Volume 7, Number 4
1999 December

NOISE/NEWS INTERNATIONAL

A quarterly news magazine published by I-INCE and INCE/USA

Maling and Lang:
Noise on the 'Net

INTER-NOISE 99 and ACTIVE 99 attendees:
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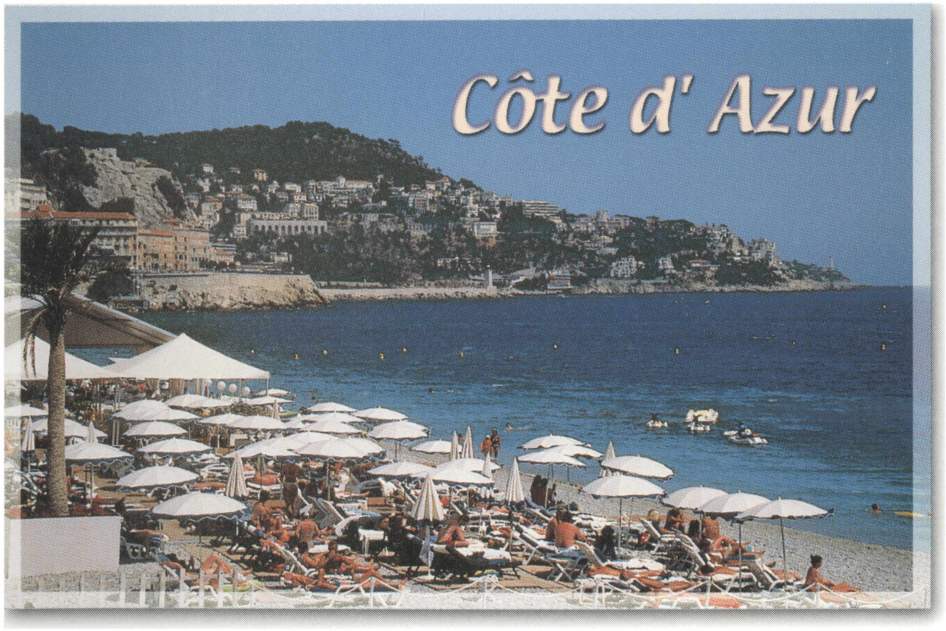
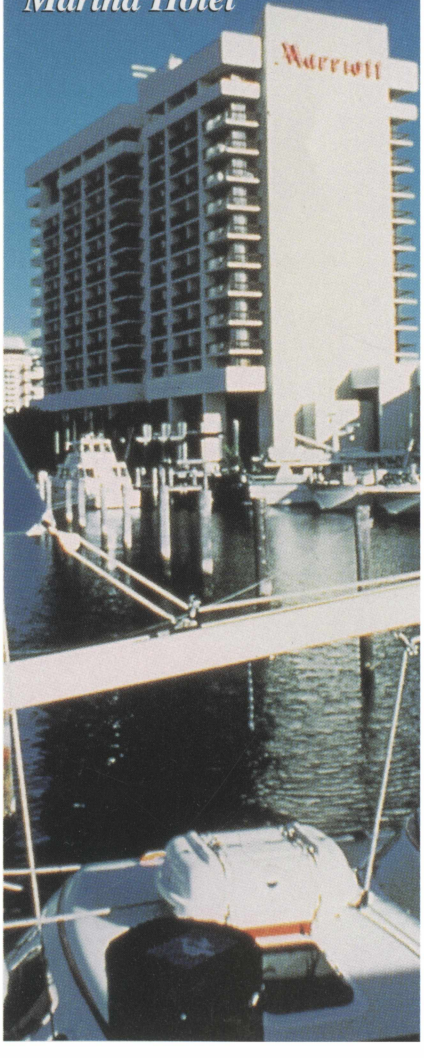


inter-noise 2000
Nice, Côte d' Azur, France
2000 August 27-30



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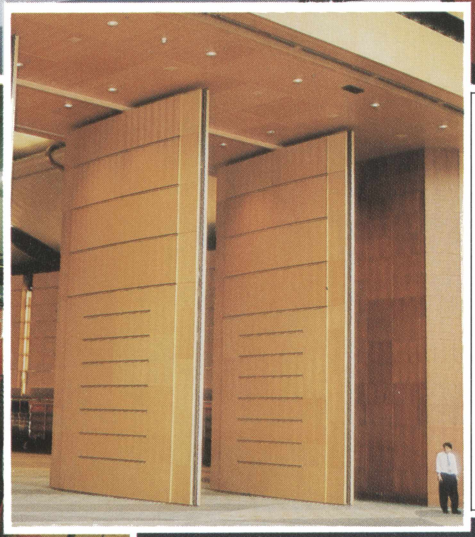

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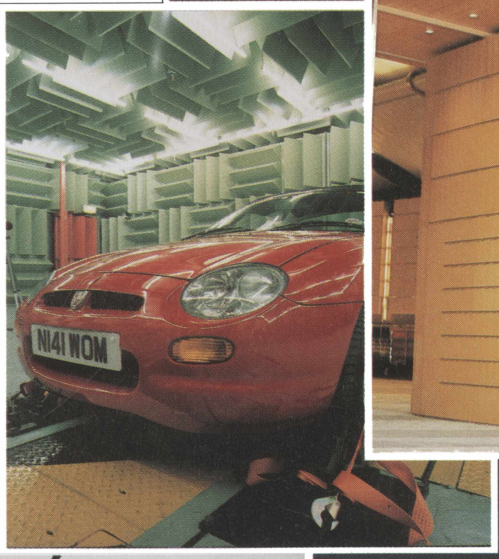

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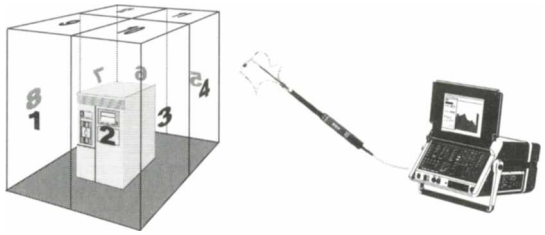

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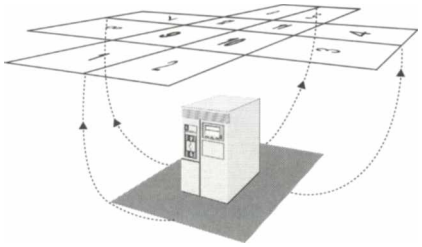

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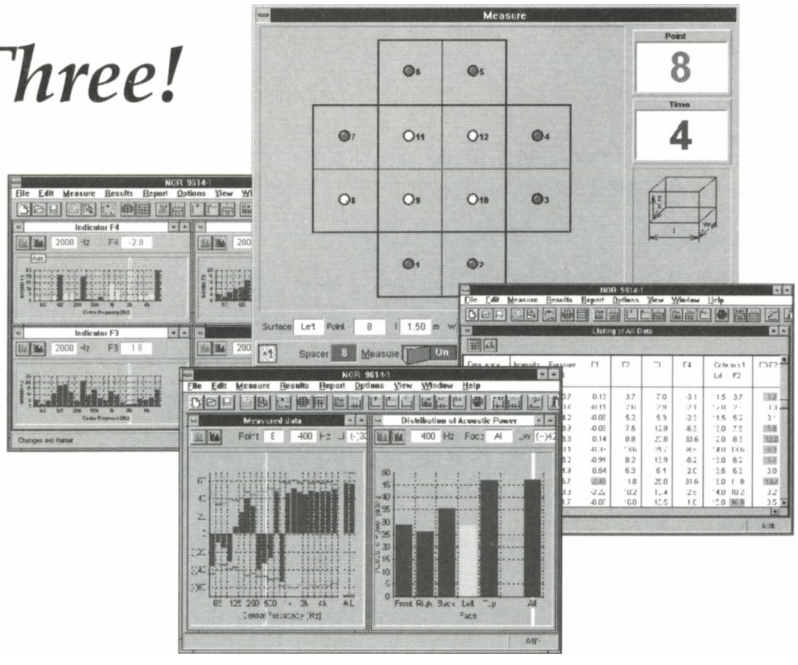

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President's Column

Industrial Noise Control—Its Time is Now

I recently visited a plant in the outskirts of Cleveland, Ohio. I was hired to develop recommendations to reduce the risk of worker hearing loss. With my trusty sound level analyzer in hand I went about taking noise measurements at appropriate equipment locations. As usual, my meter attracted a crowd, with a few outgoing workers trying their skill at karaoke. After the novelty wore off, I had a chance to talk to them about the noise at their facility, the impact on their work day, and on their lives.

The high noise levels made it difficult to carry out their duties. They felt isolated from their co-workers as the high noise levels made it difficult to communicate. They felt unsafe as they might not be able to hearing warning signals, or the approaching fork truck. They felt noise significantly added to the stress of their job.

One of the workers complained about the hearing loss he developed, and the tinnitus that never goes away. He has to play his night stand radio to try to mask the tinnitus tone to help him fall asleep.

The workers were glad that the company was trying to reduce noise at their plant. They look forward to a quieter workplace.

Most companies have some type of value statement, extolling the virtue of a safe and healthy workplace. Can such a workplace exist when excessive noise levels create unsafe environments and worker hearing loss? Unfortunately, industrial noise control is a hard sell. The workers in the Cleveland facility are lucky that their present management is embarking on a program to reduce plant noise levels. Unfortunately, there are too many companies that do not have noise control as such a priority.

I realize that I am preaching to the choir of believers of the virtues of lower noise workplaces. The message must go beyond our close-knit fellowship. We know there are reasonable noise control techniques to resolve most high noise situations. And we know they can fit into the budget of most industrial facilities.

Listen to the workers. When discussing noise control opportunities with your company or your client offer them solid reasons why a lower noise workplace is in their firm's interest. Lower noise will:

- Create a safer work environment. It is truly unsafe when a co-worker can not communicate an impending danger.
- Improve communication. It is difficult to communicate in a high noise environment. Workers will communicate less, not passing along important information.
- Improve worker performance. It is stressful to work in a high noise environment. Employees will work more effectively in a quiet environment.
- Improve equipment maintainability. It is difficult for workers to hear their equipment in a high noise environment.
- Reduce the financial liability of workers compensation. Many plants are spending big money to resolve workers compensation claims. The costs are very high as they must include not only the damage award, but lawyers fees, experts fees, and company time to prepare the case.

