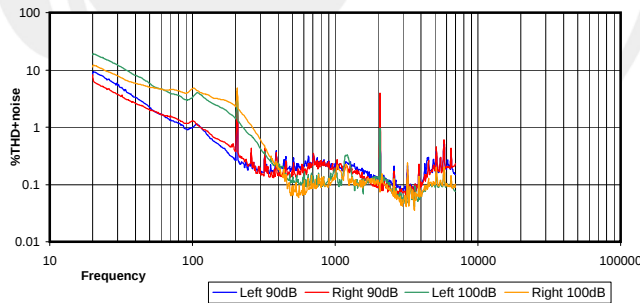
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



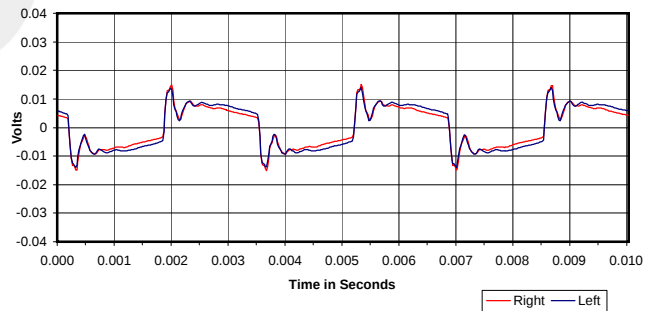
30 Hz Square Wave



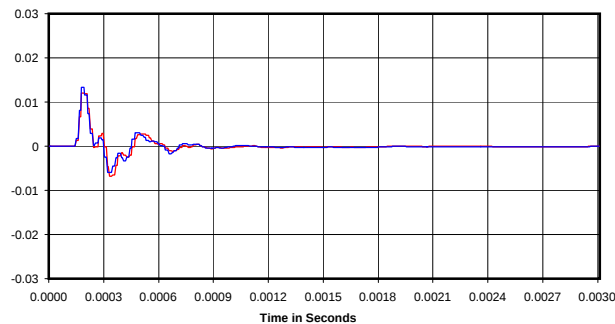
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



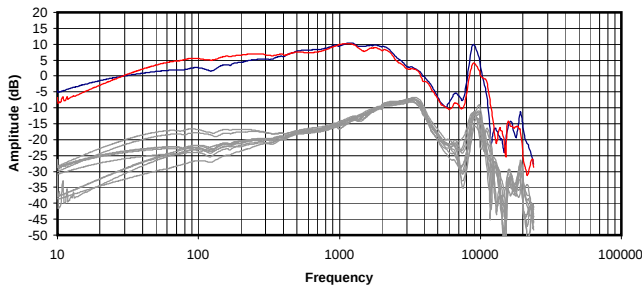
Impulse Response



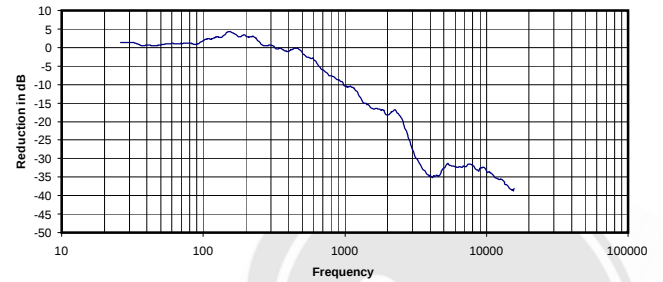
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.055 Vrms
38 Ohms
0.08 mW
-9 dBr

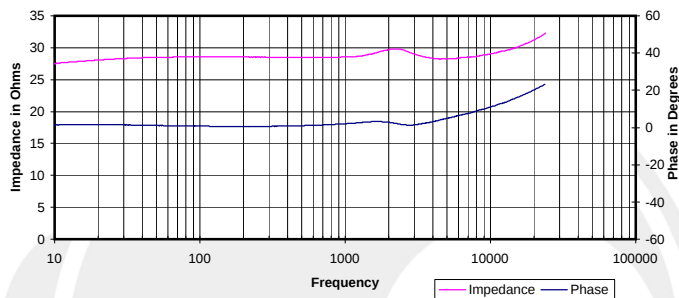
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



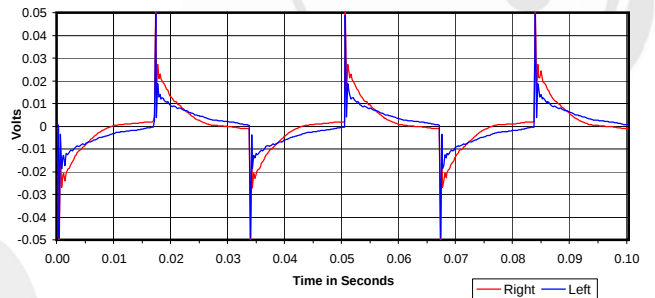
Isolation
Attenuation of External Sound vs. Frequency



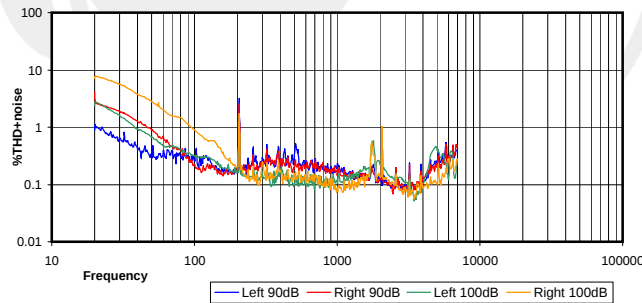
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



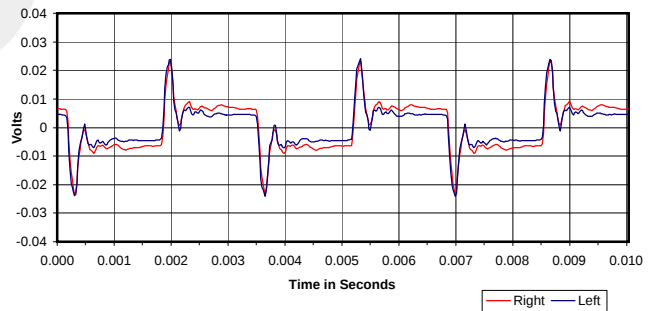
30 Hz Square Wave



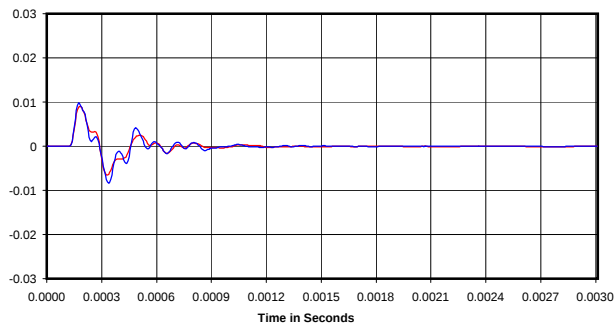
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



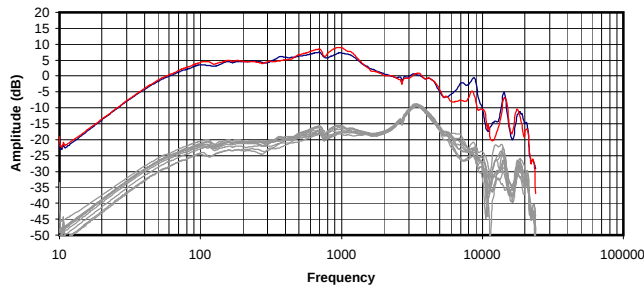
Impulse Response



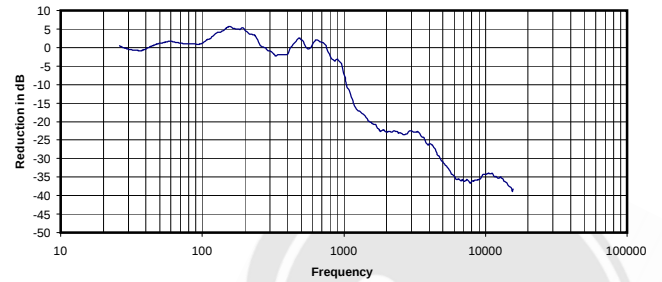
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.042 Vrms
29 Ohms
0.06 mW
-10 dBr

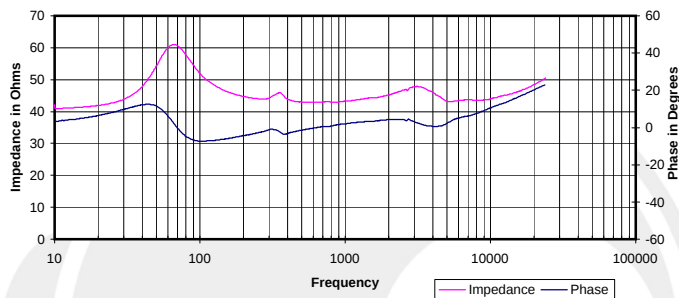
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



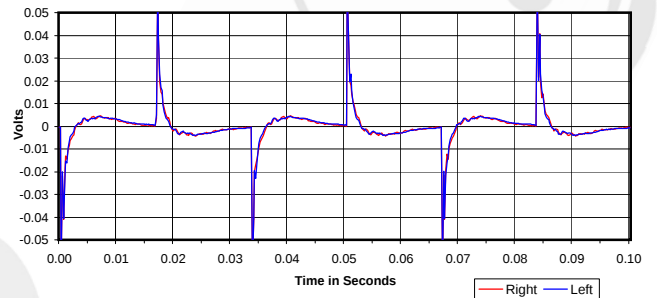
Isolation
Attenuation of External Sound vs. Frequency



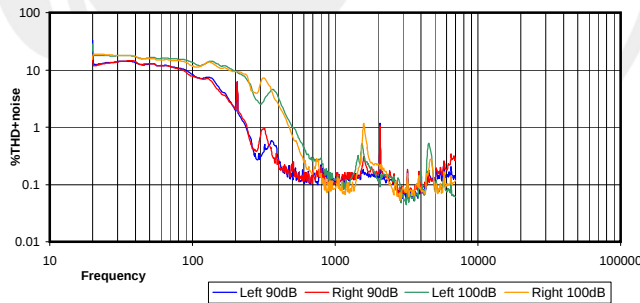
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



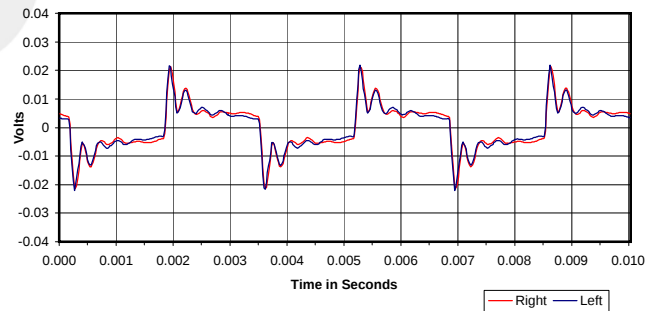
30 Hz Square Wave



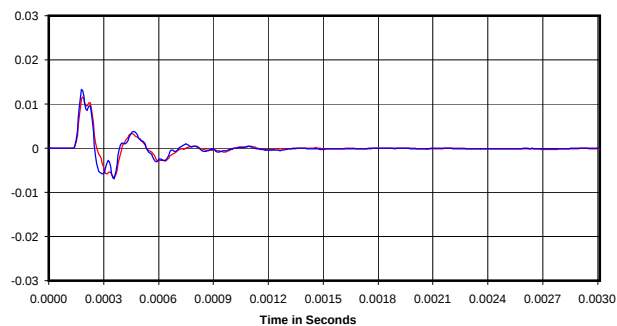
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



