

# ACOUSTICS AND NOISE CONTROL IN CANADA

THE CANADIAN ACOUSTICAL ASSOCIATION

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# L'ACOUSTIQUE ET LA LUTTE ANTIBRUIT AU CANADA

L'ASSOCIATION CANADIENNE DE L'ACOUSTIQUE



Juillet 1977  
Vol. 5, N° 3

July, 1977  
Vol. 5, No. 3

CONTRIBUTIONS

Articles in English or French are welcome. They should be addressed to a regional correspondent or to a member of the editorial board.

SUBSCRIPTIONS

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(continued on inside back cover)

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CONTRIBUTION

Vous êtes invités à faire parvenir des articles en anglais ou en français. Prière de les adresser à un correspondant régional ou à un membre de la rédaction.

SOUSCRIPTION

L'acoustique et la lutte antibruit au Canada est distribué gratuitement. Veuillez communiquer avec la Division de la lutte antibruit, Service de la protection de l'environnement, Ministère de l'Environnement, Ottawa (Ontario), K1A 0C8, pour faire inscrire votre nom sur la liste d'envoi. Il est nécessaire que tous les résidents du Canada indiquent leur code postal.

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(suite au recto de la couverture inférieure)

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### Notice Board

#### Canadian Acoustical Consultants Directory

The CAA is compiling a directory of Canadian acoustical consultants. This directory will be available to anyone requesting it. Consultants who wish to be included should send a prospectus of their capabilities and experience (maximum one page 8-1/2 x 11) to our secretary, C.W. Sherry, Domtar Research Centre, Senneville, Que. H9X 3L7

### Position Wanted

Mr. A.L. Brown, a Research Officer in the Department of Civil Engineering at the University of Queensland, is seeking employment in Canada for a period of up to two years, beginning in mid-1978. He is a Bachelor of Civil Engineering and holds a Master of Urban Studies, and is currently completing his Ph.D. He is 30 years old.

Mr. Brown's work has been into freeway noise prediction and effects. He is interested in research in these areas and in the application of traffic noise control measures. He wishes to gain experience in a Northern Hemisphere country where traffic noise studies are relatively advanced.

Anyone interested in employing Mr. Brown should please write directly to him at the Department of Civil Engineering, University of Queensland, St. Lucia 4067, Australia. Copies of his papers and other background information are also available in Canada from D.N. May (address on inside back cover of this issue).

Position Available

A position exists for a postdoctoral fellow for work associated with high resolution medical ultrasonic studies.

The position is suitable for a physicist with a strong background in ultrasonic holography and visualisation or in optical imaging processes. The research work is concerned with high resolution acoustic lenses and is being conducted jointly by the Medical School and the Department of Physics.

Salary for the post is in the range \$9,600 - 13,200 p.a. Appointment for an initial period of two years is envisaged.

Apply to: Professor H.W. Jones  
Acoustic Group  
University of Calgary  
Calgary, Alberta, Canada  
T2N 1N4

Mark application envelope, "Medical Ultrasonics".



# Canadian Standards Association

178 Rexdale Boulevard, Rexdale, Ontario, Canada, M9W 1R3

## Association Canadienne de Normalisation

Telex 06-965887 / Cable Canstan

**Standards Division**

(416) 744-4106

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File No. Z501-90

July 11, 1977

Mr. G. Faulkner,  
Editor, Canadian Acoustical Assoc.,  
Mechanical Engineering Department,  
University of Alberta,  
Edmonton, Alberta.  
T5G 2G8

Dear Mr. Faulkner:

I met with Cameron Sherry at a CSA meeting on June 21st and he informed me that you are not receiving any news releases from us on Standards prepared by the CSA Committee on Acoustics and Noise Control.

Please find attached a brief on the three new Standards just released by CSA.