The noise control engineering community has the knowledge and expertise to work with industry to bring about lower noise workplaces. I trust that you will do your part in seeing it a reality in the 21st century.

—Stephen I. Roth
1999 INCE President

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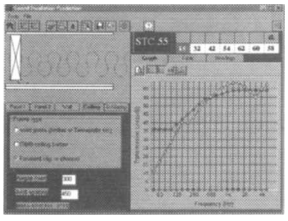

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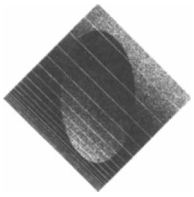

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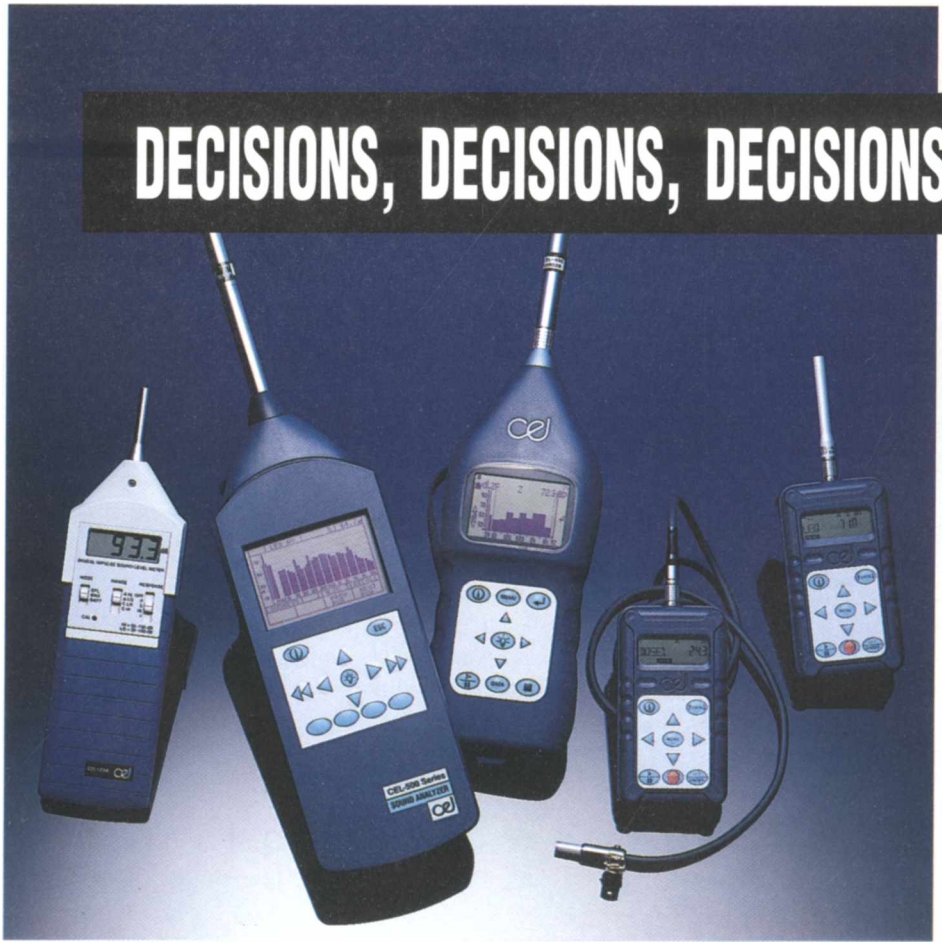

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Toward a Quieter 21st Century?

As we approach the end of the 20th century, it is appropriate to consider the progress we have (or have not) made in noise control engineering over the last 100 years or so.

Ancient studies of sound were mainly concerned with music (Pythagoras, c. 500 BC) and it was not until about the 17th century that math and physics had developed sufficiently for the tentative beginnings of the "science" of acoustics — but music and musical instruments were still the main topics.

"Boilermaker's Deafness" affecting the hearing of workmen in boiler shops was recognized in the mid-19th century, and in this century experimental investigations on the relationship between noise exposure and deafness expanded quite rapidly, especially during and after World War II.

In 1922, the collected papers of W.C. Sabine were published, with room acoustics the dominant topic. The Acoustical Society of America was founded in 1929 and began publishing its well-respected Journal; because of the wide range of acoustical topics of interest, noise control was not well covered.

It was not really until the introduction of jet-propelled commercial aircraft in the late 1950s that community noise annoyance became a serious, widespread issue. Cyril Harris' *Handbook of Noise Control*, published in 1957, covered physiological and psychological effects of noise and vibration as well as methods of reducing noise emission from a wide range of noise sources both inside buildings and in the community.

The International Commission on Acoustics held its first three-yearly Congress in 1953, with papers covering all branches of acoustics. The multi-lingual journal, *Acustica,* commenced publication in 1961. In 1963 a major community noise survey was carried out in London, U.K. This, known as the *Wilson Report,* was published in 1963, and led to legislation to provide compensation for building upgrading for those worst affected.

INCE/USA was founded in 1971, held the first INTER-NOISE Congress in Washington, DC a year later, and started publishing *Noise/News*. International-INCE was founded in 1974. The INCE/USA newsletter was later combined with the International INCE newsletter to form this journal, *Noise News International,* in 1993.

The International Organization for Standardization and the International Electrotechnical Commission are busy writing standards in the area of noise control engineering and instrumentation. There is also a considerable body of legislation to control noise inside buildings and in the community in many parts of the world.

So — there is certainly much activity concerning noise and its control at the end of this century. There are noise certification limits which must be met — by new aircraft for example — but we do not seem to have made much progress. The new wide-bodied jets are certainly less noisy than their predecessors and carry more people on each trip, but their number and the frequency of their movements continue to increase. Motor vehicle ownership/capita continues to increase in the developed world and new roads and expressways are still being built so that even more journeys can be made to annoy even more people.

Perhaps when our fossil fuels become exhausted we will all be forced to sit at home, communicating and carrying out all our commerce and leisure activities on the Internet? Then the 21st century may well be quieter than this one has been.

—Anita Lawrence
Asia-Pacific Editor

Uno Ingard
Notes on Sound Absorption Technology

This 384–page text on sound absorption technology is accompanied by three high–density floppy disks. The disks contain 39 executable DOS programs which, together with the text, allow the user to make a wide variety of calculations related to the properties of acoustical materials. For example, users are able to:

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- Determine the acoustical performance of perforated and wire screen layers,
- Calculate the performance of acoustic resonators, and
- Calculate the absorption coefficient of flow–resistive screens.

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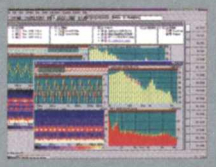

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Member Society Profile

The Acoustical Society of Lithuania

The most active Lithuanian acousticians are united in the Acoustical Society of Lithuania (LAS) that was established nine years ago. Lithuania declared the restoration of its Independence on 1990 March 11, the first of the Baltic countries to do so, and was the first to rally its acoustical scientists into the Acoustical Society of Lithuania (1990 July 08). The founder of the LAS is Professor D. Guzas who is currently serving as its president. The LAS publishes a journal, *Ultragarsas*.

There are eight main groups in the LAS. They are:

1. **Architectural and constructional acoustics.** Architectural and constructional acoustics applies known theoretical methods into practice.
2. **Physical acoustics and acoustical electronics.** Since 1960, Vilnius State University has been engaged in physical acoustics and acoustical electronics. Acoustic-electronic phenomena in semi-conductors have been developed.
3. **Ultrasound Physics and techniques.** The third group deals with ultrasound physics and techniques.
4. **Ultrasound in medicine and biology.** This group investigates the use of ultra sound means in medicine and biology. Special devices are constructed.
5. **Electrical acoustics.** By means of well known methods devices for electroacoustical needs are being constructed. New schemes are being created.
6. **Musical and speech acoustics.** Musical and speech acoustics is being investigated by the scientists of Lithuanian Music Academy and by some scientific and industrial enterprises.
7. **Oscillations and industrial noise.** Vilnius Technical University and Lithuanian Agricultural University solve issues pertaining to the reduction of production noise. Here special attention is accorded to the problems of sound insulation and noise reduction in pipes.
8. **Environmental noise.** At Vilnius Gediminas Technical University, work is undertaken in environmental noise control and in the acoustics of buildings. One of the many chairs where the science of acoustics has been developed is in the Professional Improvement Center and by the staff of the Research Center *Vibrotechnika.*

The recent work of Professor Guzas should be mentioned. One of his major works is the monograph in the English Language *Noise Propagation by Cylindrical Pipes and Means of Its Reduction.* This is the first monograph in English that was published after the reestablishment of an independent Lithuania. It deals with production noise control problems. The author has been working in the sphere of noise control for 35 years and for 25 years he has been involved in researching of sound insulation of shells, duct walls and coverings.

In the year 2000, the LAS will celebrate its first ten-year anniversary. The First Baltic-Acoustic Conference to be held on September 17-21 invites not only all acoustical scholars from the Baltic countries, but also the scientists from various countries of the world, who are interested in the science of acoustics and the generation of new ideas in this branch of science.

The conference will take place in the center of Vilnius, the capital of Lithuania, in the Congress House, with the best hotels, other scientific and cultural sights, and museums located nearby.

The acoustical scientists from the entire world are invited to the first Lithuanian International Conference *Baltic Acoustics,* dedicated to the anniversary of the Acoustical Society of Lithuania.

Contact: LAS, Kriviu 15-2, Vilnius 2007, Lithuania, FAX: + 370 2 223451; e-mail:daumantas.ciplys@ff.vu.lt

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This is the 28th in a series of articles on the history and activities of the Member Societies of International INCE. — Ed.

Feature

Noise on the 'Net

George C. Maling, Jr., *NNI* Managing Editor and William W. Lang, *NNI* Feature Editor

Introduction

Since 1992, the explosive growth of the Internet and particularly the widespread use of hypertext transfer protocol to make available pages marked up with hypertext markup language (html) has made very significant changes on how everyone with access to the Internet obtains information. Professionals in noise control engineering can now routinely obtain information worldwide with a few clicks of the "mouse." The ability to create pages with relatively little effort and post those pages on the Internet has greatly improved the ways that professionals can communicate. In this article, we have included the Uniform Resource Locator (URL) for many pages on the Internet. These URLs are given in parentheses, and in every case should be preceded by http:// to obtain the full URL.

