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Calibration Laboratory
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CERTIFICATE OF CALIBRATION

CERTIFICATE NUMBER	2010-1017
ORGANISATION	UNIVERSITY of PRETORIA, BUSINESS ENTERPRISES, DEPARTMENT of MECHANICAL & AERONAUTICAL ENGINEERING, ROOM 10-8
ORGANISATION ADDRESS	P.O. BOX 14679, HATFIELD, 0028
CALIBRATION OF	¼" MICROPHONE complete with AMPLIFIER
CALIBRATED BY	M.W. DE BEER
MANUFACTURERS	BEYER DYNAMICS and KORMAN
MODEL NUMBERS	MCE 5 and ADM 4
SERIAL NUMBERS	1221 and ----------
DATE OF CALIBRATION	12 AUGUST 2010
RECOMMENDED DUE DATE	AUGUST 2011
PAGE NUMBER	PAGE 1 OF 3

This certificate is issued in accordance with the conditions of approval granted by the South African National Accreditation System (SANAS). This Certificate may not be reproduced without the written approval of SANAS and M and N Acoustic Services.

Calibrations performed by this laboratory are in terms of standards, the accuracies of which are traceable to national measuring standards as maintained by NMISA

The measurement results recorded in this certificate were correct at the time of calibration. The subsequent accuracy will depend on factors such as care, handling, frequency of use and the amount of different users. It is recommended that re-calibration should be performed at an interval, which will ensure that the instrument remains within the desired limits and/or manufacturer's specifications.

The South African National Accreditation System (SANAS) is member of the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA). This arrangement allows for mutual recognition of technical test and calibration data by member accreditation bodies worldwide. For more information on the arrangement please consult www.ilac.org

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13 August 2010
DATE OF ISSUE

1. PROCEDURE

The ¼" Microphone was calibrated according to procedures 1002/P/004 and 1002/P/005 as well as to the manufacturer's specifications using the supplied Amplifier.

2. MEASURING EQUIPMENT

Agilent	34410A	Multimeter	MY 47003070
B&K	UZ0001	Barometer	LS-71
Quest	QC-20	Calibrator	Q00100015
Quest	CA-15	Multi-Frequency Calibrator	H9120002

3. RESULTS

3.1 The following parameters of the ¼" Microphone were calibrated using the Amplifier on channel A with the setting x1:

Output sensitivity at 1000 Hz:	9,05 mV/Pa
Output sensitivity at 125 Hz:	6,79 mV/Pa
Output sensitivity at 250 Hz:	7,92 mV/Pa
Output sensitivity at 500 Hz:	9,20 mV/Pa
Output sensitivity at 1000 Hz:	9,03 mV/Pa
Output sensitivity at 2000 Hz:	7,86 mV/Pa

4. REMARKS

4.1 The reported expanded uncertainties of measurements are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95,45 %, the uncertainties of measurements have been estimated in accordance with the principles defined in the GUM (Guide to Uncertainty of Measurement) ISO, Geneva, 1993

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4.2 The environmental conditions were: Temperature: (23 ± 2) °C
Relative Humidity: (50 ± 15) %.

4.3 Calibration labels bearing cal date, due date (if requested), certificate number and serial number have been affixed to the instrument.

4.4 The uncertainties of measurements were estimated as follows:

¼" Microphone: ± 0,9 dB

----------SECTION 4.4 THE END OF CERTIFICATE ----------

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Only Member : Marianka Naude