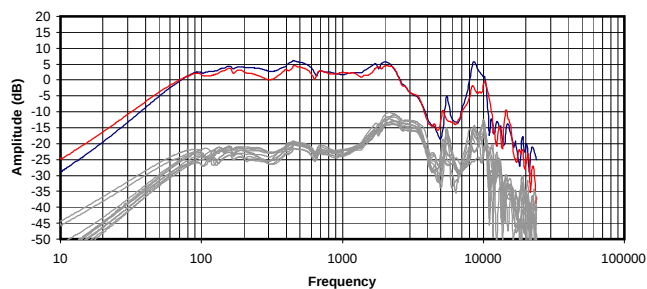
Impulse Response



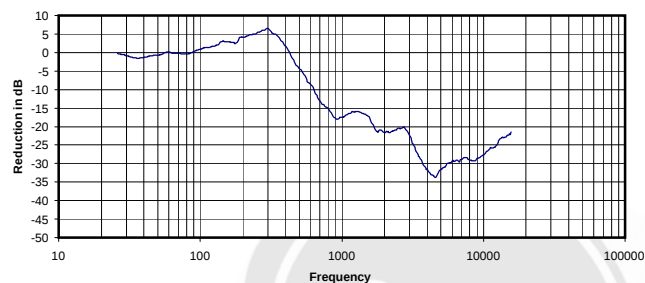
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.035 Vrms
43 Ohms
0.03 mW
-9 dBr

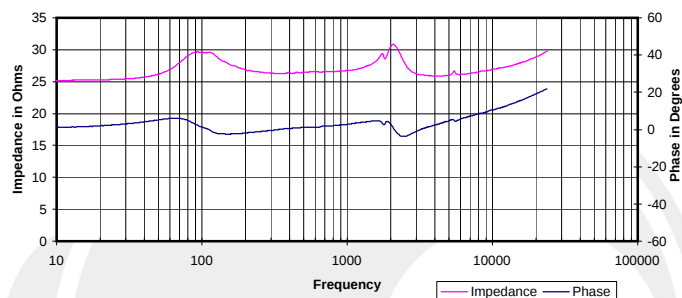
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



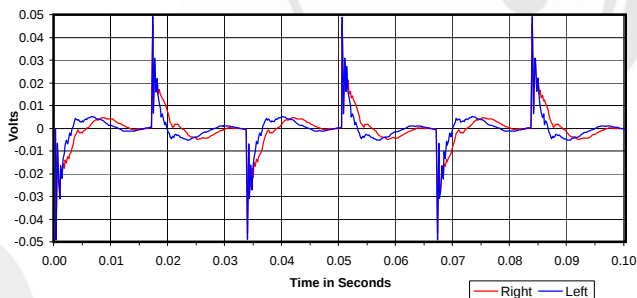
Isolation
Attenuation of External Sound vs. Frequency



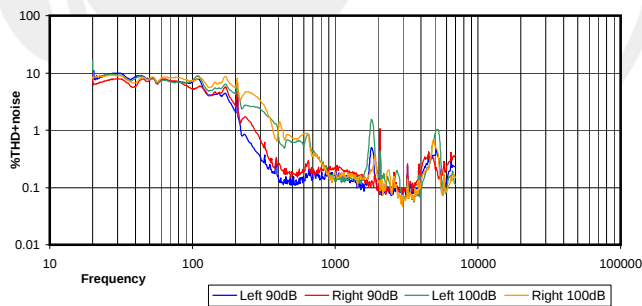
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



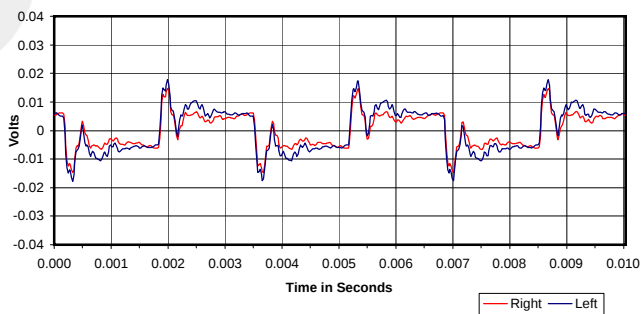
30 Hz Square Wave



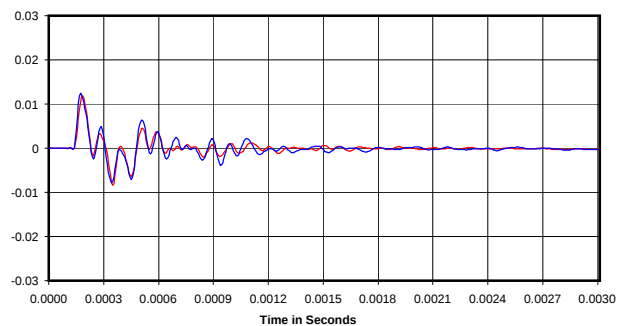
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



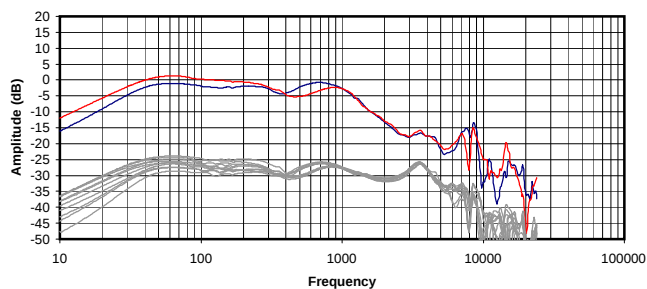
Impulse Response



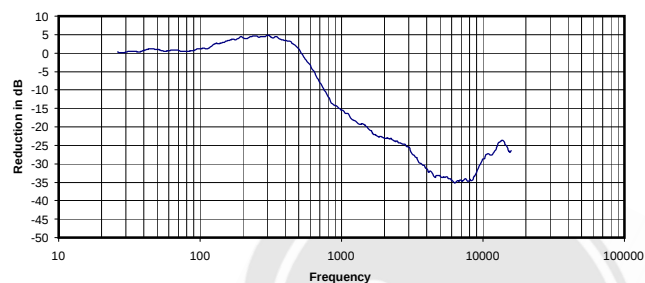
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.049 Vrms
27 Ohms
0.09 mW
-11 dBr

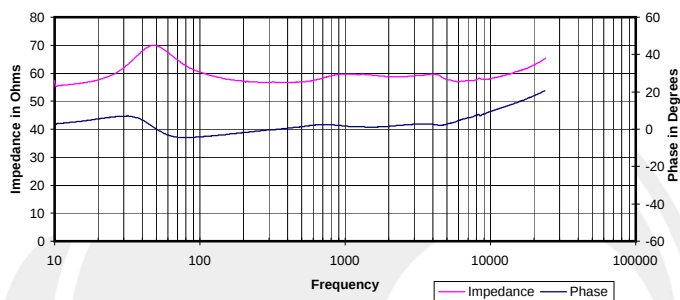
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



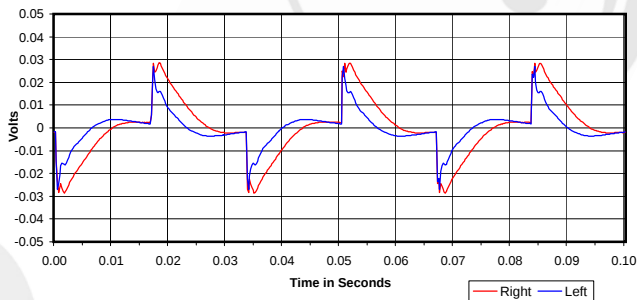
Isolation
Attenuation of External Sound vs. Frequency



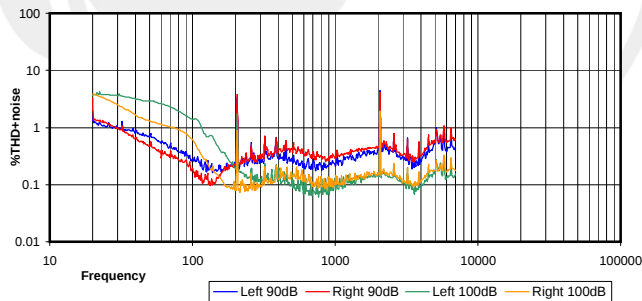
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



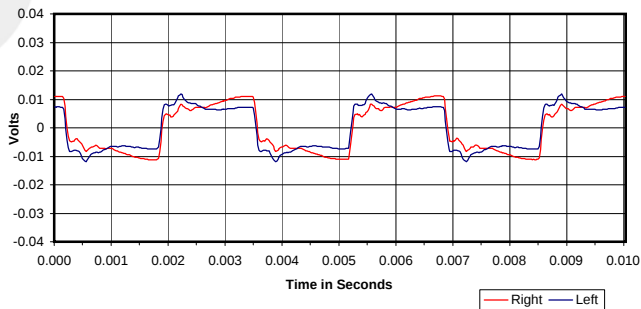
30 Hz Square Wave



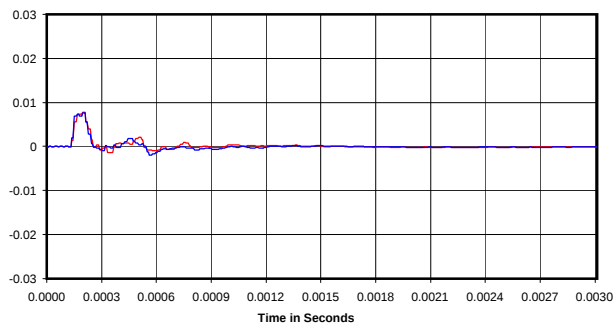
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



Impulse Response



Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

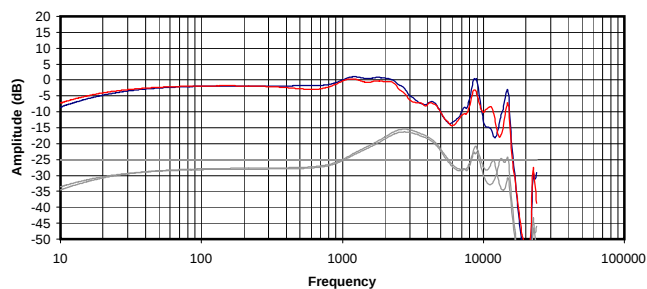
0.023 Vrms
60 Ohms
0.01 mW
-11 dBr

Headphone Measurement Datasheets

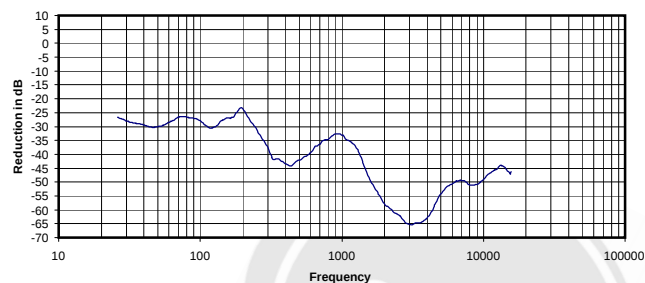
In-Ear Headphones



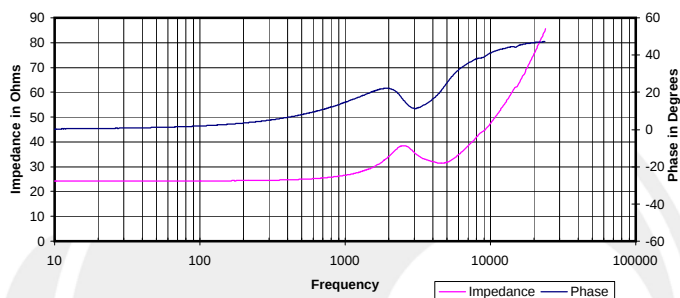
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



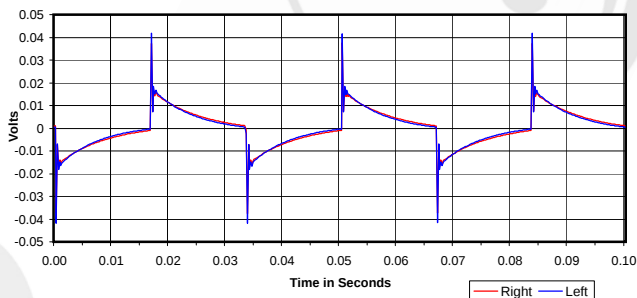
Isolation
Attenuation of External Sound vs. Frequency



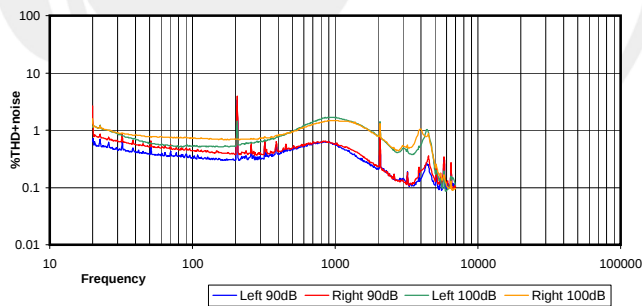
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