Other standards on acoustics and noise control that have been available from CSA are:

- CSA Standard Z107.1-1973, Specification for Sound Level Meters (Adopted ANSI S1.4-1971);
- CSA Standard Z107.2-1973, Methods for the Measurement of Sound Pressure Levels (Adopted ANSI S1.13-1971);
- CSA Standard Z107.3-1974, Methods for the Determination of Sound Power Levels of Small Sources in Reverberation Rooms (Adopted ANSI S1.21-1972);

Mr. G. Faulkner

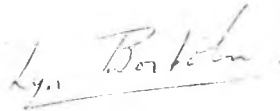
File: Z501-90

CSA Standard Z107.4-1975, Pure Tone Audiometers for  
Limited Measurement of Hearing  
and for Screening; and

CSA Standard Z107.5-1975, Octave, Half-Octave, and Third-  
Octave Band Filter Sets (Adopted  
ANSI S1.11-1966 (R1971)).

I hope this will be helpful to you and if I can be of any further  
assistance, please let me know.

Yours very truly,

A handwritten signature in cursive script that reads "L.G. Bortolin". The signature is written in dark ink and is positioned above a horizontal line.

L.G. Bortolin, P.Eng.,  
Standards Administrator.

LGB/lt  
Attach.

CSA COMMITTEE ON ACOUSTICS AND NOISE CONTROL

The CSA Committee on Acoustics and Noise Control reports that three Standards prepared by the Subcommittee on Noise from Transport Vehicles have now been published and are available from CSA.

The three Standards form part of a series of Standards dealing with the measurement of noise from vehicles and transportation systems. They are:

CSA Standard Z107.21, Procedure for Measurement of the Maximum Exterior Sound Level of Pleasure Motorboats

The basic intent of this Standard is to provide a reportable measurement procedure which can be used by a manufacturer, a regulatory agency or other body to determine the maximum sound level which a given new motorboat can emit. Such measurements, which are not, in general, representative of the normal mode of operation of the vehicle have been characterized as noise potential measurements. At present there is no Standard basis on which a manufacturer can communicate to the intending purchaser of a boat the maximum level of noise it will emit. It is felt, therefore, that the Standard will serve a useful purpose in filling this need.

CSA Standard Z107.22, Procedure for Measurement of Maximum Exterior Sound Level of Stationary Trucks with Governed Diesel Engines

The intent of this Standard is to provide a simple, repeatable measurement procedure which can be used by vehicle operators, regulatory agencies or other bodies to monitor the noise emissions from diesel trucks which are in current service. The application of the Standard was restricted to diesel trucks owing to the relatively poor repeatability of the operating technique for ungoverned engines and governed gasoline engines.

It has been found that the results of tests carried out in accordance with the Standard, despite the exclusion, under stationary conditions, of the noise from tires, transmission and aerodynamic sources, correlate fairly well with those measurements made under pass-by conditions. Although there is an inherent variance representing a slight loss in realism, the simplicity of the basic procedure and the relatively unrestrictive nature of the requirements for the measurement site make the Standard particularly suitable as a basis for regulation of truck noise by municipal or provincial governments.

CSA Standard Z107.23, Procedure for Measurement of the  
Maximum Interior Sound Level in Trucks with Governed Diesel Engines

The basic intent of CSA Standard Z107.23 is to provide a simple, repeatable measurement procedure which can serve as an indicator of the noise levels to which a diesel truck operator is exposed during normal operation of the vehicle. The application of the Standard was restricted to diesel trucks owing to the poorer repeatability of measurements on ungoverned engines and governed gasoline engines. The standard is primarily intended for application to vehicles which are in service although there is nothing in the Standard that specifically precludes its use in certifying the performance of a new vehicle.



SHOULD CAA JOIN INTERNATIONAL/INCE?

At the request of President Bill Bradley, I have prepared a report on the status of our proposed membership in The International Institute of Noise Control Engineering for the information and consideration of members of the Canadian Acoustical Association. It is intended that the question of membership in International/INCE be debated and resolved at the forthcoming CAA annual meeting to be held in Ottawa on October 26, 1977.