The availability of many search engines and the ability to structure queries to those engines has made retrieval of information much easier than could have been imagined eight years ago. In 1999 October, searching for *noise* using the Webcrawler (www.webcrawler.com) search engine yielded 13384 "hits", and the Alta Vista (www.altavista.digital.com) search engine search resulted in 1,356,490 "hits." More sophisticated searches with the ability to accept Boolean logic statements can narrow down the number of hits for a particular area related to noise. One particularly useful site is the Yahoo (www.yahoo.com) search engine. From that home page, one can go to *Science* and then to *Acoustics* and find many links to sites related to noise control, including consultants, universities, and companies.

Nevertheless, there is a need for guidance through the large amount of information on noise available on the Internet. In 1945, the American engineer, Vannevar Bush, introduced the concept of the *memex*, a machine not unlike today's personal computer with a CD-ROM attached and with access to the internet. One of the important concepts that he described was that of *trails*. He visualized a very large amount of information on science and technology becoming available, and suggested that persons knowledgable in a particular field should prepare *trails* through the information to guide others and to save them effort in the discovery process. With information on the Internet changing daily, an up-to-date set of trails in printed form has a very short lifetime. We have prepared this article to produce a reasonably comprehensive account of information related to noise control available at the end of this decade. At the same time, we have inserted "live" links into a "soft" copy of this article, posted it on the Internet, and created a link to it from the International INCE home page (i-ince.org). We will be most grateful to our colleagues if they can inform us of new pages of interest, and we will attempt to keep the version of this article on the Internet as up-to-date as possible.

The article is broadly divided by *International and Regional Resources* in a number of key areas, and *National Resources* by country. The name of the Member Society of International INCE is included even though there may be no home page for that society.

There are many sites listed in this article for commerical sites and consultants. The authors, the Institute of Noise Control Engineering of the USA and International INCE bear no responsibility for the information on those pages. There are undoubtedly sites that have been overlooked, but the authors have included all information available to them at the time this article was written.

International and Regional Resources

International Resources

Associations

The home page (i-ince.org) of International INCE contains several links of interest. Links to conferences sponsored by International INCE are provided. There is a directory of the Member Societies of International INCE (users.aol.com/inceusa/iince.dir.html) that lists each Member Society. For each Member Society that has published a *Member Society Profile* there is a link to that Member Society in the directory. To date, 28 Member Societies have profiles.

- There is a link to the home page of the International Commission on Acoustics (www.nrc.ca/ims/ica).
- Malcolm Crocker (www.iiav.org/index.html) maintains a site for the International Institute of Acoustics and Vibration.
- SCVN (umetech.niwi.se/SCVN) is the Scientific Committee on Vibration and Noise, one of the 32 committees of the International Commission on Occupational Health (ICOH). The committee diffuses information about vibration and noise hazards in the workplace, and their prevention.
- Home page of the International Labor Organization (www.ilo.org)

Standards

- There are two primary international standards organizations that produce standards related to noise. The International Organization for Standardization (www.iso.ch) (ISO) covers acoustics in Technical Committee 43 (TC 43), and noise is covered by Subcommittee 1 (TC43 SC1). From the home page above, one can link to the ISO standards catalog where a search engine is available to find standards related to acoustics and noise.
- The International Electrotechnical Commission (www.hike.te.chiba-u.ac.jp/ikeda/IEC/home.html) (IEC) is the second international organization concerned with standards in acoustics. Instruments for noise measurement are covered by Technical Committee 29 (TC 29).

Publications

- The World Health Organization has placed a book on community noise (www.who.int/environmental_information/Information_Resources/community_noise.htm) on the Internet. The book was edited by Birgitta Berglund and Thomas Lindvall, and was published in a limited edition in 1995. A review of the book appeared in *Noise/News International*, **4**, 50, (1996).

Regional Resources

Associations

- There is a link to the home page of the European Acoustics Association (eaa.essex.ac.uk/eaa/) (Fenestra Acustica).

Governmental Organizations

- The European Union, DG III, provides a list of references to harmonized standards (europa.eu.int/comm/dg03/directs/dg3b/newapproa/eurstd/harmstds/index.html) in the context of the "New Approach" Directives.
- A Green Paper on Future Noise Policy (europa.eu.int/en/record/green/gp9611/noise.htm) has been published by the European Union to guide future noise policy in the Union.
- The European Committee for Standardization (www.cenorm.be) (CEN) is responsible for the following:
  - implementation of voluntary technical harmonization in Europe in conjunction with worldwide bodies and European partners; and
  - development of procedures for mutual recognition and conformity assessment to standards.

  CEN has not placed a catalog of its standards on the web.
- The European Information System for Occupational Safety and Health (www.eisosh.org/default.htm) has a page of interest. The first applications to be available as expert systems will be related to the assessment of noise-induced hearing loss and the selection of hearing protectors.
- ECMA (www.ecma.ch), formerly the European Computer Manufacturers Association, has standards and technical reports on noise from information technology and telecommunications equipment. There is no charge for the documents.

Publications

- A section of the CERN World Wide Web Virtual Library (WWWVL) is devoted to engineering. This portion is maintained by NASA/GSFC Assurance Technologies, and includes a section on Acoustics and Vibration Engineering (www.ecgcorp.com/velav). This page contains additional links to a number of sites that will be of interest to noise control engineers.

National Resources

For convenience, we have divided links to national resources by country so that a person can more easily find links to information within his or her country.

Australia

Associations

- Home page of the Australian Acoustical Society (www.users.bigpond.com/Acoustics).
- Information on noise can be found at Safety on line Australia (www.safetyline.wa.gov.au).

University Sites

- The University of Adelaide Active Noise and Vibration Group (www.mecheng.adelaide.edu.au/avnc/home.html) has a page devoted to active noise and vibration control.

Government

- Worksafe Australia (www.worksafe.gov.au/worksafe/FULLTEXT/docs/h4/328.htm) has a page that spells out engineering noise control measures.

Product Oriented Sites

Software

- Access Visual Technology Pty., Ltd. is an Australian software developer. Of particular interest is software to manage noise testing (www.accessvisual.com.au/NAW.htm).
- Causal Systems (www.causal.on.net) has a site related to active noise control.

Instruments

- Acoustic Research Laboratories Pty Ltd (www.hutch.com.au/~acoustic). specializes in the design of environmental noise and vibration monitoring instruments.

Austria

Associations

- Home page of the Österreichischer Arbeitsring für

Lärmbekämpfung (www.oal.at).

Government

- The Austrian Ministry of Environment (www.bmu.gv.at).

Belgium

Associations

- Home page of the Association Belge des Acousticiens (www.montefiore.ulg.ac.be/services/acous/abav/index.html)

Product Oriented Sites

Software

- A wide range of prediction software and hardware is available from LMS International (www.lmsintl.com).

Brazil

Associations

- Home page of the Sociedade Brasileira de Acustica (www.sobrac.ufsc.br)

Canada

Associations

- Home page of the Canadian Acoustical Association (www.uwo.ca/hhcru/caa)
- The Island Acoustics Society (www.upei.ca/~acoustic/links.html) was organized in 1995 in Canada's smallest province, Prince Edward Island. The site has many useful links.

University Sites

- GAUS -Acoustics & Vibrations Group Research (www-gaus.gme.usherb.ca/gaus_ang.html) - Sherbrooke University, Canada.

Consulting Services

- Aercoustics Engineering Limited (www.aercoustics.com/). Consulting engineers in the fields of acoustics, vibration, and noise control.
- Vibro_Acoustics (www.vibro-acoustics.com) offers noise control products and systems, particularly air-handling systems.

Environmental and Citizens Groups

- The Citizens Coalition Against Noise (ourworld.compuserve.com/homepages/CCAN) is a citizens group in the Toronto, Canada area. This site contains information on newspaper articles on noise, links to other environmental organizations, and other information.
- The Right to Quiet Society (www.quiet.org) in Canada maintains a page of frequently asked questions [FAQs] (www.quiet.org/FAQ.htm) concerning noise.

China

Associations

- Acoustical Society of China

Czech Republic

Associations

- Home page of the Czech Acoustical Society (csas.feld.cvut.cz)

Denmark

Associations

- Danish Acoustical Society

University Sites

- Aalborg University (www.kom.auc.dk/AKUSTIK/)
- Technical University of Denmark (www.dat.dtu.dk/)

Government

- The Danish Ministry of Environment and Energy (www.mem.dk/ukindex.htm).

Consulting Services

- Ødegaard & Danneskiold-Samsøe (www.odegaard.dk) is a consulting engineering firm specializing in acoustics and noise control.

Product-Oriented Sites

Instruments

- Brüel & Kjær (www.bk.dk). provides transducers and complete systems for the measurement and analysis of sound and vibration in a wide range of applications.

Finland

Associations

- Home page of the Acoustical Society of Finland (www.acoustics.hut.fi/asf/)

Product Oriented Sites

- Isover (www.isoveroy.com) produces insulation materials and acoustic panels in Finland.

France

Associations

- Home page of the Société Française d'Acoustique (loa.espci.fr)

Government

- The French Ministry of Environment (www.environnement.gouv.fr/english/default.htm).

Product Oriented Sites

- The Saint-Gobain Group (wbase.net/acws/html) is a consortium of manufacturers of soft acoustical ceilings.
- Eurocoustic (www.eurocoustic.com) is a company of the Saint-Gobain Group specializing in the manufacture of acoustical ceilings and wall panels.

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Environmental and Citizens Groups

- There is an organization in France concerned with aircraft noise (ufcna.com). The page is in the French language.

Germany

Associations

- Home page of NALS im DIN und VDI (www.vdi.de/nals/nals.htm)
- Home page of the Deutsche Gesellschaft für Akustik (www.dega.itap.de)

University Sites

- Dresden University of Technology (eietu2.et.tu-dresden.de/ita/itaak-e.htm) has a laboratory of acoustics and speech communication.
- The Institute of Technical Acoustics (dynamik.fb10.tu-berlin.de/~ita/index.html) in Berlin maintains a web site (in German). There is an acoustical link (in English) from that site to many other sites in Europe.
- The University of Oldenburg (www.physik.uni-oldenburg.de/docs/aku) maintains a home page on Physics/Acoustics with a further link to a paper on the Synergetic Effects of Noise from Different Sources (www.physik.uni-oldenburg. de docs/aku/thorsten/inter. html).