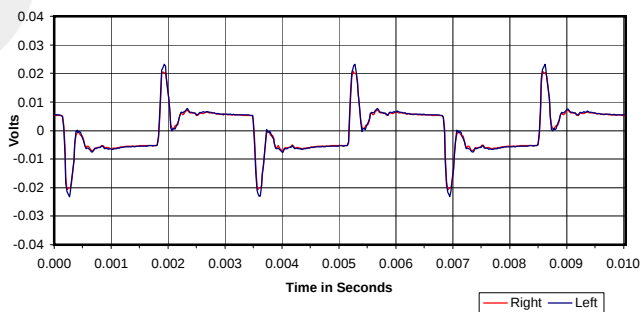
30 Hz Square Wave



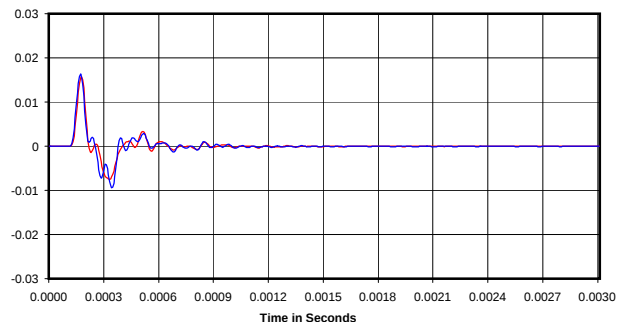
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



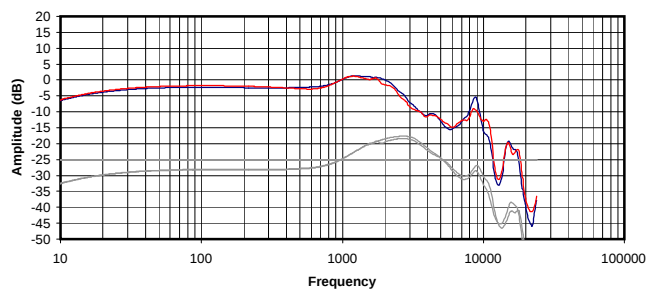
Impulse Response



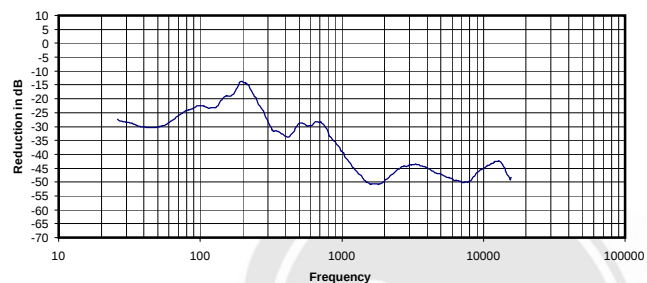
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.027 Vrms
27 Ohms
0.03 mW
-43 dBr

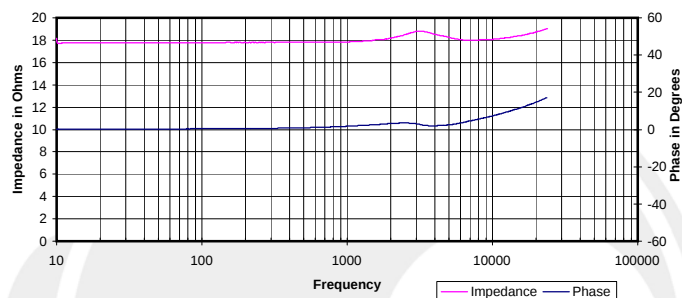
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



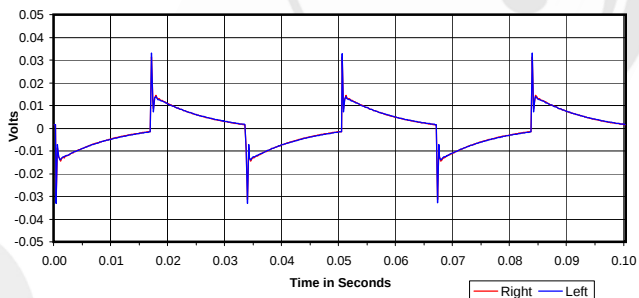
Isolation
Attenuation of External Sound vs. Frequency



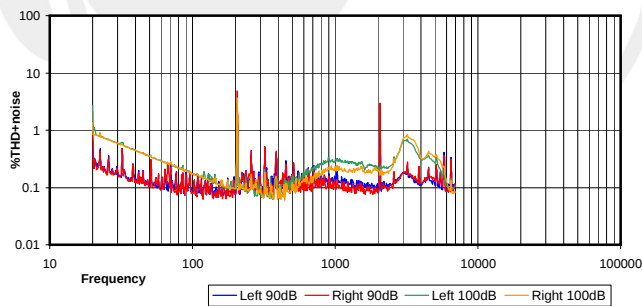
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



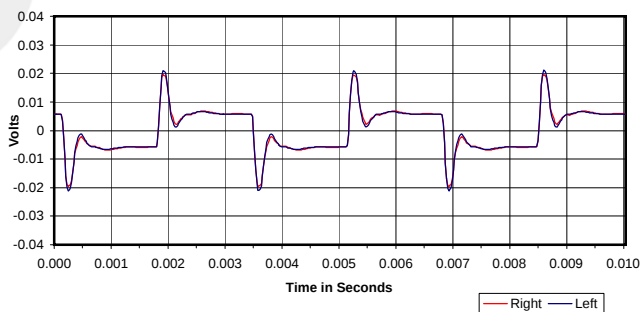
30 Hz Square Wave



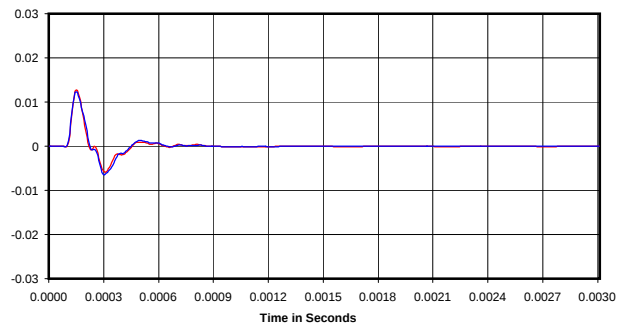
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



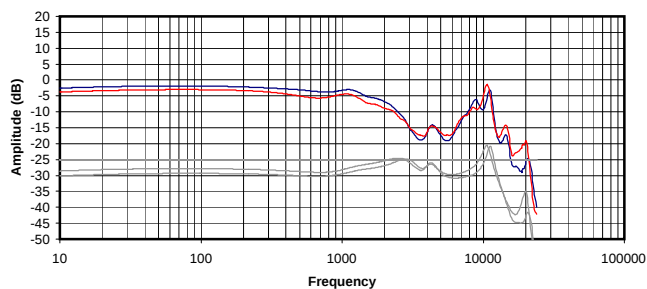
Impulse Response



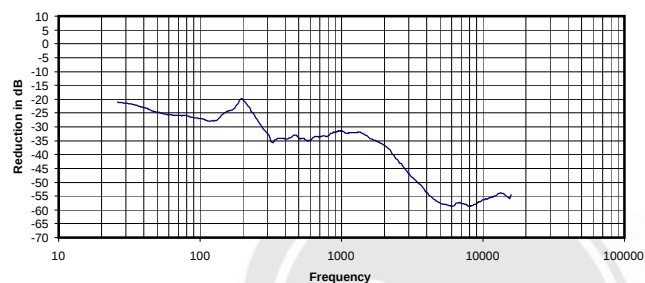
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.042 Vrms
18 Ohms
0.10 mW
-35 dBr

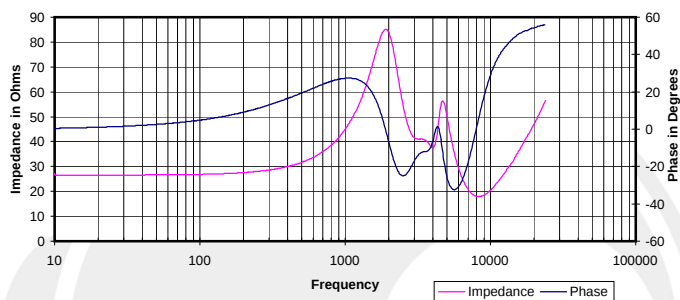
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



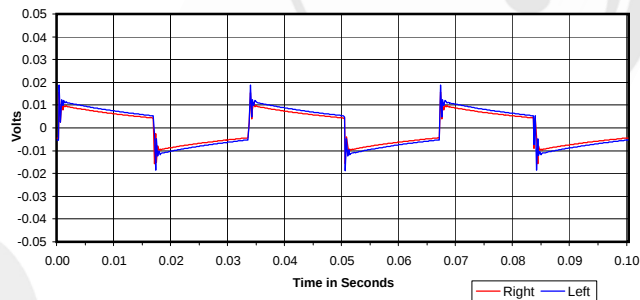
Isolation
Attenuation of External Sound vs. Frequency



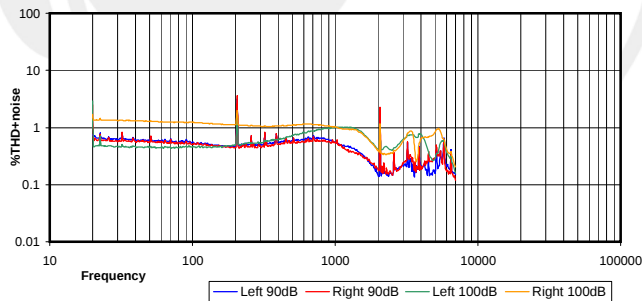
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



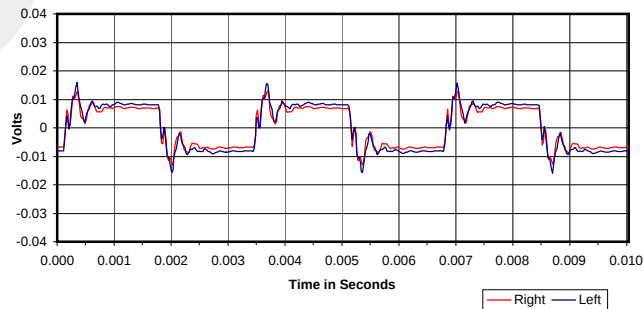
30 Hz Square Wave



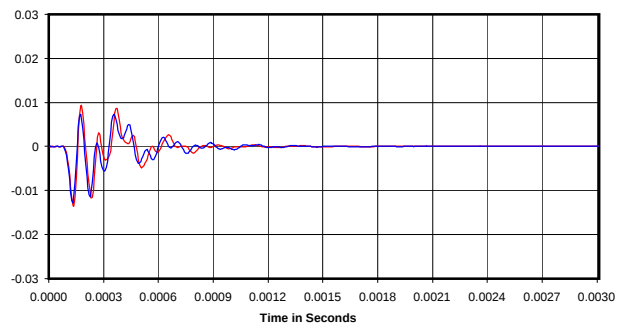
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



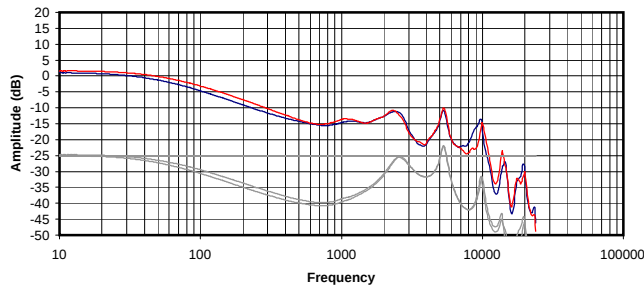
Impulse Response



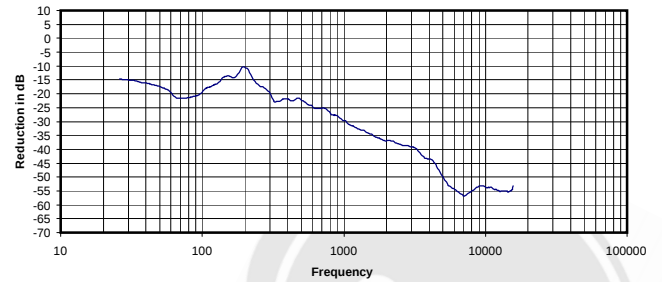
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.031 Vrms
45 Ohms
0.02 mW
-36 dBr