The following is an excerpt from the text of the address by Professor Fritz Ingerslev, President of the International Institute of Noise Control Engineering at the INTER-NOISE 77 meeting held at the Swiss Federal Institute of Technology in Zurich, Switzerland in March 1977.

"The International Institute of Noise Control Engineering (International/INCE) was founded in 1974. A major objective of International/INCE is to sponsor and to make arrangements for INTER-NOISE Conferences in cooperation with leading national and international societies and organizations concerned with the engineering aspects of noise control.

Membership is also open to non-profit societies concerned with noise control and the application of engineering techniques for the control of noise, provided they are open in return to membership by individuals.

Membership is also open to non-profit societies who are interested in the development of interdisciplinary contacts between Noise Control Engineers and other related fields.

The list of Societies who have already been elected as members includes:

1. The Australian Acoustical Society
2. The Danish Acoustical Society
3. Verein Deutscher Ingenieure, VDI-Kommission Lärminderung
4. The Acoustical Society of Japan
5. The Institute of Noise Control Engineering of Japan
6. Nederlands Akoestisch Genootschap
7. The Acoustical Society of Norway
8. The Committee of Acoustics of the Polish Academy of Sciences
9. Schweizerische Gesellschaft für Akustik
10. The South African Acoustics Institute

11. The Acoustical Society of America
12. The Institute of Noise Control Engineering, U.S.A.

Thus, International/INCE has twelve member-societies in ten countries spread over five continents. Applications for membership from a number of other Societies is expected."

International/INCE is a non-profit organization established under Swiss Civil Law for the purposes of organizing international conferences on noise control engineering, providing a forum on information and news. It will also promote international interdisciplinary cooperation in research and the dissemination of knowledge on the application of engineering techniques to control noise. The by-laws of the organization are available on request.

International/INCE sponsors an annual international conference known as INTER-NOISE and to date 6 conferences have been held. INTER-NOISE 78 will be held in San Fransisco, May 8-10, 1978.

International/INCE produces a Newsletter which is circulated to member Societies. This Newsletter provides details on upcoming INTER-NOISE conferences as well as announcing decisions made in the technical committees of ISO and IEC concerning the progress of standardization related to noise control. Professor T.E. Siddon is the Corresponding Editor on behalf of CAA.

A member Society INCE/USA, incorporated in 1971, publishes two bimonthly magazines. NOISE CONTROL ENGINEERING covers new technical developments and NOISE/NEWS is devoted to other information such as U.S. government activities, technical reports, contract information and other news of interest.

The only implication of joining International/INCE other than the dissemination of information through the good offices of the Corresponding Editor is a financial obligation. On joining International/INCE an annual subvention of 300 Swiss Francs (approximately \$135.00/CAN. at the present rate of exchange) is due on January 1 of each year.

I recommend that the Canadian Acoustical Association membership be requested to approve an application for membership in International/INCE.

John Manuel, Director

New Publications From  
ENVIRONMENT ONTARIO

	<u>Price</u>
Model Municipal Noise Control By-law Final Revision, August, 1977	\$ 3.00
Acoustics Technology in Land Use Planning	
Volume I - Analysis of Noise Impact	\$10.00
Volume II - Road Traffic Noise Tables	\$10.00
Environmental Acoustics Technology for Noise Control Officers	
Acoustics I Revised August, 1977	\$ 2.00
Acoustics II Revised August, 1977	\$ 2.00
Acoustics III Revised August, 1977	\$ 2.00

These publications may be obtained from the: Ontario Publications Centre  
880 Bay St.  
Toronto, Ontario M7A 1N8  
Tel: (416) 965-6015

"Acoustics Technology in Land Use Planning" - Training Manual

The effect of noise in the environment is becoming an increasingly important consideration since noise is capable of interfering with human efficiency, personal comfort and the enjoyment of property. There is also a growing concern for the way that land is used. Therefore, the Ontario Ministry of the Environment recently added to its training program a course for those concerned with providing acceptable noise environments in new land use through planning and design.