Government

- The German Ministry of Environment (www.bmu.de/english/index.htm).
- The German Federal Environmental Agency (www.umweltbundesamt.de/uba-info-e/e-willko.htm).
- Noise in Offices (141.90.2.11/ergo-online/Arbeitsplatz/Umgebung/G_Laerm.htm) is a site related to noise requirements in offices.

Consulting

- Müller-BBM (mbbm.de) is one of Germany's leading consulting firms for noise and vibration problems.

Hong Kong

Associations

- Hong Kong Institute of Acoustics

Hungary

Associations

- Acoustical Commission of Hungarian Academy of Sciences
- The Hungarian Society for Optics, Acoustics and Film Technology(wrangler.essex.ac.uk/eaa/members/hungary/hungary.html) (OPAKFI).

India

Associations

- Acoustical Society of India

Italy

Associations

- Home page of the Italian Acoustical Association (www.idac.rm.cnr.it/aia).
- Home page of Assoacustici (www.assoacustici.it), a non-profit organization of professionals in acoustics (Italian).

Standards

- There are two primary Italian standards organizations that produce standards related to noise. The Italian National Standard Body (UNI) covers acoustics and noise in the "Commissione Acustica", mirroring ISO/TC 43. From this home page (www.unicei.it/english/home.html), one can link to the UNI standards catalog where a search engine is available to find Italian standards related to acoustics and noise (English or Italian).
- The Italian Electrotechnical Commission (www.ceiuni.it) (CEI) is the second Italian organization concerned with standards in acoustics. Instruments for noise measurement are covered by Technical Committee 29 (CT 29), mirroring the IEC/TC 29 (Italian).

Publications

- Results of the intercomparison of Laboratory Measurements (www.unife.it/inter_lab index.html) of Airborne Sound Insulation of Walls. This project was funded by the European Commission (English).

University Sites

- The Acoustics Research Group (acustica.ing.unibo.it) at the University of Bologna has a home page that contains information on research projects, staff and graduate courses in acoustics (English; only information for students in Italian).
- The University of Ferrara (acustica.ing.unife.it/scuola_acustica/En/globale-e.htm) maintains pages about the "School of Acoustics" (English or Italian).

Government

- The Acoustics Department (www.ien.it/ac/index.html) at "Istituto Elettrotecnico Nazionale Galileo Ferraris" of Torino, Italy, carries out research, consultancy and testing activities in the areas of applied and physical acoustics (English or Italian).
- The Istituto di Acustica O.M. Corbino (www.idac.rm.cnr.it) carries out research, consultancy and testing activities in the areas of applied and physical acoustics (English or Italian).
- The European Railway (mercurio.jet.unipi.it/TVG/acoustic.html) server offers information on the acoustical imaging of high speed trains.

Product Oriented Sites

Hardware

- This site offers sound level meters (www.orionesrl.it) (Italian).
- Spectra (www.spectra.it/indexgb.htm) offers sound level meters, noise monitoring systems, spectrum analyzers, front-ends and software for acoustics and vibration measurements (English or Italian).

Software
- The Ramsete Program (www.ramsete.com). *Ramsete* is an acoustic Pyramid Tracing code. It computes the sound field in rooms and outdoors according to geometrical acoustics approximations.

Japan

Associations
- Home page of the Acoustical Society of Japan (www.soc.nacsis.ac.jp/asj/asj-index.html)
- Home page of the Institute of Noise Control Engineering of Japan (www.mmjp.or.jp/INCE-JAPAN)

Korea

Associations
- Acoustical Society of Korea
- Home page of the Korean Society for Noise and Vibration Engineering (members.iWorld.net/ksnve/)

University Sites
- There is a Noise and Vibration Control Research Center (novic.kaist.ac.kr) at the Korea Advanced Institute of Science and Technology (KAIST).

Lithuania

Associations
- Home page of the Lithuanian Acoustical Society (wrangler.essex.ac.uk/eaa/members/lithuani/lithuani.html).

Mexico

Associations
- Sociedad Mexicana de Acustica

Netherlands

Associations
- Home page of the Nederlands Akoestisch Genootschap (eaa.essex.ac.uk/eaa/members/netherla/netherla.html)
- Dutch acoustics (geluid.pagina.nl) and noise related links.

University Sites
- Delft University of Technology (wwwak.tn.tudelft.nl/index.html). Laboratory of Seismics and Acoustics.
- TU Delft (dutnakn.tn.tudelft.nl) Acoustics Laboratory.

Government
- The Dutch Ministry of Environment (www.minvrom.nl/home_e.htm).

Other
- XS4ALL (www.xs4all.nl/~rigolett/ENGELS) is a useful site related to traffic noise, and includes information on the noise Working Group structure of the EU commission DG-XI, Environment.

New Zealand

Associations
- Home page of the New Zealand Acoustical Society (archpropplan.auckland.ac.nz/Acoustix/NZAS/NZAS_home. html).

Consulting Services
- Marshall Day Acoustics (www.marshallday.com/) - an independent acoustical consulting firm based in New Zealand, Australia and Malaysia.

Norway

Associations
- Home page of the Acoustical Society of Norway (www.tele.unit.no/akustikk/nas.html).

Government
- UNEP GRID-Arendal: State of the Environment Norway (www.grida.no/soeno95/urbanen.noise.htm) - Urban environmental quality; noise from traffic.

Poland

Associations
- Committee on Acoustics - Polish Academy of Sciences

Portugal

Associations
- Sociedade Portuguesa de Acústica

Romania

Associations
- Home page of the Academia Româna, Comisia de Acustica (wrangler.essex.ac.uk/eaa/members/romania/romania.html).

Russia

Associations
- East-European Acoustical Association
- Home page of the Russian Acoustical Society (www.akin.ru).

Singapore

Associations
- Environmental Engineering Society of Singapore

Slovakia

Associations
- Home page of the Slovak Acoustical Society (wrangler.essex.ac.uk/eaa/members/slovakia/slovakia.html).

Slovenia

Associations

- Slovenian Acoustical Society

South Africa

Associations

- Southern Africa Acoustics Institute
- Noise and Vibration Division, SAIMechE

Spain

Associations

- Home page of the Sociedad Española de Acústica (www.ia.csic.es/Sea/index.html).
- Spanish Council for Scientific Research - Institute of Acoustics (www.ia.csic.es/index.htm)

Sweden

Associations

- Home page of the Swedish Acoustical Society (wrangler.essex.ac.uk/eaa/members/sweden/sweden.html.
- The Scandinavian Vibration Society (svib.se) has useful links to noise and vibration sites in Scandinavia.

Standards

- The Swedish Materials and Mechanics Standards (www.sms-standard.se/standard/system/2524.htm) site provides information on Swedish organizations working to satisfy the requirements of EU noise directives.

University Sites

- A description of the noise and vibration control research (www.chalmers.se/forskningskompetens/akustik.html), the staff (19 persons) and the facilities of the Technical Acoustics Department of Chalmers University.
- Chalmers (www.chalmers.se) is the leading university in Sweden for noise research according to an international evaluation.
- Chalmer's professor Tor Kihlman discusses noise as an environmental problem (www.sabema.se/blandat3.html).
- The activities of the noise group of the Royal Institute of Technology (www.es.matematik.su.se/projektlinjen/ppro...er/tidpl an.html) are described.

Government

- The Swedish Environmental Protection Agency (www.environ.se/www-eng/enghome.htm)
- A brochure (www.miljo.malmo.se/buller.htm) prepared by the environmental authorities in Malmo is addressed to those whose living quarters are disturbed by the noise of airconditioning and ventilation equipment.
- This site describes the noise program of the National Institute for Working Life (umetech.niwl.se/Swedish/Buller.html) which deals with the relationship between noise and learning, disturbance and risks.
- Research in building acoustics, noise, and vibration is conducted by the SP Swedish National Testing and Research Institute (www.sp.se/pne/Acoustics/marknad.htm).

Consulting Services

- This site describes the activities of Scandinavia's largest consulting firm in acoustics, noise, and vibrations, Ingemansson Technology AB (www.ingemansson.se/technology/svensk/index.htm).

Product Oriented Sites

Hardware

- Ecophon (www.ecophon.com) is a subsidiary of Gullfiber AB, a Swedish manufacturer of glass wook and thermal insulation.

Software

- CATT (wwwnetg.se/~CATT) offers software for room acoustics predictions.

Switzerland

Associations

- Home page of the Schweizerische Gesellschaft für Akustik (eaa.essex.ac.uk/eaa/members/switzerl/switzerl.html).

Government

- The web site of the Zürich airport (www.zurich-airport.ch/Wir~ueber~uns/Umw)has a section devoted to noise and noise control.

Turkey

Associations

- Home page of the Turkish Acoustical Society (www.takder.org).

United Kingdom

Associations

- Home page of the Institute of Acoustics (ioa.essex.ac.uk/ioa).
- The Engineering Integrity Society (www.e-i-s.org.uk) is a charity formed in 1984. The organization has a noise, vibration, and harshness group.

Publications

- Lord Rayleigh is one of the founders of acoustical science. A 23-page biography (www.gec.com/review/v7n3p167) titled "Lord Rayleigh - the last of the great Victorian Polymaths" is available.
- The commercial publication, Noise and Vibration Worldwide (www.multiscience.co.uk) has now gone on line, and a sample issue is available free at the web site.

University Sites

- Imperial College, London, (www.me.ic.ac.uk/dynamics/centre/UTC.html)has a center for vibration engineering.
- Oxford University provides FAQ on active noise control (www.lib.ox.ac.uk/internet/news/faq/archive/ active-noise-control-faq.html)
- The University of Liverpool (www.liv.ac.uk/abe/aru) has an acoustics research unit.
- Douglas Nunn (capella.dur.ac.uk/doug/acoustics.html) at the University of Durham maintains an acoustics page with many links to other organizations.
- Salford University (www.salford.ac.uk/acoustics/) has a home page on acoustics.
- The University of Sheffield (www.shef.ac.uk/ccc/groups/vibgroup) has a Vibration Engineering Research Section.
- The Institute of Sound and Vibration Research (www.isvr.soton.ac.uk/) (ISVR) in the United Kingdom has a home page, and has links to other sites of interest.