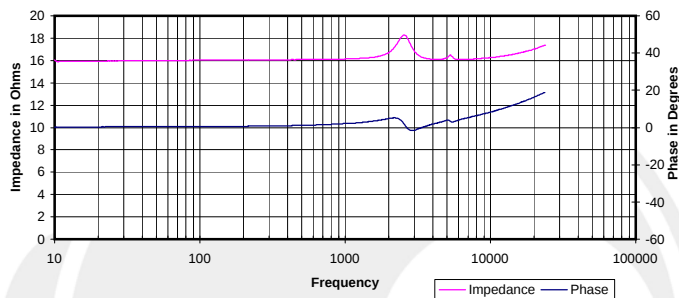
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



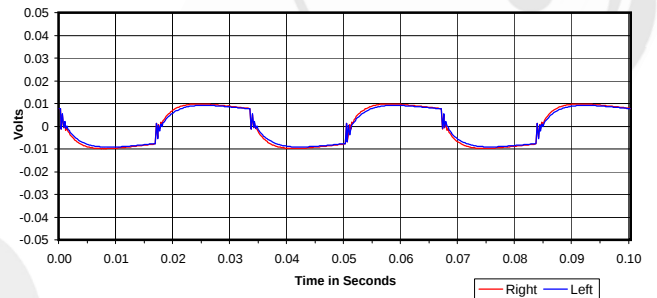
Isolation
Attenuation of External Sound vs. Frequency



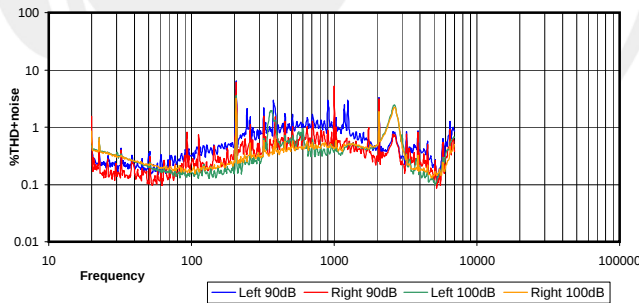
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



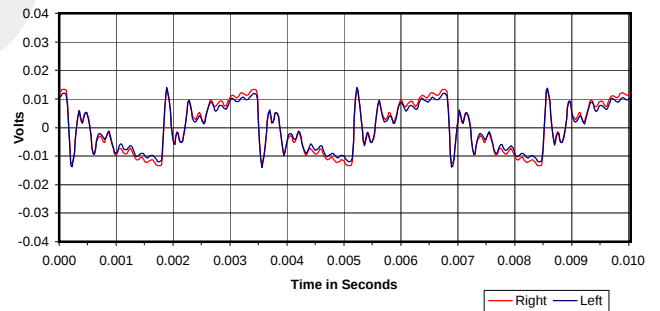
30 Hz Square Wave



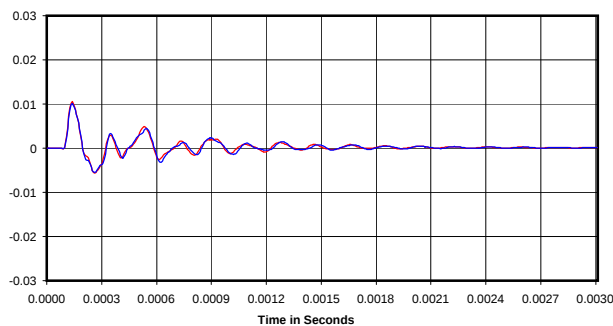
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



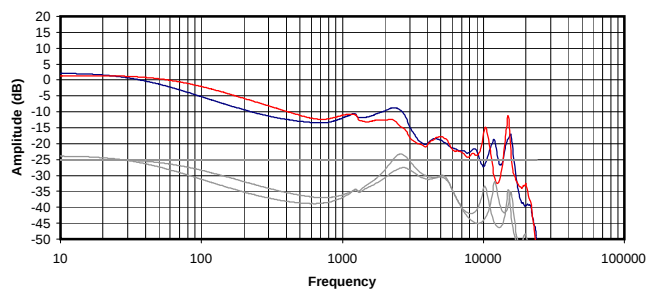
Impulse Response



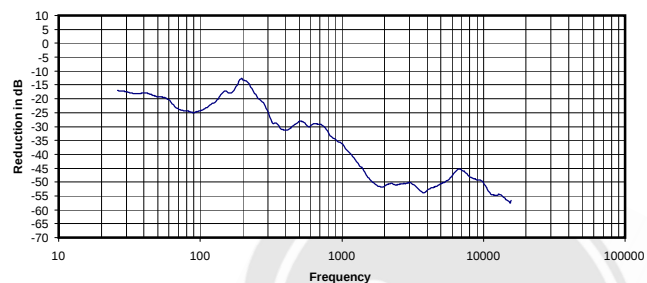
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.037 Vrms
16 Ohms
0.08 mW
-29 dBr

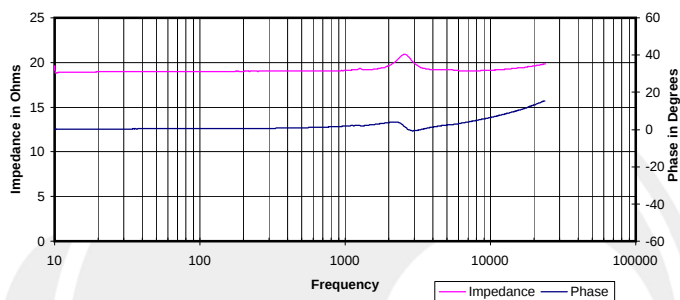
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



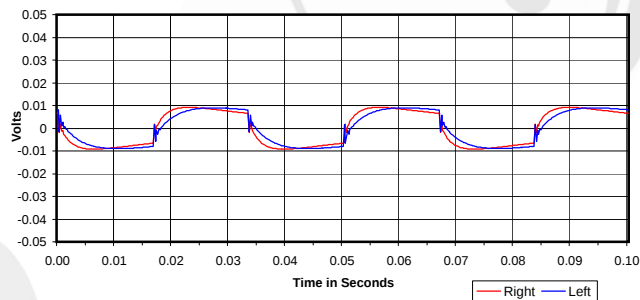
Isolation
Attenuation of External Sound vs. Frequency



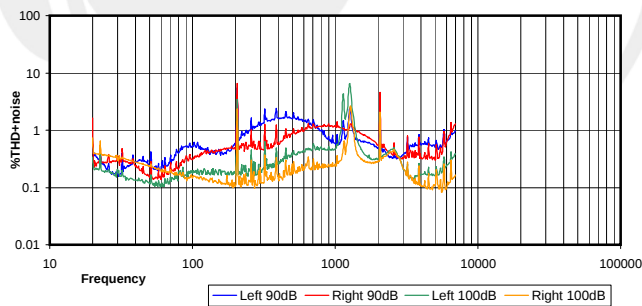
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



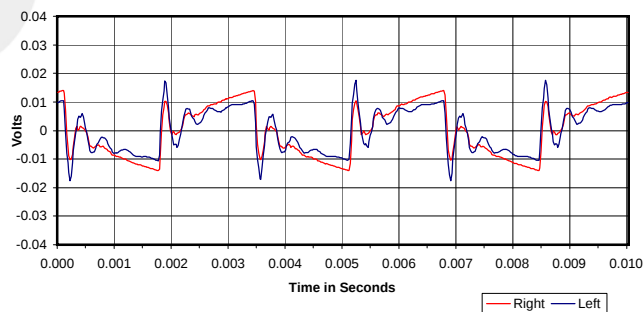
30 Hz Square Wave



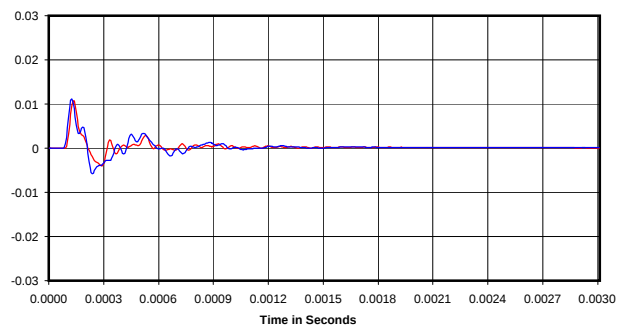
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



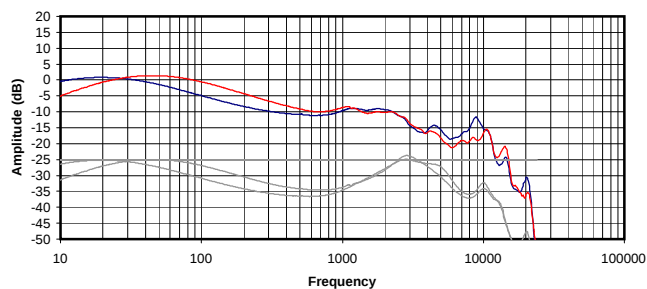
Impulse Response



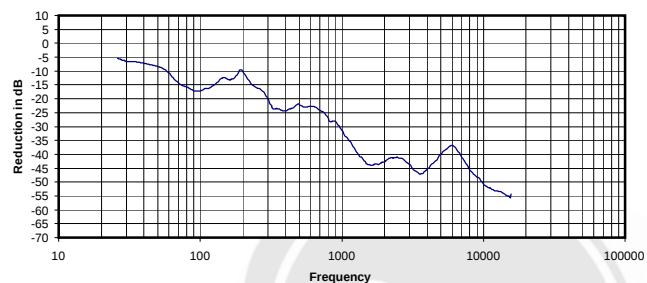
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.036 Vrms
19 Ohms
0.07 mW
-35 dBr

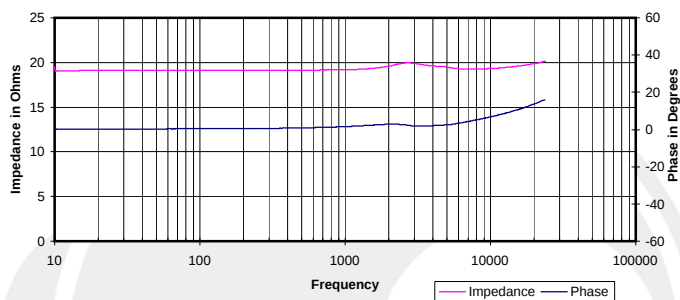
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



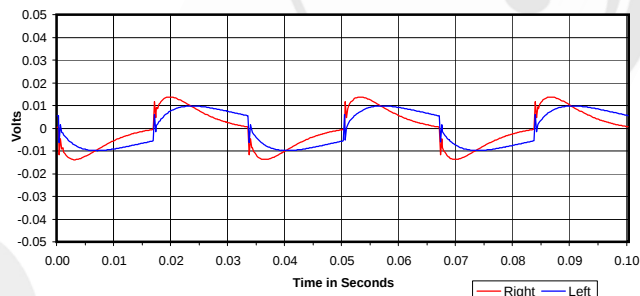
Isolation
Attenuation of External Sound vs. Frequency



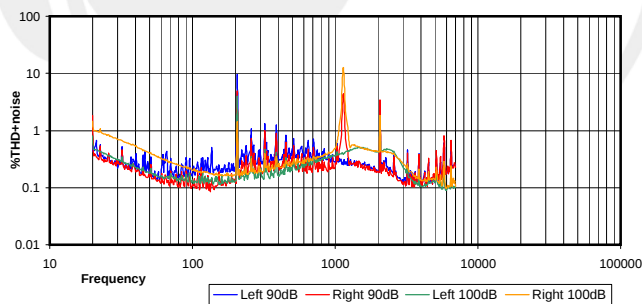
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