The new course offers quantitative and qualitative aspects of the subject in lectures, workshops and a field trip. The first three days of the course are essentially qualitative, with the more technical lectures and workshops following on the 4th and 5th days. Through this structuring it is anticipated that the course will appeal to candidates signed up for either the three or five day options because of their special needs.

A new training manual entitled "Acoustics Technology in Land Use Planning", prepared by the Noise Pollution Control Section, is issued in two Volumes. Volume I contains a comprehensive coverage of noise prediction techniques and noise attenuation due to thick and thin barriers. Volume II, known as "Road Traffic Noise Tables" enables planners to easily "red flag" new land uses subjected to significant noise impact in excess of Provincial guidelines issued by the Ministry of Housing. The Tables rapidly indicate desirable forms of noise control measures and housing densities which should be considered in site planning of new subdivisions.

The same training is also available in a condensed two day seminar format to promote dissemination and discussion of the subject by interested groups at all levels of concern throughout the Province. The Training and Certification Section should be contacted for information on courses and seminar dates at (416) 965-1027 in Toronto.

GOVERNMENT NOISE CONTROL OFFICIALS  
(Prepared by Donald H. McKay, Environment Canada)

11.

Federal Government Noise Control Officials in the National Capital Region  
(updated February 28, 1977)

Accommodation

*(including back cover)* "Noise & Vibration Control" Brochure sent out to each person listed (with Dept. letter). - Nov. 7/77 J.G.

Walton, Arthur L., Architectural and Planning Division, Central Mortgage and Housing Corporation, 4th floor, LaSalle Academy, 373 Sussex Drive, Ottawa, Ontario K1A 0P7 - (613) 746-4611

Environment

Macenko, F., Chief, Noise Control Division, Federal Activities Environmental Branch, Environmental Conservation Directorate, Environmental Protection Service, Environmental Services, Department of the Environment, Ottawa, Ontario K1A 0H3 (Office location: 4th floor, Place Vincent Massey, 351 St. Joseph Blvd., Hull, Quebec) - (819) 997-1763

Consumer and Corporate Affairs

Wilgress, E.D., (Ted) Economist, Consumer Research Branch, Bureau of Consumer Affairs, Dept. of Consumer and Corporate Affairs, Ottawa, Ontario K1A 0C9 (Office location: Place du Portage, 1 Victoria St., Hull, Quebec) - (613) 997-1370

Energy

Clements, Dr. J. R., Environmental Group, Engineering Branch, Operations, National Energy Board, 473 Albert Street, Ottawa, Ontario K1A 0E5 - (613) 996-8518

Eskimo and Indian Affairs

Benner, J., Head, Pollution Control Section, Environmental Services Division, Engineering and Architecture Branch, Administrative Program, Department of Indian and Northern Affairs, 365 Laurier Avenue West, Ottawa, Ontario K1A 0H4 (613) 992-1277

External Affairs

Petit, Jean-Pierre, Science and Environment Division, Bureau of Technological and Economic Affairs, Department of External Affairs, 125 Sussex Drive, Ottawa, Ontario K1A 0G2 - (613) 992-8725

Health and Welfare

Benwell, Dierdre, X-Rays and Radiation Devices Division, Radiation Protection Bureau, Health Protection Branch, Health, Department of National Health and Welfare, Room 237, Environmental Health Building, Tunney's Pasture, Ottawa, Ontario K1A 1C1 - (613) 995-9801

Labor

† Clark, R. S., (Dick) Manager, Program Coordination, Accident Prevention Division, Occupational Safety and Health, Research and Program Development, Department of Labour, Ottawa, Ontario K1A 0J2 (Office location: 9th floor, Place du Portage 2, 1 Victoria Street, Hull, Quebec) - (819) 997-2065