Government

- A good starting and search point is the UK public sector information (www.open.gov.uk)
- The UK Health and Safety Executive (www.open.gov.uk/hse/hsehome.htm).
- The UK Department of Environment, Transport, and the Regions (www.detr.gov.uk)

Consulting Services

- The Association of Noise Consultants (www.isvr.soton.ac.uk/ANC) in the United Kingdom. An organization of independent firms of consultants offering professional services in noise and vibration.
- Anthony Best Dynamics Ltd (www.abdynam.demon.co.uk/) offers consulting services in noise and vibration.
- AcSoft (www.acsoft.co.uk). Provides acoustical and vibration analysis.
- Arup's acoustics group (www.arup.com/acoustics) is affiliated with Ove Arup & Partners. The group offers multinational consulting services in noise and vibration control.
- ISVR Consultancy Services (www.isvr.co.uk/) offers specialized services in noise, vibration, and acoustics.
- Rupert Taylor Consultancy (ourworld.compuserve.com/homepages/Rupert_Taylor) offers consulting services in noise and vibration control.

Product Oriented Sites

Hardware

- Active Control eXperts (www.acx.com) offers products related to active noise control.

Software

- Integrated Sound Software (www.soundsoft.demon.co.uk) offers software related to calculations via the Boundary Element Method (BEM).

Instruments

- Castle Group Ltd (www.castlegroup.ltd.uk) - dedicated to the design and manufacture of instrumentation for noise and vibration measurement.
- CEL Instruments Ltd (www.cel.ltd.uk). Manufacturers of noise monitoring equipment and related services.

Environmental and Citizens Groups

- There is an organization in the United Kingdom (www.hacan.org.uk) concerned with aircraft noise around Heathrow airport.

United States of America

Associations

- Home page (ince.org) of the Institute of Noise Control Engineering of the USA.
- Home page of the Acoustical Society of America (asa.aip.org).
- The Acoustical Society of America maintains a Database of Graduate Education in Acoustics (asa.aip.org/asagrad/gpdir.cm.html). If one specifies "Noise and Noise Control" as the technical area and leaves the search word box blank, a listing can be obtained of colleges and universities that have courses on noise control.
- Home page of the Council for Accreditation in Occupational Hearing Conservation (www.caohc.org) [CAOHC]. There are many links dealing with the health effects of noise.
- Home page of The National Hearing Conservation Association (www.hearingconservation.org).
- The American Society for Testing and Materials (www.astm.org) maintains a page which covers the various activities of ASTM. Or, you can link directly to the page for ASTM E33 on Environmental Acoustics. (www.astm.org/COMMIT/e-33.htm)
- The Noise Control and Acoustics Division (www.asme.org/divisions/noisecontrol) of the American Society of Mechanical Engineers has an active noise control program.
- The AIAA and CEAS (www.aiaa.org/cgi-bin/wg2) activities are described on this page. AIAA is the American Institute of Aeronautics and Astronautics, and the CEAS is the Confederation of European Aerospace Societies.
- The Society of Automotive Engineers (sae.org) maintains an Internet site. A recent search on *noise* resulted in the titles of 858 documents.

- The Vibration Institute (www.safetyonline.net/vibrate) has a home page that includes information about the Institute and a calendar of short courses and meetings.

Standards

- There is a link to the Acoustical Society of America's standards information page (asa.aip.org/map_standards.html). Abstracts of American National Standards related to acoustics are available by going to the *standards* link from the home page above.
- The American National Standards Institute (www.ansi.org) provides information on ANSI standards, including noise standards.

Publications

- Link to the web site of the biweekly newsletter Airport Noise Report (www.airportnoisereport.com).
- Links to many acoustical sites can be found at the Links2Go Acoustics Topic (www.links2go.com/topic/acoustics).

University Sites

- The Acoustics Research Center (www.cooper.edu/engineering/me/ACOUSTICS/) of the Cooper Union in New York.
- Cornell University provides the text of the Noise Control Act (www4.law.cornell.edu/uscode/42/ch65.text.html) - from the U.S. Code.
- The Georgia Tech Acoustics and Vibrations Program (www.me.gatech.edu/acoustics/).
- The Michigan State University (www.pa.msu.edu/acoustics/) has an acoustics and psychoacoustics program.
- The Acoustics and Vibration Laboratory (web.mit.edu/org/a/avlab/www/) at MIT has a home page that contains information on projects, staff and students.
- The Pennsylvania State University maintains pages for both the Graduate Program in Acoustics (www.acs.psu.edu) and the acoustics and vibration (www.arl.psu.edu/general/expert1.html#Acoustics) activities at the Applied Research Laboratory.
- Penn State also offers a Certificate Program in Noise Control Engineering (www.worldcampus.psu.edu/pub/programs/nce/index.shtml) which is an off-campus series of four non-credit, graduate level courses in noise and vibration control.
- The Ray W. Herrick Laboratories (herrick.www.ecn.purdue.edu) at Purdue University maintains a home page related to vibrations and acoustics.
- The University of Central Florida (www-cee.engr.ucf.edu/labs/noise/index.htm) has a community noise laboratory
- The University of Hartford (uhavax.hartford.edu/acoustics) Acoustics Department offers undergraduate training in acoustics.
- The University of Kentucky (www.engr.ukt.edu/me/cyber/vactmb.html) has a vibro-acoustics consortium.
- The University of Texas at Austin (www.me.utexas.edu/~microbot/noise.html) has a site on highway noise control maintained by the Center for Transportation Research. The focus is on noise barriers and tire/pavement interaction noise, and there is a design guide at the site.
- The Vibration and Acoustics Laboratories (www.val.me.vt.edu) at Virginia Tech in Blacksburg has a home page that is of interest, and has links to other sites concerned with acoustics and vibrations.
- This is an interesting site prepared by Andrew Silverman (usenet.umr.edu/faqs/physics-faq/acoustics), although somewhat dated, that cites many links and has much information on acoustics.

Government

- The Federal Aviation Administration (aee.hq.faa.gov) maintains a home page. Here one will find quite a bit of information on aircraft noise. When you reach the site, clicking on the *Technology Division* provides further links to technological publications and documentation, environmental models and documentation, and The Federal Interagency Committee on Aviation Noise (FICAN) (www.fican.org).
- The National Institute for Occupational Safety and Health (www.cdc.gov/niosh/homepage.html) (NIOSH) provides a topic index with a link to information on noise and hearing protection (www.cdc.gov/niosh/noisepg.html).
- There is a structural dynamics laboratory (www.fibg.wpafb.af.mil) at the Wright-Patterson Air Force Base in Ohio.

Consulting Services

- National Council of Acoustical Consultants (www.ncac.com). A professional organization of acoustical consultants.
- Acentech Incorporated (www.acentech.com) provides consulting services in architectural acoustics, noise and vibration control, audio/visual systems design and environmental acoustics.
- David L. Adams Associates, Inc (www.dlaa.com). Acoustical consulting.
- artNTEK (www.artntek.com) is a consulting firm located in Santa Barbara, California.
- Associates in Acoustics, Inc (www.esion.com). Provides consulting, specializing in industrial noise measurement,

engineering control, and hearing conservation issues.

- BridgeNet International (www.airportnetwork.com/BCS_Noise_Control_Engineering .HTML) has a noise control engineering group.
- BRC Acoustics (Bruck Richards Chaudiere, Inc. (www.seattle.net/~brcacoustics/index.htm) offers consulting services in acoustics and noise control.
- Campanella Acoustics (204.240.36.10/campanella_acoustics) offers consulting services in noise control.
- Lewis S. Goodfriend & Associates (www.lsga.com). Provides consulting in acoustics, environmental noise, audio and audio visual system design.
- Colin Gordon & Associates (www.cganda.com/). Provides consulting services, with specialists who service vibration-sensitive advanced technology applications.
- Harris Miller Miller & Hanson Inc. (www.hmmh.com). Acoustical consulting services for airports, highways, rail and transit systems.
- Hessler Associates (www.hesslernoise.com) offers professional services in noise control.
- Hersh Acoustical Engineering (www.iswest.net/~hae) offers consulting services in noise control and acoustics.
- Investigative Science (www.investigative-science.com) offers consulting services in noise and vibration control.
- J & A Enterprises, Inc (www.jandaenterprises.com). Provides noise and vibration control engineering services to the marine and other industries.
- Noise Control Engineering, Inc. (www.noise-control.com) offers consulting services in noise control.
- The Noise Management Institute (www.noisemanagement.org) offers an *Interactive Sound Information System* said to be useful to produce noise simulations related to the management of environmental noise.
- Ostergaard Acoustical Associates (www.acousticalconsultant.com/) provides Consulting services in architectural acoustics, community noise, industrial noise control, and scientific counsel to attorneys in support of litigation.
- Power Acoustics, Inc (poweracoustics.com). offers acoustical consulting services - specializing in the power industry.
- Roush Anatrol (www.anatrol.com/) offers noise and vibration consulting services. The company serves the automotive and computer industries and other areas.
- Roth Acoustical Associates (www.rothacoustics.com) - noise control consultants providing assitance with industrial, architectural, community and product noise control and acoustical issues.
- Charles M. Salter Associates (www.cmsalter.com). Consultants in acoustics and audio/visual system design.
- Shiner+Associates, Inc. (www.shineracoustics.com) specializes in attaining optimum acoustical environments.
- Vibro-Acoustic Sciences (www.vasci.com) offers noise prediction software and related products.
- Wilson, Ihrig & Assoc., Inc. (www.wiai.com/). Offers consulting services associated with acoustics and noise and vibration control.
- Wyle Laboratories, Inc (www.wylelabs.com/). An independent, testing, engineering and specialty manufacturing company.

