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April 08, 2000

Hearing Protective Device Test Report Number Q104A

MASPROT

Attn: Jorge Villa

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ORIGINAL

Date of Sample Receipt: 3/16/00

Date of Sample Test: 3/17/00-4/7/00

Attenuation measurements have been performed according to the American National Standards Institute (ANSI) Specifications, ANSI S3.19-1974, using the experimenter-fit protocol, on the MASPROT MPA-103 ear muff worn in the over-the-head position (test ID Q104A). The specified threshold measurement data were obtained using ten normal-hearing listeners, six male and four female, with ages ranging from 19 to 45 years. These listeners were selected from a standby group of about 35 volunteers, mostly graduate students, who regularly serve as listeners for measurements of this kind.

The measurements were made in a room designed for this purpose. All acoustic characteristics of the room meet the requirements outlined in ANSI S3.19-1974. The ambient noise levels in this room are below the limits specified in ANSI S3.19-1974, and open ear thresholds are used on a continuing basis to monitor the background noise levels. An automatic recording attenuator was used to record both open and occluded ear thresholds.

The attached Tables show grand mean attenuation values in decibels (dB) for each test signal along with group attenuation values. Standard deviations (S.D.) for the 30 different attenuation determinations for each test signal are also given.

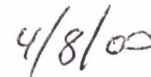
Michael & Associates is accredited by the National Institute of Standards and Technology (NIST) National Laboratory Accreditation Program (NVLAP) for tests performed according to ANSI S3.19-1974 and ANSI S12.6-1984. These accreditation criteria encompass the requirements of international standards ISO 9002:1994 (ANSI / ASQC Q92-1987), ISO / IEC Guide 25:1990, and ISO / IEC Guide 58:1993 as suppliers of test results. This report may only be reproduced or transmitted electronically in its entirety. This report shall not be used to claim product endorsement by NVLAP or by any agency of the U.S. Government.

Use these laboratory-derived attenuation data for comparison purposes only. The amount of protection afforded in field use is often significantly lower depending on how the protectors are fitted and worn.



Kevin Michael, Ph.D.

President



Date

INDIVIDUAL AND SUMMARY ATTENUATION DATA FOR
HEARING PROTECTIVE DEVICES

TEST METHOD: ANSI S3.19-1974
MANUFACTURER: MASPROT
MODEL: MPA-103

POSITION: OH
DATE: 4/8/00
TEST ID #: Q104A

FREQUENCY IN HERTZ

SUBJECT	125	250	500	1000	2000	3150	4000	6300	8000
1	20	24	35	40	37	36	37	36	38
	21	24	31	43	35	35	36	37	34
	19	27	31	43	37	35	36	42	37
2	21	29	32	38	36	43	45	39	38
	16	29	31	41	37	36	44	41	35
	14	27	32	40	35	37	42	39	33
3	25	30	33	46	36	34	40	40	37
	19	24	33	42	36	35	39	39	36
	23	27	32	44	38	35	40	40	40
4	16	25	35	43	37	36	36	40	40
	19	26	32	41	34	35	39	40	41
	17	23	32	41	38	36	36	41	41
5	23	26	39	33	37	38	36	41	43
	23	26	36	35	36	39	40	38	41
	24	21	33	36	36	39	38	39	42
6	16	25	34	42	37	36	39	39	32
	17	22	35	39	35	36	38	39	34
	19	24	32	37	34	37	39	37	33
7	21	26	37	44	41	37	41	41	38
	17	24	37	44	35	37	39	37	35
	19	23	33	45	38	36	37	40	38
8	16	23	33	41	37	36	38	32	30
	19	24	34	43	39	35	38	37	36
	19	23	31	43	38	36	37	35	30
9	16	25	29	44	44	33	36	45	43
	18	25	33	39	37	32	37	39	39
	19	24	32	43	35	31	35	38	37
10	15	24	35	44	38	38	41	37	39
	18	25	35	41	43	36	36	36	40
	18	24	34	45	40	32	39	38	41

MEANS	18.9	24.8	33.4	41.3	37.2	35.8	38.4	38.7	37.4
STD. DEV.	2.8	2.0	2.0	3.1	2.4	2.3	2.5	2.5	3.6

NRR = 28 dB

HEADBAND FORCE = 3.2 LBS

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MANUFACTURER: MASPROT
MODEL: MPA-103
POSITION: OH

DATE: 4/8/00
TEST ID#: Q104A

Measurements were made according to American National Standards Institute Specifications ANSI S3.19-1974.

Center Frequency in Hz	Mean Attenuation in dB	Group Attenuation in dB	Standard Deviation in dB
125	18.9	43.7	2.8
250	24.8		2.0
500	33.4		2.0
1000	41.3		3.1
2000	37.2	186.1	2.4
3150	35.8		2.3
4000	38.4		2.5
6300	38.7	76.0	2.5
8000	37.4		3.6

These data were obtained through measurements made at the laboratories of Michael & Associates, Inc., State College, PA, USA. Michael & Associates, Inc., is accredited to test to ANSI S3.19-1974 and ANSI S12.6-1984 by the National Institute of Standards and Technology (NIST) National Voluntary Laboratory Accreditation Program (NVLAP).

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4/8/00
Date