Northern Affairs

Benner, J., Head, Pollution Control Section, Environmental Services Division, Engineering and Architecture Branch, Administrative Program, Department of Indian and Northern Affairs, 365 Laurier Avenue West, Ottawa, Ontario K1A 0H4 - (613) 992-1277

Parks

Benner, J., Head, Pollution Control Section, Environmental Services Division, Engineering and Architecture Branch, Administrative Program, Department of Indian and Northern Affairs, 365 Laurier Avenue West, Ottawa, Ontario K1A 0H4 - (613) 992-1277

Research

✓ Hoffman, Dr. I, Environmental Secretariat, Division of Biological Sciences, National Research Council of Canada, Sussex Drive, Ottawa, Ontario K1A 0R6 - (613) 996-6810

✓ Northwood, Dr. T.D. (Tom), Head, Noise and Vibration, Division of Building Research, Engineering Laboratories, Laboratories and Supporting Services, National Research Council of Canada, Montreal Road, Ottawa, Ontario K1A 0R6 - (613) 993-2305

✓ Shaw, Dr. Edgar A.G., Acoustics Section, Division of Physics, Physical and Chemical Science Laboratories, Laboratories and Supporting Services, National Research Council of Canada, Room 1014, Building M-36, Montreal Road, Ottawa, Ontario K1A 0S1 - (613) 993-2840

Transportation

✓ Bonn, Warren E., Superintendent, Hull Inspection and Standards, Ship Inspection, Coast Guard Ship Safety, Canadian Coast Guard, Dept. of Transport, Room 1031, Tower A, Place de Ville, Ottawa, Ontario K1A 0N7 - (613) 992-7031

✓ Green, John H., Assistant Director, Operating Branch, Railway Transport Committee, Canadian Transport Commission, Ottawa, Ontario K1A 0N9 - (613) 996-3208

✓ Skinner, G. R., Chief, Aeronautical Planning and Development Division, Program Coordination and Policy Review, Civil Aeronautics Branch, Canadian Air Transportation Administration, Dept. of Transport, Tower "C", Place de Ville, Ottawa, Ontario K1A 0N8 - (613) 992-1407

✓ Snasdell-Taylor, D. (Dave), Railway Branch, Canadian Surface Transportation Administration, Department of Transport, Transport Canada Building, Place de Ville, Ottawa, Ontario K1A 0N5 - (613) 996-0208

✓ Welbourne, Eric R., Chief, Vehicle Systems, Road and Motor Vehicle Traffic Safety Branch, Canadian Surface Transportation Administration, Department of Transport, Tower "C", Place de Ville, Ottawa, Ontario K1A 0N5 - (613) 992-0077

#### Urban Affairs

✓ Shulman, Norman, Human Environment Group, Urban Analysis Branch, Ministry of State for Urban Affairs, CMHC Annex, Montreal Road, Ottawa, Ontario K1A 0P6 (613) 993-1567

#### Regional Noise Control Officials (prepared 28/1/1977)

##### Atlantic

✓ Kozak, J. (Joe), Technical Services, Atlantic Region, Environmental Protection Service, Environmental Services, Department of the Environment, 515 George St. P. O. Box 2406, Halifax, N. S. B3J 3E4 - (902) 426-6132

##### North and West

✓ Edwards, A. C. (Cam), Air Pollution Control Section, Northwest Region, Environmental Protection Service, Environmental Services, Department of the Environment, Room 901, 10025 Jasper Avenue, Edmonton, Alberta T5J 2X9 - (403) 425-9970

##### Ontario

✓ Ogilvie, K. (Ken), Federal Activities Branch, Ontario Region, Environmental Protection Service, Environmental Services, Department of the Environment, 2nd Floor, 135 St. Clair Avenue West, Toronto, Ontario M4V 1P5 - (416) 966-5639