Product Oriented Sites

Hardware

- Industrial Acoustics Company (www.industrialacoustics.com) offers a full line of sound control products, including silencers, quiet rooms, anechoic rooms, and reverberation rooms.
- Industrial Noise Contol, Inc. (www.industrialnoisecontrol.com) provides products and custom systems for controlling noise in industrial and commercial environments.
- Jamison Doors (www.jamison-door.com). Offers specialty doors for noise reduction.
- E-A-R Specialty Composites (www.earsc.com) is a manufacturer of vinyl and urethane products for noise and vibration control.
- illbruck (www.illbruck-sonex.com) offers foam sound absorptive materials for noise reduction.
- The Proudfoot Company (www.proudfoot.thomasregister.com/olc/proudfoot) offers hanging baffles and other products.
- Quilite Noise Barriers (www.quilite.com/) The company offers an alternative to common block walls for controlling noise in commercial and industrial applications.
- Silent Source (www.acousticfoam.com/). Supplies acoustic foams, barriers, diffusors, fabrics, and more.
- The Sonex Corporation (www.mhtc.net/~lowey) offers absorptive materials for wall and ceiling treatments.
- Soundcoat (www.soundcoat.com) offers noise control materials and parts, primarily foam sound absorptive materials and damping materials.
- Noise Cancellation Technologies (www.nct-active.com). Develops products for active noise control.

Software

- Cambridge Collaborative offers SEAM (www.seam.com) software for prediction of noise and vibration.
- Math Works (www.mathworks.com) offers the Matlab software with extensions to noise and vibration problems.
- Power Acoustics Inc (poweracoustics.com/Software.html). provides environmental noise prediction software absed on the ISO 9613 standard.
- Vibration Research (www.vibrationresearch.com) offers a hardware and software package for vibration control.

Instruments

- Brüel & Kjær (www.bkhome.com). Provides transducers and complete systems for the measurement and analysis of sound and vibration in a wide range of applications.
- Larson Davis (www.larsondavis.com). The product line includes sound level meters, other noise measuring equipment, and condenser microphones.
- Scantek, Inc. (www.scantek.net) carries Norsonic, Rion, and other instruments, and also has available noise prediction software.
- Silent Source (www.silentsource.com) offers acoustical products such as doors, panels, foam materials, etc.
- Universal Silencer (www.universal-silencer.com) offers acoustical silencers for machinery and equipment.
- Zonic (www.zonic.com/). Provides noise and vibration measurment systems and software.

Environmental and Citizens Groups

- The Rutgers Noise Technical Assistance Center (aesop.rutgers.edu/~envscitc/noise.html)offersassistance in the development of community noise enforcement programs.
- The The Noise Pollution Clearinghouse (www.nonoise.org) page contains information on noise, including newspaper articles, etc. This is a very useful site with many additional links.
- The League for the Hard of Hearing (www.lhh.org) in New York sponsors an International Noise Awareness Day (www.lhh.org/noise/nad.htm).
- Alliance of Residents Concerning O'Hare (AReCO) (www.areco.org/) presents issues related to aircraft noise and other topics at O'Hare airport in Chicago
- Citizens Against Airport Pollution (CAAP) (www.best.com/~caap/) is a citizens group concerned with noise issues around the San Jose, California International Airport.
- Citizens' Alliance on Chester County Airport (CACCA) (www.ccil.org/~jamjr/cacca.html) is a citizens group concerned with aircraft noise issues near the Chester County Airport in Parkesburg, Pennsylvania.
- Citizens Fed-Up with Aviation Noise (CFAN) (www.accessone.com/rcaa/cfanmiss.htm#misstop) is a group concerned with noise issues related to the airports in Seattle, Washington.
- Citizens for the Abatement of Aircraft Noise (CAAN) (www.caan.org/) is a group concerned with aircraft noise issues in Washington, DC.
- Link to a Citizens Group (host.sybercom.net/jetnoise) concerned with jet noise.
- Olmsted Falls Airport Committee (OFAC) (www.freeyellow.com/members2/mhh-consulting/) a citizens group concerned with noise issues near the Cleveland, Ohio airport.
- Residents Opposed to Airport Racket (ROAR) (www.nonoise.org/quietnet/roar/index.htm) a citizens group concerned with noise issues around the Minneapolis/St. Paul Metropolitan Airport in Minnesota.
- Sane Aviation For Everyone (S.A.F.E.) (pages.prodigy.net/rockaway/safe.htm) a citizens group concerned with noise issues around the New York, New York and Newark, New Jersey airports.
- The Seattle Council on Airport Affairs (www.scn.org/activism/scaa) home page includes links to noise issues.
- Noise from leaf blowers is a big issue, especially in California. Information on this topic can be found on several home pages:
- Landscapers Involved with Neighborhoods and Kids (www.concentric.net/~Wrigfam).
- Manhattan Beach, California (pages.prodigy.com/leaf/leaf.htm)
- Sacramento, California (www.nonoise.org/groups/cqs/cqs.htm)
- Walnut Creek, California (pacificmultimedia.com/leaf)

Other citizens issues:

- NoiseWatch (www.interlog.com/~futurist/NW/) - organization dedicated to reducing noise pollution.
- Society for Soundscape Awareness and Protection (www.quiet.org) - to fight noise pollution and foster the right to quiet.
- C.R.A.S.H.: County Residents Against Speedway Havoc (www.crashthetrack.com) - an organization opposing the noise pollution from the proposed Dover Downs Superspeedway in Wilson County, Tennessee.

Continued on page 237.

Feature

Travel Planning for INTER-NOISE 2000

Introduction

INTER-NOISE 2000, the 2000 International Congress on Noise Control Engineering, will be held on the French Riveria — in Nice, France, on 2000 August 27-30. The congress, the 29th in a series of international congresses on noise control engineering, is being sponsored by the International Institute of Noise Control Engineering (I-INCE), and is being organized by the Société Française d'Acoustique (SFA) and the Institut National de Recherche sur les Transports et leur Sécurité (INRETS). The congress president is Michel Vallet from INRETS and the co-president is Claude Legros, chairman of SFA. All technical sessions will be held in the Acropolis Centre's *Palais des Congrés*, one of Europe's leading convention centers. The *Palais des Congrés* has excellent facilities for both the technical sessions and the equipment exposition.

The Announcement and Call for Papers appeared in the June issue of this magazine (Vol. 7, No. 2, pages 91-95). Deadline for receipt of abstracts is 2000 January 15. Manuscripts for the Congress Proceedings are due on 2000 April 30.

The purpose of this article is to provide advance travel planning information for those who are planning to attend the congress.

In and around Nice

Nice, the capital of the French Côte d'Azur, is built along the *Bay of Angels* in the south of France, and is the one of the most important tourist region in France, second only to Paris. Cannes lies to the west of Nice, and the principality of Monaco lies to the east. With its 7.5 km of frontage on the sea and its protection from the north by high hills, Nice benefits from a very privileged climate with sunshine about 2600 hours a year. The *Promenade des Anglais* runs along the beachfront, and is a popular spot for strolling and enjoying the warm summer sunshine. The mean air temperature in the month of August is 23°C, and the sea temperature is 25°C. The *Old Town* is very close to the hotels and convention center. Its narrow streets, flower markets, vegetable markets, and outdoor cafés are very popular with tourists. The public transit system is very convenient; a *Nice by bus* tourist pass provides unlimited travel on the regular bus lines and one trip on the direct *Airport-Nice* line. The cost is 22 FFR for a one-day pass, 85 FFR for a 5-day pass, and 110 FFR for a 7-day pass.

Nice has played host to many well-known artists, among them Toulouse Lautrec, Modigliani, Utrillo, Dufy, Renoir, Chagal, and Matisse. There are 18 museums and municipal art galleries; all museums, except the National Marc Chagall Museum, can be visited on the first Sunday of each month at no charge or by using a *Carte Musées Ville de Nice* museum pass (40 FFR, 7 days).

There is excellent regional train service along the French Riveria, and towns between Saint-Raphael to the west and Ventimiglia (in Italy) to the east can be visited. For example, travel time to Monaco is 23 minutes. The Service Transport Express Régional (TER) of the French National Railways (SNCF) offers a *Carte Isabelle* for 60 FFR which is valid for unlimited travel on one day on the TER line and on the Nice-Tende line. Tende is a small town in the mountains behind Nice.

Hotel Accommodations

There is a wide range of hotel accommodations available in Nice. Delegates must make their own arrangements for accommodations. A list of hotels will be posted on the Internet. If you would like to book your hotel in advance of the posting, please send an e-mail message to dolivier@inrets.fr, and you will receive preliminary information.

Travel to Nice

Nice is easily reached by air. More than 35 flights per day leave Paris for the one-hour flight to Nice. Four high-speed TVG trains leave Paris daily (07.48, 11.12, 13.40, and 14.46) for the 7-hour trip to Nice.

Nearly 50% of the passenger traffic in and out of the Nice Riveria Airport is international. There is a daily direct flight from New York on Delta Airlines, and daily flights arrive from the following cities:

CITY	FLIGHTS PER DAY
Rome	7
Madrid	5
Amsterdam	5
Geneva	7
Frankfurt	6
Zürich	5

The Convention Center and hotels are 8 km from the airport; bus shuttle service and taxis are readily available. Under moderate traffic conditions, the trip takes about 20 minutes.

Excursion Programs

Pre- and Post-Congress excursions are being planned, and will be offered by a travel agency. Below are examples of excursions being considered. Persons interested in such trips should visit the INTER-NOISE 2000 web site at the URL given below to determine which excursions will be offered.

France

One-half or one day tour in Nice
Drive along the famous *Promenade des Anglais*, sightseeing Tour of the City with *Cimez* district, panoramic view from *Le Mont Boron,* drive to the Russian church. The end of the Tour is at the flower market on the famous course *Saleya* near the *Old Town*.

One-half or one-day tour to Saint Paul de Vence
Drive along the coast through *Cagnes sur Mer* and *Antibes* to reach *St. Paul de Vence*, a famous little village from the Middle Ages. The town is famous for being the residence of numerous painters. There will be a walking tour in the narrow streets of the old town and free time for shopping.

One-day tour to Cannes-Grasse
Drive along the main villages of the coast to *Grasse*, a city famous for its perfume factories. Visit a factory with a lecture on the production of perfumes After the visit to *Grasse*, drive to *Cannes*, famous for the *Film Festival*, drive along *La Croisette* overlooking the most well-known estates of the French Riveria.

One-day tour to Monaco
Drive along the *Moyenne Corniche* with very nice views of the coast between Nice and *Eze Village*. Arrive in *Monaco Monte Carlo* and take a sightseeing Tour of the old town and the *Place du Casino, Café de Paris*. Drive along streets where the famous *Grand Prix de Monte Carlo* takes place every year.