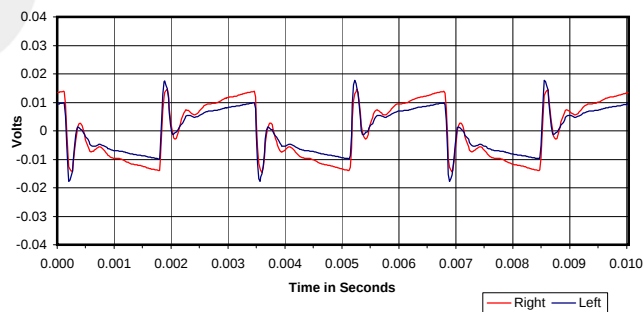
30 Hz Square Wave



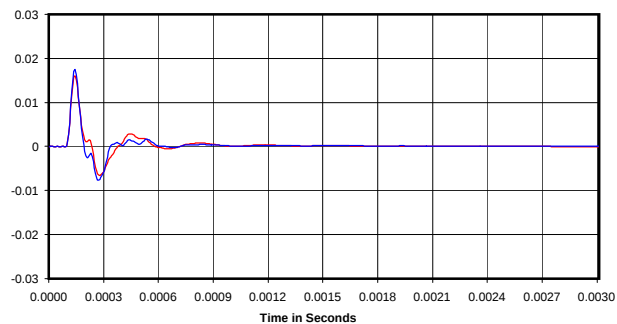
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



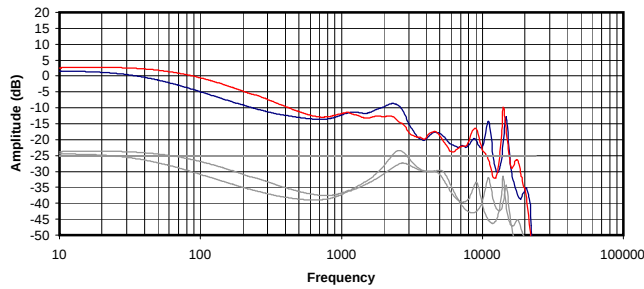
Impulse Response



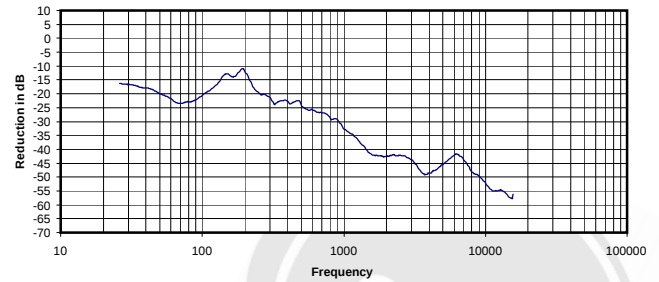
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.052 Vrms
19 Ohms
0.14 mW
-29 dBr

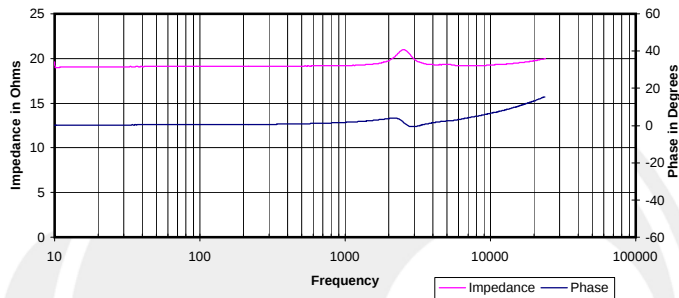
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



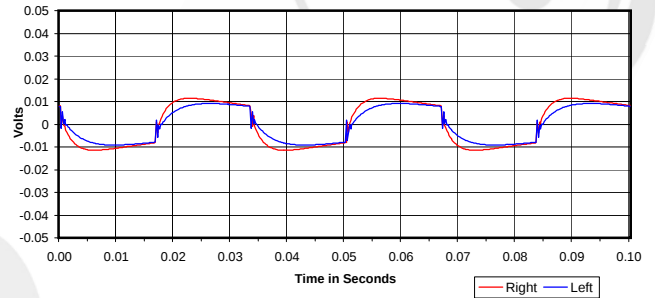
Isolation
Attenuation of External Sound vs. Frequency



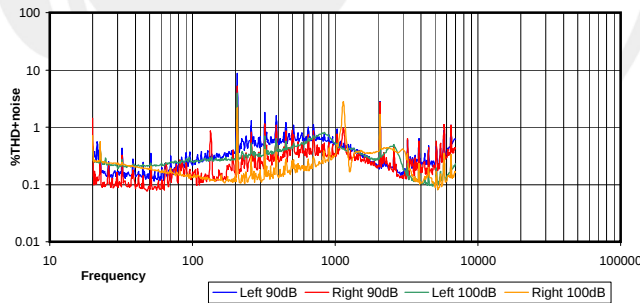
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



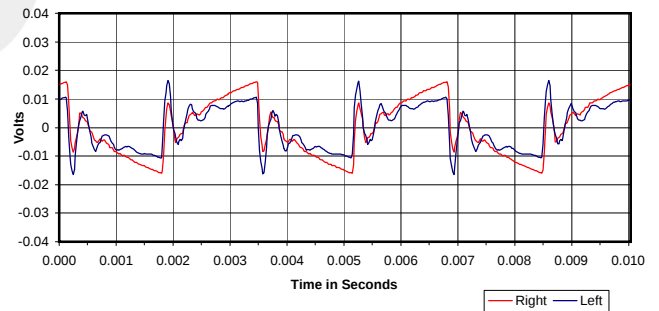
30 Hz Square Wave



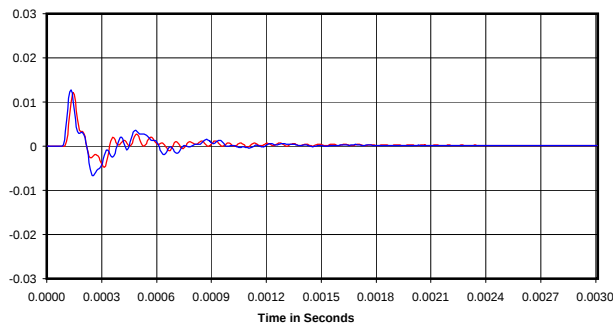
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



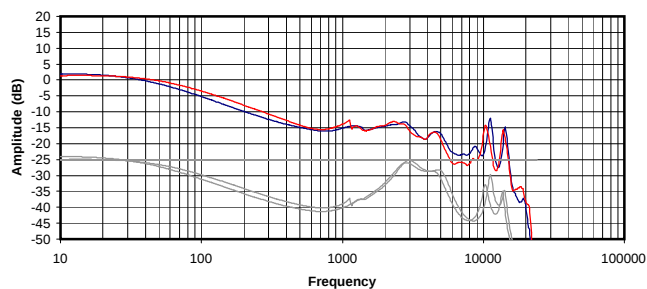
Impulse Response



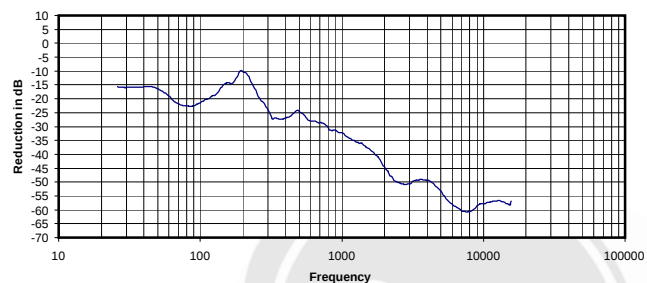
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.039 Vrms
19 Ohms
0.08 mW
-30 dBr

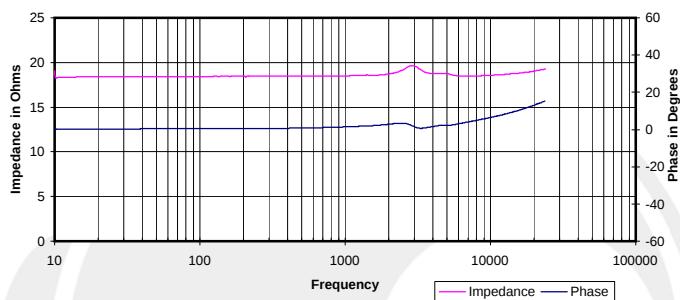
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



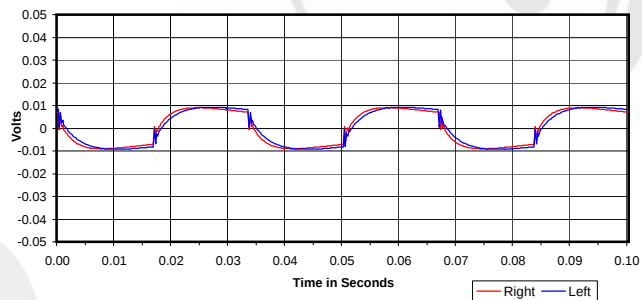
Isolation
Attenuation of External Sound vs. Frequency



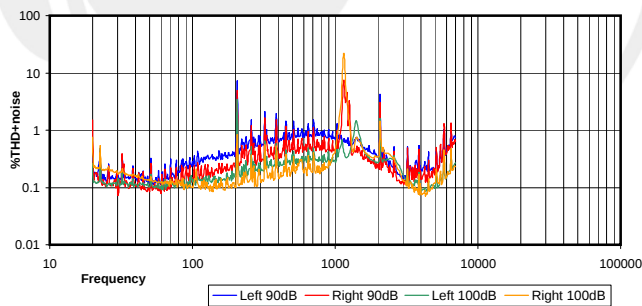
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



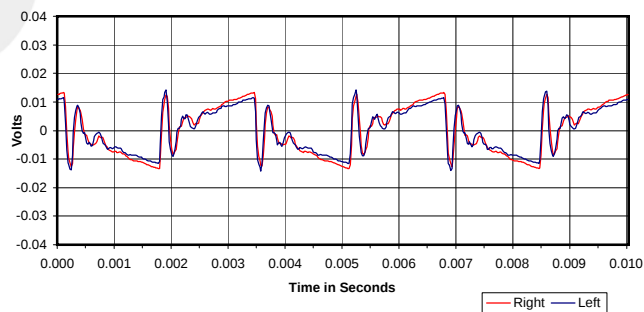
30 Hz Square Wave



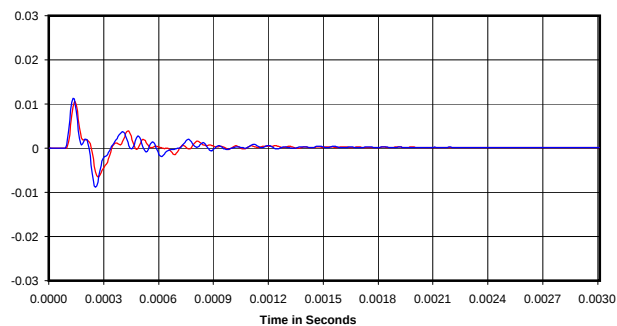
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



Impulse Response



Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

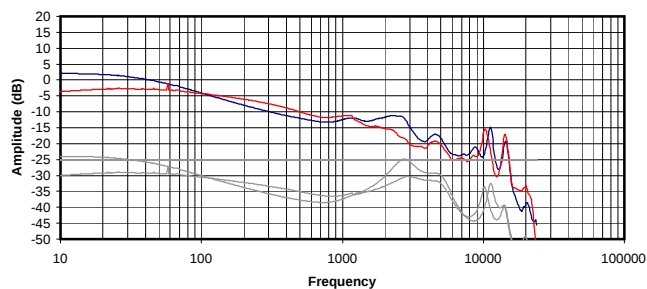
0.049 Vrms
19 Ohms
0.13 mW
-32 dB



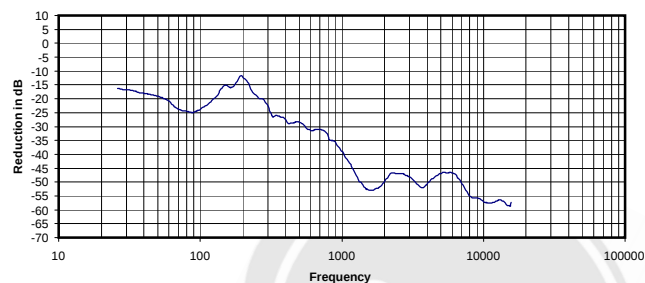
Headphone Measurements:

Monster Turbine Pro Copper

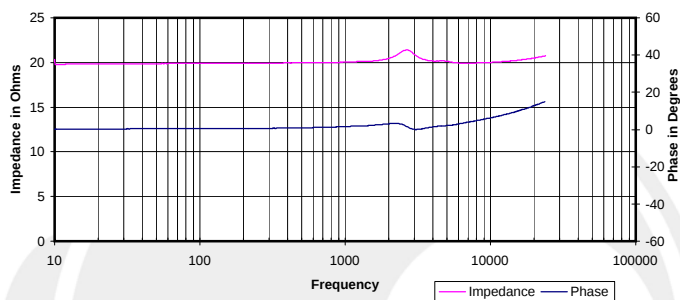
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