##### Pacific

✓ Soper, Wayne, Federal Activities, Pacific Region, Environmental Protection Service, Environmental Services, Department of the Environment, 3rd Floor, Kapilano 100, Park Royal South, West Vancouver, British Columbia V7T 1A2 (604) 666-6711

##### Quebec

✓ Alves, Hospice, Quebec Region, Environmental Protection Service, Environmental Services, Department of the Environment, 5th Floor, 2020 University Street, Montreal, Quebec H3B 2A5 - (514) 283-6418

Provincial and territorial government noise control officials.  
List prepared 29/7/76

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### Alberta

Schultz, A.R. (Al), Air Quality Control, Division of Pollution Control, Environmental Protection Service, Department of the Environment, Government of Alberta, 10040-104 Street, Edmonton, Alberta T5J 0Z6, tel. (403) 427-5891.

### British Columbia

Klassen, H.P. (Harry), Assistant Director, Services, Pollution Control Branch, Department of the Environment, Government of British Columbia, Parliament Buildings, Victoria, B.C., tel. (604) 387-5321.

### Manitoba

Mackay, J.F.W., Environmental Hygienist, Noise Pollution Control Section, Environmental Control Branch, Department of Mines, Resources and Environmental Management, Building 2, Box 7, 139 Tuxedo Avenue, Winnipeg, Manitoba R3C 0V8, tel. (204) 489-4511, ext. 250.

### New Brunswick

Burns, Bruce R., Air Quality Section, Pollution Control Branch, Department of the Environment, Government of New Brunswick, Centennial Building, Fredericton, N.B. E3B 5H1, tel. (506) 453-2861.

### Newfoundland

Jeans, David G., Director, Environmental Management and Control, Department of Provincial Affairs and Environment, Elizabeth Towers, Elizabeth Avenue, St. John's, Newfoundland A1C 5T7, tel. (709) 753-2140.

### Northwest Territories

Hodgson, S.M., Commissioner, Government of the Northwest Territories, 6th Floor, Arthur Laing Building, 50th Avenue and 49th Street, Yellowknife, Northwest Territories X0E 1H0, tel. (403) 873-7111.

### Nova Scotia

Ryan, T.D., Environmental Control Engineer, Inspection and Monitoring Branch, Department of the Environment, Government of Nova Scotia, 17th Floor, Bank of Montreal Tower, P.O. Box 2107, Halifax, N.S. B3J 3B7, tel. (902) 424-7796.

### Ontario

Manuel, John, Supervisor, Noise Pollution Control Section, Pollution Control Planning Branch, Environmental Assessment and Planning Division, Ministry of the Environment, Government of Ontario, 135 St. Clair Avenue West, 7th Floor, Toronto, Ontario M4V 1P5, tel. (416) 965-1193.



Prince Edward Island

Phillips, W.C. (Bill), Air and Solid Wastes Division, Environment Protection Service, Department of the Environment, Government of Prince Edward Island, Box 2000, Charlottetown, P.E.I. C1A 7N8, tel. (902) 892-3561.

Quebec

Aumont, Antoine, Chef, Section de la lutte antibruit, Service de l'environnement industriel, Service de la protection de l'environnement, Ministère des affaires municipales et de l'environnement, Gouvernement du Québec, 9310, boul. St-Laurent, Montréal, Québec H2N 1N4, tél. (514) 873-3454.

Saskatchewan

Sentis, R.R., Director, Air Pollution Control Branch, Environmental Protection Service, Department of the Environment, Government of Saskatchewan, 11th Floor, Saskatchewan Power Building, Regina, Saskatchewan S4P 0R9, tel. (306) 525-2114.

Yukon

Smith, James, Commissioner, Government of the Yukon Territories, Box 2703, Whitehorse, Yukon Territories Y1A 2C6, tel. (403) 667-5120.



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