Corsica Ajaccio or Bastia
Two nights in a three-star hotel (breakfast included) and a round-trip flight to Nice.

Short visit to St. Tropez
Two nights in a three-star hotel (breakfast included) and return travel by boat between *St. Laurent du Var* and *St. Tropez*.

Short visit to Aix en Provence
Two nights in a three-star hotel (breakfast included) with travel by train from Nice.

Short visit to Camargue
Two nights in a three-star hotel (breakfast included) with travel by bus and train from Nice.

Italy

A weekend in Venice
Two nights in a three-star hotel with a round trip flight from Nice.

A weekend in Rome
Two nights in a three-star hotel (breakfast included) with a round-trip flight from Nice.

A weekend in Florence
Two nights in a three-star hotel (breakfast included) with a round-trip flight from Nice.

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Useful Internet Sites

INTER-NOISE 2000 Congress home page
http://internoise2000.loa.espci.fr

Riveria International Airport
http://www.pageszoom.com/aeroport-nice

Nice on the Web
http://www.nice-coteazur.org

Technical program

Several special sessions will be organized for INTER-NOISE 2000. This preliminary list gives the subjects of these sessions and the organizers.

• Vibro-acoustic environment of launchers	Gély (France)
• Road vehicle noise	Favre (France)
• Railbound vehicle noise	Hanson (USA)
• Noise of vehicle equipment	Tourret (France)
• Silencers: design and measurement	Coelho (Portugal)
• Fan/air conditioning system noise	Boden (Sweden)
• Smart and conventional monitoring system for noise control	Burgess (Australia)
• Characteristics of sources of vibration	Moorhouse (U.K.)
• Noise prediction models for medium and high frequencies	Sestieri (Italy)

Continued on page 229.

NOISE-CON 2000

The 2000 National Conference on Noise Control Engineering 2000 December 03-05

National and International Standardization for Noise Control

Conference Secretariat:
Acoustical Society of America
2 Huntington Quadrangle, Suite 1N01
Melville, NY 11747-4502
Telephone: (516) 576-2360
FAX: (516) 576-2377

General Chair
Alan Marsh
e-mail: marsh_alan@msn.com

Technical Program Chair:
John J. Van Houten
e-mail: JJVHandA@aol.com

Exhibition Manager
Richard J. Peppin
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Telephone: (301) 495-7738
FAX: (301) 495-7739

ASA General Chair
Sigfrid D. Soli

ASA Technical Program Chair
Lynne E. Bernstein

NOISE-CON 2000 is sponsored jointly by the Institute of Noise Control Engineering of the USA (INCE/USA) and the Acoustical Society of America (ASA).

Held jointly with the 140th Meeting of the Acoustical Society of America Newport Beach Marriott Hotel Newport Beach, California 2000 December 04-08

Announcement and Call for Papers

NOISE-CON 2000, the 2000 National Conference on Noise Control Engineering will be held at the Newport Beach Marriott Hotel in Newport Beach, California on 2000 December 03-05. NOISE-CON 2000 is being organized as a joint meeting by the Institute of Noise Control Engineering of the USA (INCE/USA) and the Acoustical Society of America (ASA).

NOISE-CON 2000 will be held in conjunction with the 140th meeting of the Acoustical Society of America which will take place at the Newport Beach Marriott on 2000 December 04-08. NOISE-CON 2000 will open on Sunday, December 03 at the Newport Beach Marriott with parallel technical sessions, a plenary session, and a reception.

Technical sessions on Monday, December 04, and Tuesday, December 05 will be held concurrently with ASA technical sessions in the hotel. NOISE-CON 2000 will conclude on Tuesday evening with a second reception. ASA sessions will begin concurrently with NOISE-CON 2000 on December 04, and will continue through December 08.

The theme of NOISE-CON 2000 will be *International and National Noise Standards*. This theme is particularly appropriate because there will be meetings of international standards committees and their working groups both before and after this joint meeting. Specifically, meetings of Technical Committee 29, *Electroacoustics*, of the International Electrotechnical Commission (IEC TC 29) and its Working Groups on 2000 November 27 - December 01 and similar meetings of Technical Committee 43, *Acoustics*, including Subcommittee 1, *Noise*, of the International Organization for Standardization (ISO TC 43 and ISO TC43/SC 1) on 2000 December 11-15. In addition, during the ASA meeting, there will be meetings of Working Groups preparing American National Standards. Several Technical Committees of the Acoustical Society of America are also planning to hold special sessions related to standardization.

Sigfrid D. Soli of the House Ear Institute will be the General Chairman for the ASA meeting, and Alan H. Marsh of DyTec Engineering will be the General Chairman for NOISE-CON 2000. John J. Van Houten of John J. Van Houten and Associates will be responsible for the NOISE-CON 2000 technical program. A joint equipment exposition for the two meetings will be organized; it will open at the Newport Beach Marriott on 2000 December 04 and close on December 06. The exposition will include computer-based instruments, sound level meters, sound intensity measurement systems, signal processing systems, acoustical materials, devices for noise control, and active noise control systems. Richard J. Peppin will serve as exhibition manager.

Individuals who register for NOISE-CON 2000 may attend all NOISE-CON technical sessions and all technical sessions being organized jointly by INCE and ASA. Individuals who register for the ASA meeting may attend all ASA technical sessions including those organized jointly.

CONTRIBUTIONS INVITED

Technical papers related to national and international standardization in noise control are especially welcome, but technical papers in all areas of noise control may be submitted for inclusion on the technical program. Abstracts should be submitted in the format enclosed with this announcement. The deadline for receipt of NOISE-CON abstracts is 2000 July 09. Abstracts of papers intended for presentation in a joint ASA/NOISE-CON session can be submitted by the regular ASA abstract deadline which is 2000 July 31. The Conference Proceedings will be published on a CD-ROM, and manuscripts must be submitted in paper and electronic form. The electronic version should be in Word, Lotus Word Pro, or Portable Document Format (PDF).

Technical papers in all areas of noise control engineering will be accepted for presentation in NOISE-CON sessions and in sessions to be held jointly with the ASA Technical Committee on Noise. Papers related to the national and international standardization in noise control are especially welcome.

- Community noise
- Noise emission requirements for aircraft
- Control of road traffic noise
- Performance of noise barriers
- Control of noise from recreational activities
- Noise control for outdoor performance spaces
- Noise from sporting events
- Acoustics of large spaces
- Soundscapes
- Combined noise sources and environmental noise
- Noise in school classrooms
- Noise control in buildings
- Office equipment noise control
- Measuring and modeling noise transmission in buildings
- Measuring and modeling flanking paths in buildings
- Standards for noise measurement and control
- Standards for sound level meters and other electroacoustical devices
- Active control of and vibration
- Sound propagation prediction methods
- Noise from construction equipment and related activities
- Construction site noise control
- Power plant noise control
- Challenges in the design of quiet products

CONFERENCE VENUE

The venue for NOISE-CON 2000 and the 140th meeting of the Acoustical Society of America, the Newport Beach Marriott Hotel, is approximately 1 km from the Pacific Ocean on a hill with a view to the southwest of Newport Beach Harbor, Balboa Island, and, on the horizon, Catalina Island about 40 km offshore. Newport Beach is located in Orange County, California — south of Los Angeles. Orange County Airport (John Wayne Airport [SNA]) is about 15 minutes to the north of the hotel by automobile. The airport was completely rebuilt about ten years ago, and is a served by all major domestic airlines. The Newport Beach Marriott provides complimentary transportation to and from the Orange County Airport. Scheduled air transportation service is available from LAX to Orange County Airport and thence to the Newport Beach Marriott by their complimentary van or by taxi. Alternatively, you may proceed to the van pickup island after retrieving your luggage at LAX and request the representative to order a van that will take you to the Newport Beach Marriott.

REPLY COUPON

Please return this coupon if you are interested in attending NOISE-CON 2000.

NAME _____

ADDRESS _____

CITY _____ **COUNTRY OR STATE** _____ **POSTAL CODE** _____

[ ] **I am interested in attending NOISE-CON 2000** [ ] **I am interested in presenting a technical paper**

[ ] **My company may be interested in participating in the equipment exhibition**

[ ] **I would like to organize a special session for NOISE-CON 2000. If checked, the subject area of the session could be:**

_____

Please return this coupon to: NOISE-CON 2000 Secretariat, Acoustical Society of America, 2 Huntington Quadrangle, Suite 1N01, Melville, NY 11747-4502. FAX: (516) 576-2377.

FORMAT FOR SUBMISSION OF ABSTRACTS

NOISE-CON 2000

2000 December 03-05
Newport Beach, California

PAPER TITLE IN BOLD UPPER CASE LETTERS (20 words maximum)

First author's name, address, telephone number, FAX, and e-mail for correspondence

Additional authors' names and addresses (if any)

Text of the Abstract: An abstract of not more than 200 words is required for each paper, whether invited or contributed. **ABSTRACTS LONGER THAN 200 WORDS WILL BE EDITED OR TRUNCATED.** For abstracts submitted by postal mail, the abstract is to be typed in the format shown on this sheet following the title of the paper in upper case letters, the INCE/USA subject classification, and the authors' names and addresses. The text should be typed double-spaced and should include: 1) a brief description of the problem being addressed, 2) why the problem is important, 3) a description of the original contribution of the work, and 4) pertinent conclusions.
The INCE/USA Subject Classification is shown on the reverse side of this page.

If the abstract is submitted by postal mail, please send three copies of the abstract without a cover letter to:

NOISE-CON 2000 Secretariat
Acoustical Society of America
2 Huntington Quadrangle, Suite 1N01
Melville, NY 11747-4502
Telephone: (516) 576-2360
FAX: (516) 576-2377
e-mail: asa@aip.org

Be sure that your abstract is clearly marked as being for presentation at NOISE-CON 2000.

ELECTRONIC SUBMISSION. Authors also have the option to submit abstracts **(200 WORDS MAXIMUM)** via the World Wide Web, or by electronic mail. The instructions for submission of abstracts via the World Wide Web and instructions for the submission of abstracts via electronic mail will be posted on the Internet. After 2000 January 31, go to

http://users.aol.com/noiseconf/nc00_abs.html

Authors should use only one method of abstract submission. The text should should include: 1) a brief description of the problem being addressed, 2) why the problem is important, 3) a description of the original contribution of the work, and 4) pertinent conclusions.