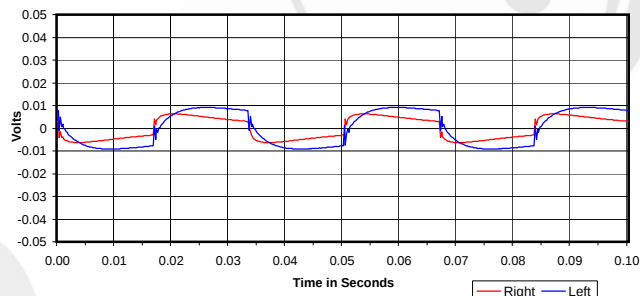
Isolation
Attenuation of External Sound vs. Frequency



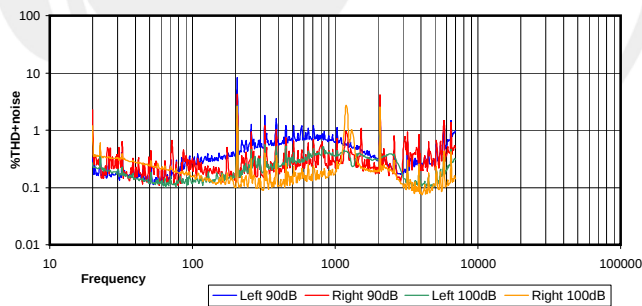
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



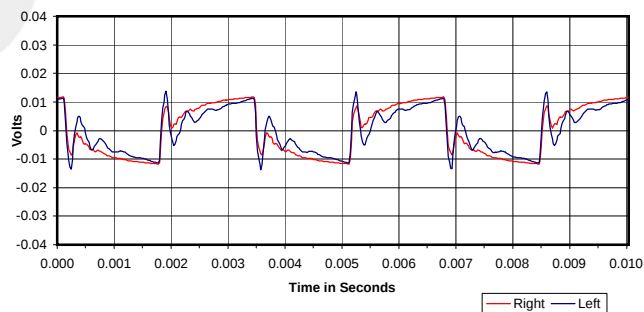
30 Hz Square Wave



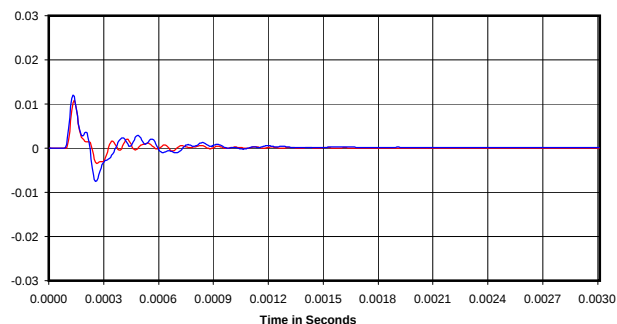
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



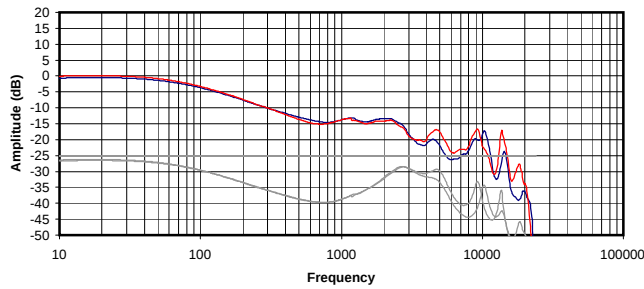
Impulse Response



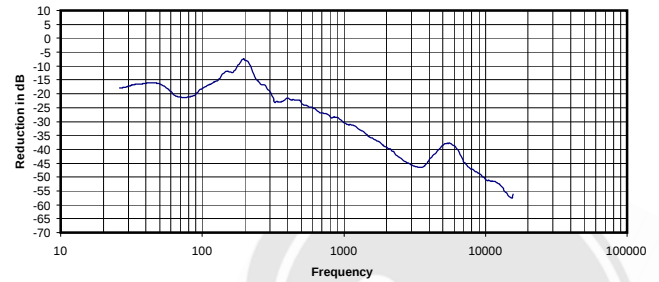
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.039 Vrms
20 Ohms
0.08 mW
-35 dBr

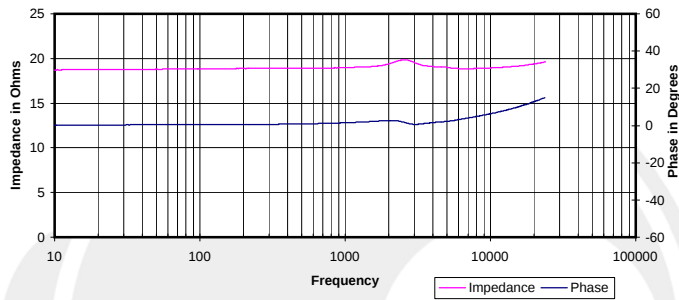
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



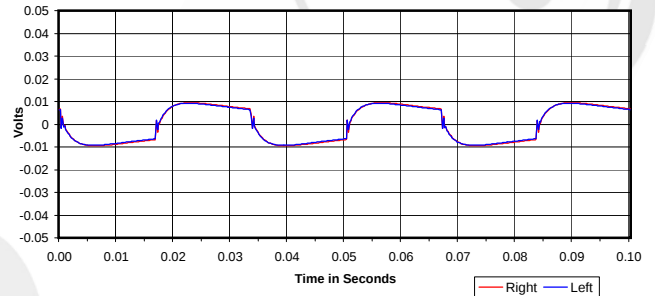
Isolation
Attenuation of External Sound vs. Frequency



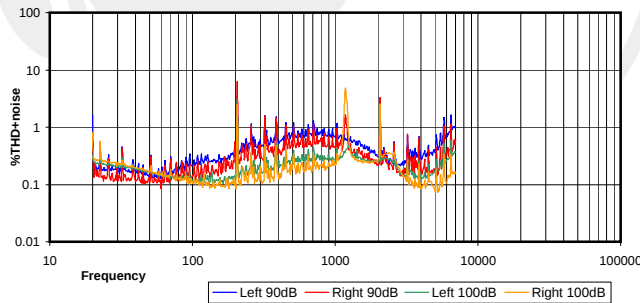
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



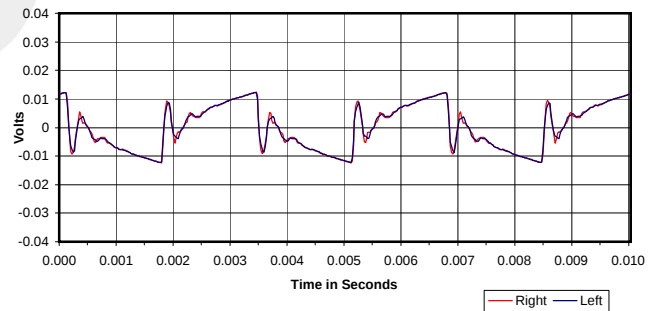
30 Hz Square Wave



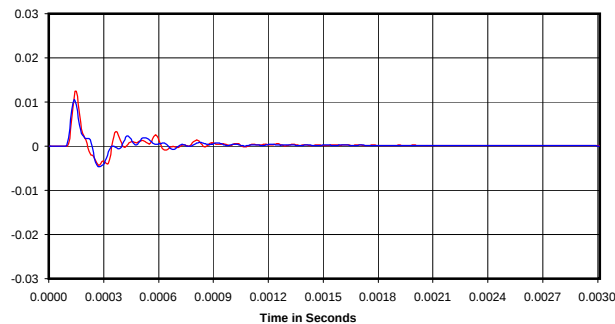
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



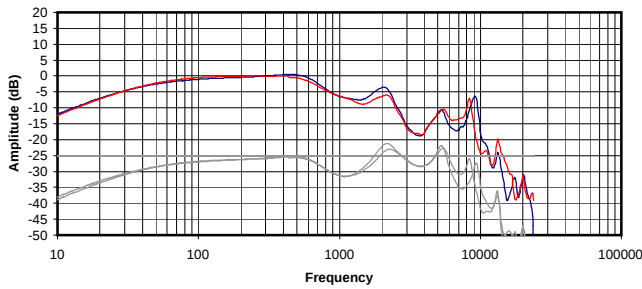
Impulse Response



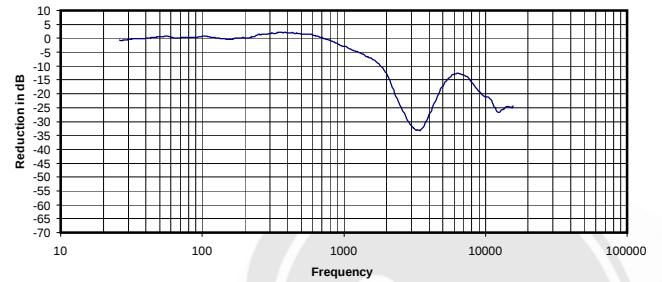
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.041 Vrms
19 Ohms
0.09 mW
-28 dBr

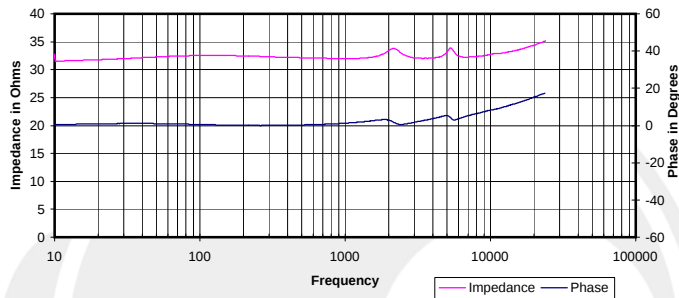
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



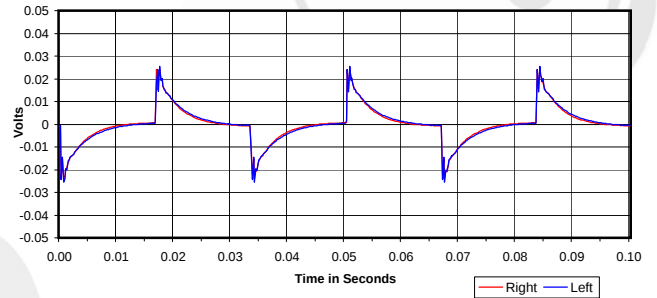
Isolation
Attenuation of External Sound vs. Frequency



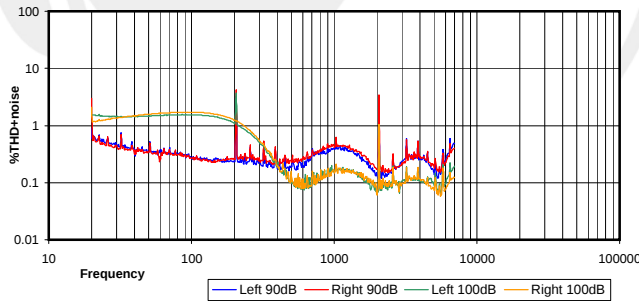
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



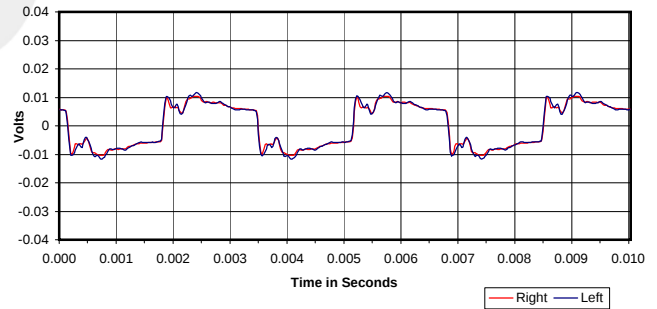
30 Hz Square Wave



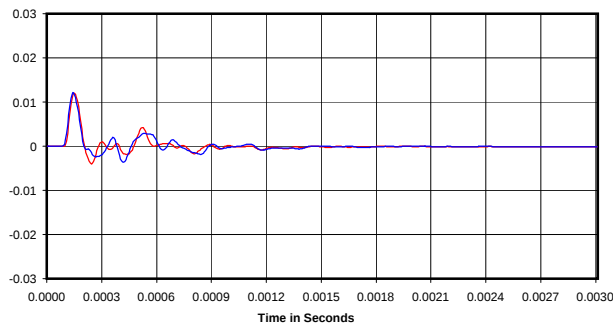
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



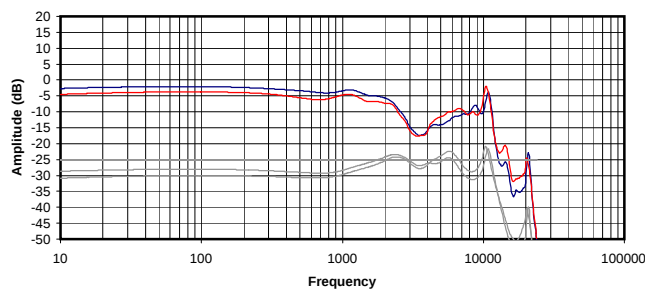
Impulse Response



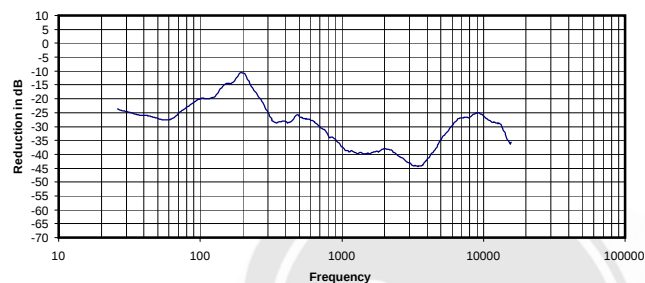
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.022 Vrms
32 Ohms
0.02 mW
-7 dB

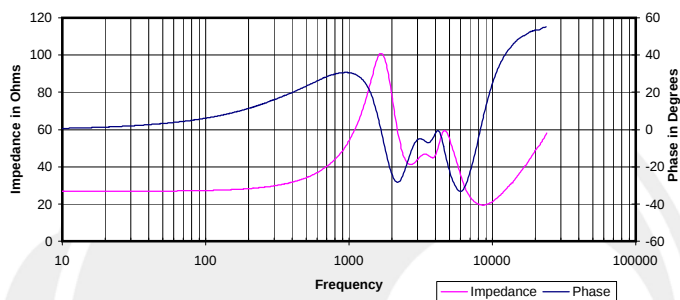
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



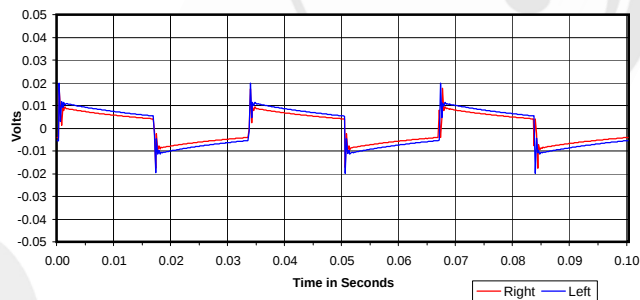
Isolation
Attenuation of External Sound vs. Frequency



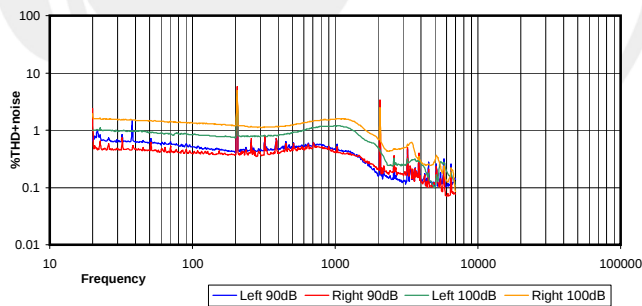
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



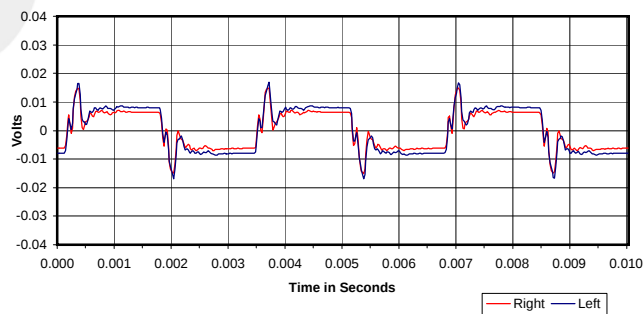
30 Hz Square Wave



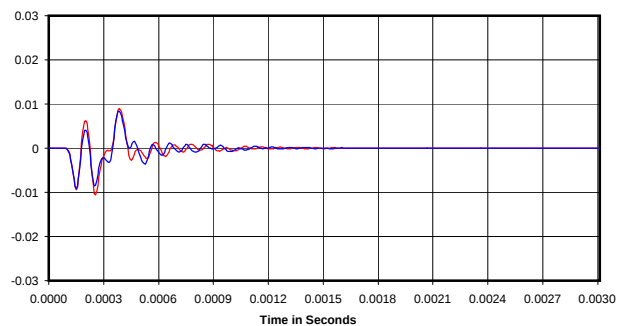
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



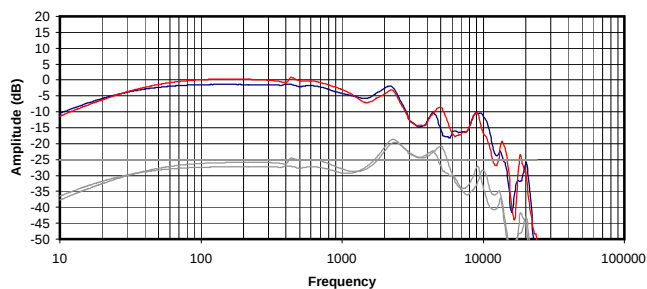
Impulse Response



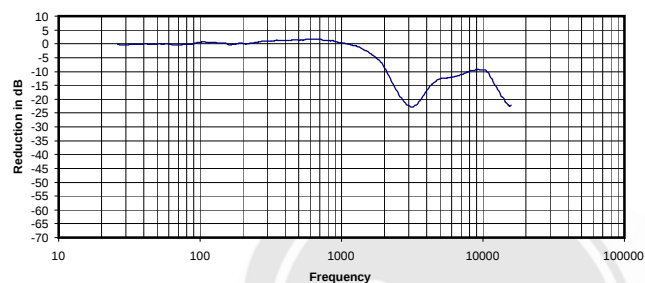
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.023 Vrms
54 Ohms
0.01 mW
-30 dB

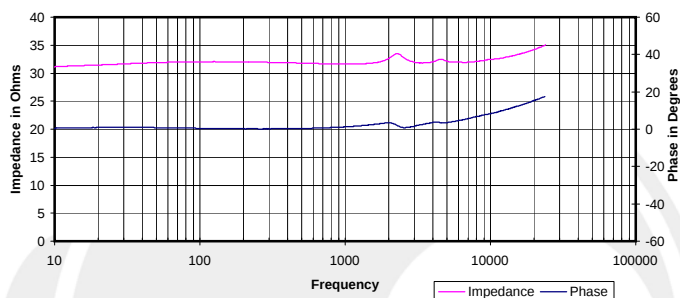
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



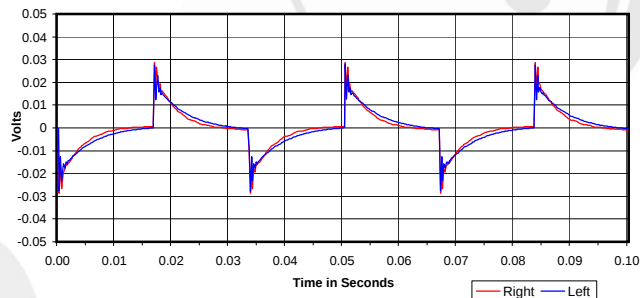
Isolation
Attenuation of External Sound vs. Frequency



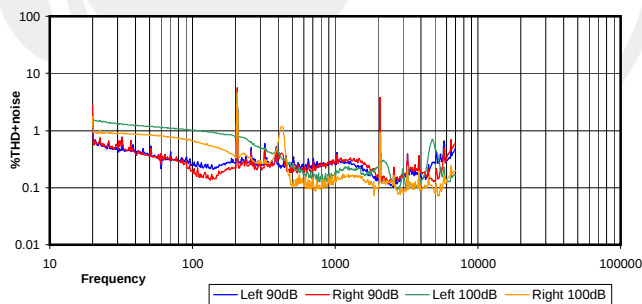
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



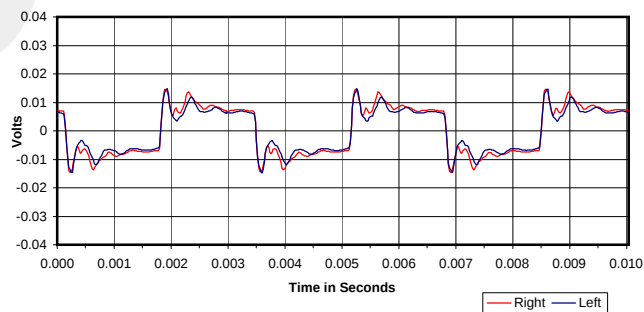
30 Hz Square Wave



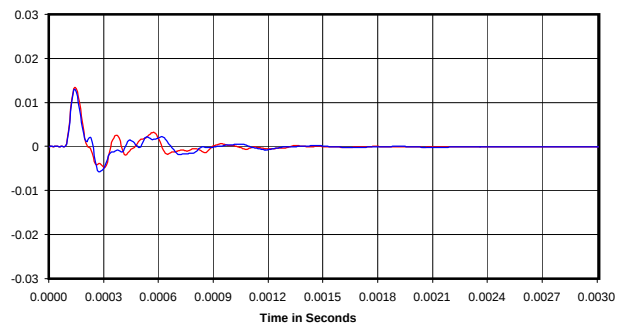
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



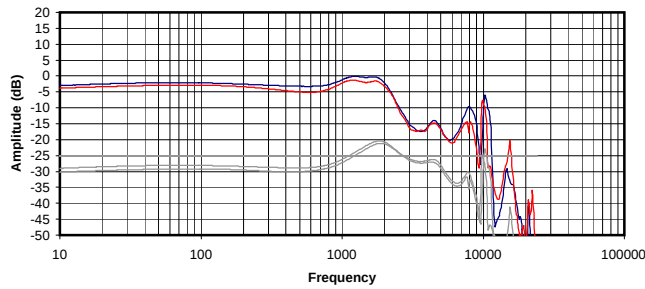
Impulse Response



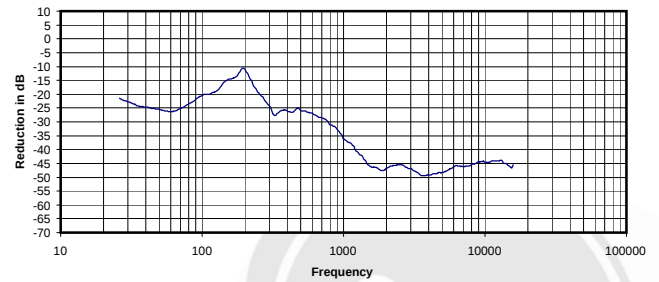
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.034 Vrms
32 Ohms
0.04 mW
-4 dBr

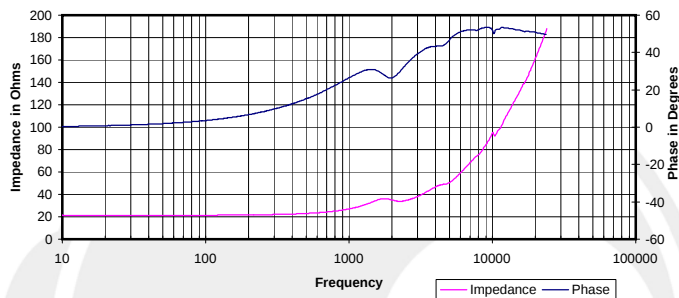
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



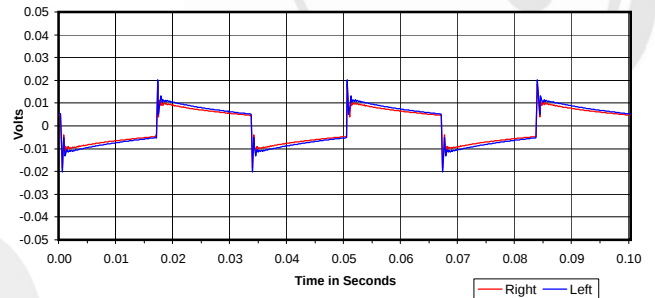
Isolation
Attenuation of External Sound vs. Frequency



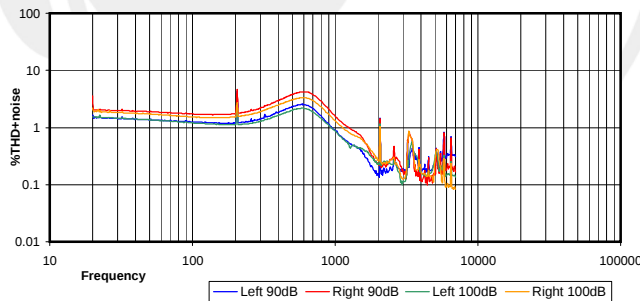
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



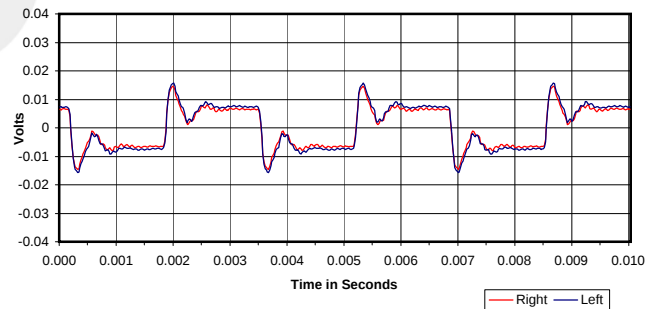
30 Hz Square Wave



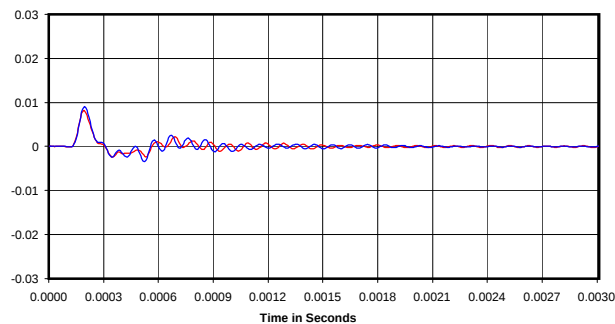
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



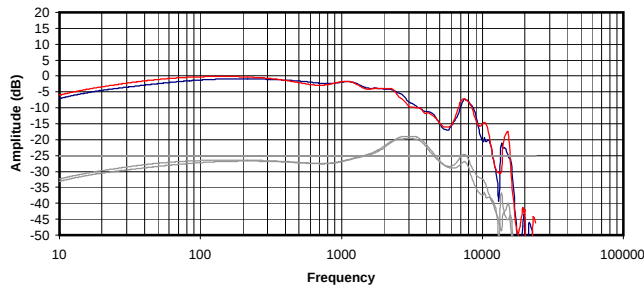
Impulse Response



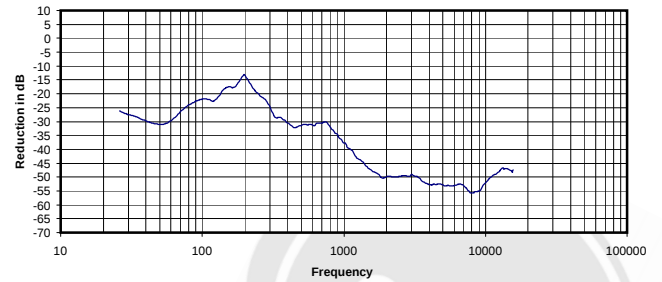
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.013 Vrms
27 Ohms
0.01 mW
-33 dBr

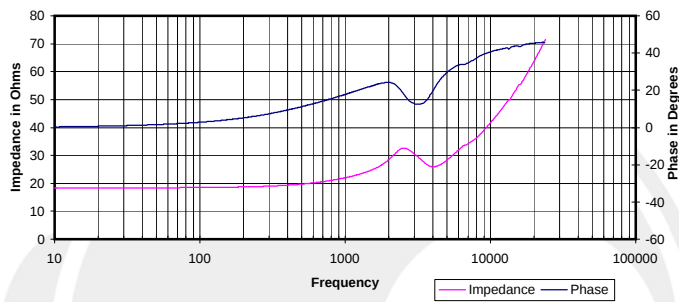
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Measured Data



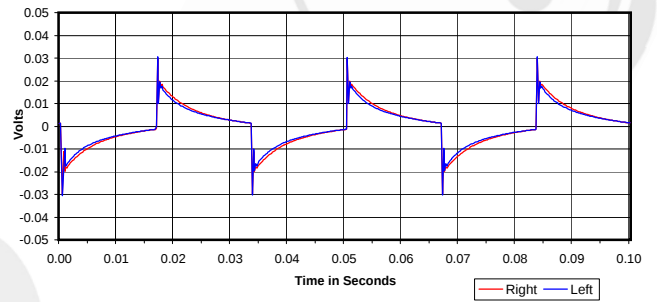
Isolation
Attenuation of External Sound vs. Frequency



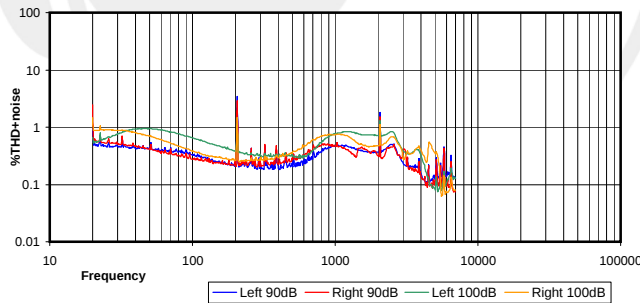
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



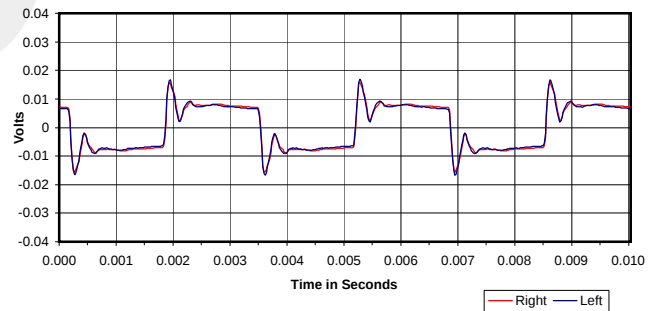
30 Hz Square Wave



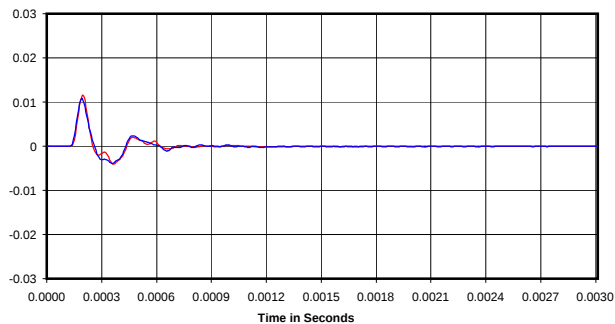
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



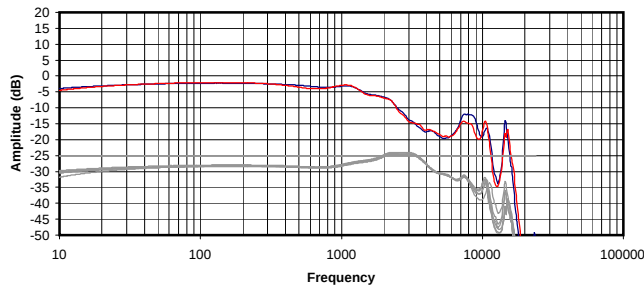
Impulse Response



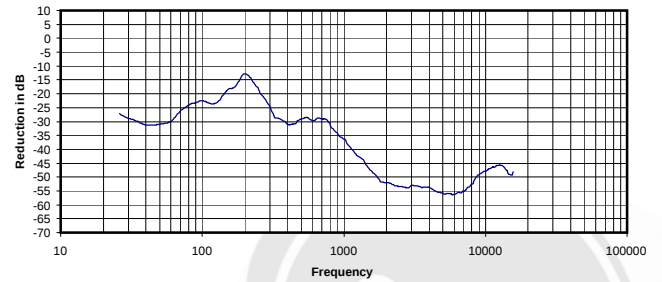
Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.020 Vrms
22 Ohms
0.02 mW
-36 dBr

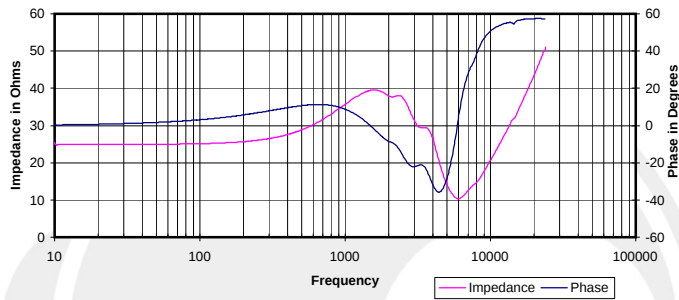
Frequency Response
Top - Compensated and Averaged
Bottom - Raw Data for Five Headphone Positions



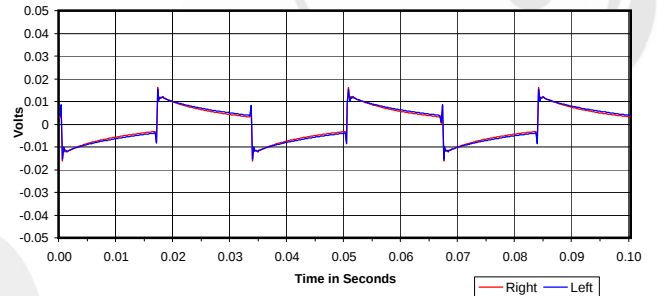
Isolation
Attenuation of External Sound vs. Frequency



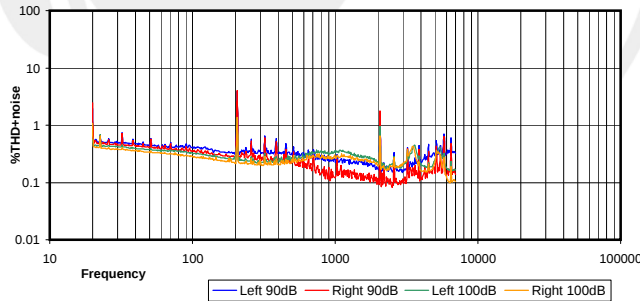
Electrical Impedance and Phase
Measured with 600 Ohm output impedance.



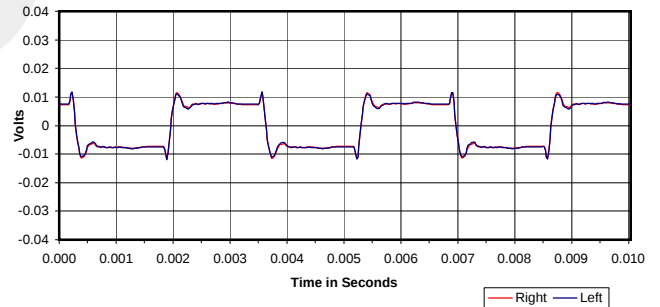
30 Hz Square Wave



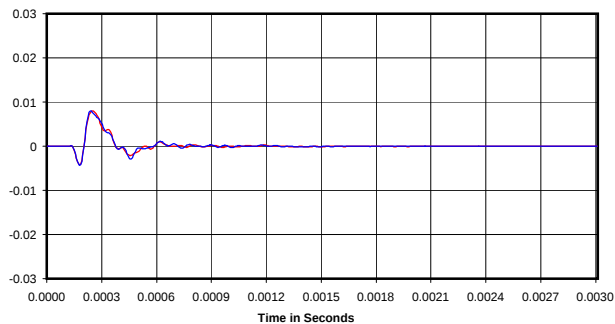
%THD+noise @ 90dB and 100dB



300 Hz Square Wave



Impulse Response



Volts RMS required to reach 90dB SPL:
Impedance @ 1kHz:
Power Needed for 90d BSPL
Broadband Isolation in dB (100Hz to 10kHz):

0.012 Vrms
36 Ohms
0.00 mW
-36 dBr