THE DEADLINE FOR RECEIPT OF ABSTRACTS IS 2000 July 09

INCE Classification of Subjects

GENERAL

00 General
01 International INCE
02 International INCE (continued)
03 International INCE (continued)
04 International INCE (continued)
05 Publications (other than technical articles)
06 History and philosophy
07 Education
08 Noise programs
09 Definitions and descriptors

EMISSION: NOISE SOURCES (noise generation and control)

10 General
11 Noise-generating devices (including components and subassemblies)
12 Stationary noise sources
13 Moving noise sources
14 Specialized industrial machinery and equipment

PHYSICAL PHENOMENA

20 General
21 Physical mechanisms of noise generation
22 Natural sources of noise
23 Propagation, transmission & scattering of sound (general wave equation)
24 Sound propagation in the atmosphere
25 Sound propagation in enclosed spaces
26 Sound propagation in ducts

NOISE CONTROL ELEMENTS (for path noise control)

30 General
31 Barriers and screens, shielding
32 Enclosures for noise sources
33 Sound isolating elements (including panels, partitions and curtains)
34 Filters, mufflers, silencers and resonators (conventional types)
35 Absorptive materials
36 Hearing protective devices
37 Noise attenuation and transmission in ducts
38 Special treatments (including active noise control)

VIBRATION AND SHOCK: GENERATION, TRANSMISSION, ISOLATION AND REDUCTION

40 General
41 Characteristics of sources of vibration and shock
42 Vibrating surfaces and structures (beams, plates, shells)
43 Propagation in structures (solid-borne noise)
44 Balancing of rotating and reciprocating machines
45 Reduction of impact forces; shock isolation and absorption
46 Vibration isolators and attenuators
47 Vibration-damping materials and structures
48 Vibration generators, shake tables
49 Effects of vibration and mechanical shock (on man, on structures)

IMMISSION: PHYSICAL ASPECTS OF ENVIRONMENTAL NOISE (multiple sources and multiple paths)

50 General
51 Building noise control
52 Community noise control
53 In-plant noise control
54 Shipboard and offshore platform noise control
55 Outdoor plant noise control design and construction
56 Noise surveys

IMMISSION: EFFECTS OF NOISE

60 General
61 Perception of sound
62 Physiological effects
63 Psychological effects
64 Effects of noise on physical structures
65 Effects of noise on domesticated and wild animals
66 Sociological effects; community reaction to noise
67 Economic effects
68 Environmental impact statements
69 Criteria and rating of noise

ANALYSIS

70 General
71 Instruments for noise and vibration measurements
72 Measurement techniques
73 Test facilities (design and qualification)
74 Signal processing
75 Analytical methods
76 Modeling, prediction and simulation
77 Sampling and quality control procedures
78 Audiometry, dosimetry and hearing measurements
79 Psychoacoustical evaluations and testing

REQUIREMENTS

80 General
81 Standards
82 Federal government legislation and regulations
83 State and local legislation and regulations
84 Other legislation and regulations
85 Ordinances, including zoning requirements
86 Building codes
87 Specifications
88 Auditing, enforcement and certification
89 Labeling

Pan-American News

George Maling, *Pan-American Editor*

USA

ASA Makes Available New and Older International Standards. The Acoustical Society of America (ASA) has available one new Technical Report and three standards produced by the International Organization for Standardization (ISO) Technical Committee 43, *Acoustics*, Subcommittee 1, *Noise*. Please visit the ASA home page at http://asa.aip.org and click on the link to *standards* to obtain ordering information and for the latest information, including updates, on the national and international standards distributed by the Acoustical Society of America.

TECHNICAL REPORT (TR)
ISO/TR 11688-2:1998
Acoustics—Recommended Practice for the Design of Low-noise Machinery and Equipment—Part 2: Introduction to the Physics of Low-noise Design

This part of ISO/TR 11688 provides the physical background for the low-noise design rules and examples given in ISO/TR 11688-1:1995, Acoustics—Recommended practice for the design of low-noise machinery and equipment—Part 1: Planning, and supports the use of extensive special literature.

It is intended for use by designers of machinery and equipment as well as users and/or buyers of machines and authorities in the field of legislation, supervision or inspection.

Equations given in this Technical Report will improve the general understanding of noise control. In many cases they allow a comparison of different versions of design, but they are not useful for the prediction of absolute noise emission values.

Information on internal sound sources, transmission paths and sound radiating parts of a machine is the basis for noise control in machines. Therefore measurement methods and computational methods suitable to obtain this information are described in Clauses 7 and 8 and Annex A. The price is 100 USD per copy.

INTERNATIONAL STANDARD
ISO 14163:1998
Acoustics—Guidelines for Noise Control by Silencers

This International Standard deals with the practical selection of silencers for noise control in gaseous media. It specifies the acoustical and operational requirements which are to be agreed upon between the supplier or manufacturer and the user of a silencer. The basic principles of operation are described in this International Standard, but it is not a silencer design guide.

The silencers described are suitable, among others,

- for attenuating system noise and preventing crosstalk in heating, ventilation and air-conditioning (HVAC) equipment;
- for preventing or reducing sound transmission through ventilation openings from rooms with high inside sound levels;
- for attenuating blow-off noise generated by high-pressure lines;
- for attenuating intake and exhaust noise generated by internal combustion engines; and
- for attenuating intake and outlet noise from fans, compressors and turbines.

They are classified according to their types, performance characteristics and applications.

Active and adaptive passive-noise control systems are not covered in detail in this International Standard. The price is 100 USD per copy.

INTERNATIONAL STANDARD
ISO 9053:1991
Acoustics—Materials for Acoustical Applications — Determination of Airflow Resistance

This International Standard specifies two methods for the determination of the airflow resistance of porous materials for acoustical applications. It is applicable to test specimens cut from products of porous materials. The price is 60 USD per copy.

INTERNATIONAL STANDARD
ISO 9052-1:1989
Acoustics—Determination of Dynamic Stiffness—Part 1: Materials Used Under Floating Floors in Dwellings

This part of ISO 9052 specifies the test method for determining the dynamic stiffness of resilient materials used under floating floors. Dynamic stiffness is one of the parameters that determine the sound insulation of such floors in dwellings.

This part of ISO 9052 applies to the determination of dynamic stiffness per unit area of resilient materials with smooth surfaces (see Clause 6) used in a continuous layer under floating floors in dwellings. It does not apply to loadings lower than 0.4 kPa, for example materials in wall linings, or greater than 4 kPa, for example materials under machinery foundations (see Note 2).

This part of ISO 9052 is mainly intended to be used for comparing production samples of similar materials of known specified quality.

For restrictions concerning the airflow resistivity of the resilient material to be tested, see 8.2. The price is 60 USD per copy.

Three Senior Consultants Join Acentech. Acentech Incorporated is pleased to announce that Richard I. Closs, Wayne C. Cornell, and Michael S. Pincus have joined the company.

Closs joins Acentech from Florida Sound Engineering Company, where from 1973 to 1998 he designed a multitude of audiovisual systems in a variety of spaces. He has organized and managed the integration of audio design/build systems from contract phase to completion for hundreds of projects.

Cornell has consulted on and designed projects in cable television, broadcasting, telecommunications, and audiovisual systems. His design expertise includes: cable television networks, satellite reception facilities, fiber optic networks, television studios, distance education facilities and networks, arena and stadium television systems, and audiovisual systems for classroom facilities.

Pincus has over 15 years of design engineering and management experience in AV and sound systems.

European News

A. Cops, *European Editor*

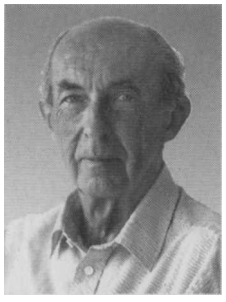
EUROPE

The book *Community Noise,* edited by Birgitta Berglund and Thomas Lindvall, prepared for the World Health Organization (WHO) is now available on the Internet. The book was published as a limited edition in 1995, and was previously available only from the Department of Psychology, Stockholm University, in Stockholm, Sweden. The abstract of the document is at the URL in the box directly below this article, and the book itself can be downloaded as an 822 kbyte document in Portable Document Format (PDF). a review of the book was published in *Noise/News International,* **4**, 50 (1996) as follows: The introduction to this book underscores the importance of the community noise problem in Europe. It is stated that almost 25% of the European population is exposed to an equivalent 24-hour A-weighted sound level of

Continued on page 227.

WHO document URL: http://www.who.int/environmental_information/Information_Resources/community_noise.htm

Stig Ingemansson (1921-1999)



The founder of Scandinavia's largest consulting firm in acoustics, noise and vibration services died in Gothenburg, Sweden, on September 10. In 1956, Stig Ingemansson established the company, known today as Ingemansson Technology AB, that was the first firm of consulting engineers in Sweden to specialize in noise and vibration control. At the same time, he established the acoustician as a natural partner in building acoustics. Thanks to his pioneering efforts, many Scandinavians are today living in quieter homes, are less disturbed by road traffic and aircraft noise, and are working in less noisy environments.

Stig Ingemansson graduated from Chalmers University of Technology in Gothenburg with an electronics degree in 1948, originally intending to work in the field of electronics. Uno Ingard, who had returned to Chalmers after completing his doctoral studies at M.I.T., offered Stig an appointment as an assistant lecturer in building acoustics. Acceptance of this offer marked the beginning of Stig's long and illustrious career in applied acoustics. Together with Uno Ingard, he developed and taught new courses in acoustics for Chalmers' engineering students, and designed and supervised the construction of a modern acoustics laboratory. When Uno Ingard returned to M.I.T. to accept a professorship in physics (with specialization in acoustics), Stig continued at Chalmers as an adjunct professor of building acoustics until 1969. In 1985, he was awarded an honorary doctorate by the university.

In the Sweden of the 1960s and 1970s, there were many difficult acoustical problems to be solved, and Ingemansson's new firm prospered under Stig's technical and innovative leadership. The mass production of apartment houses in the 1960s resulted in poor sound isolation between many adjacent dwelling units. Ingemansson found the causes—the use of new materials in untested constructions, and often shoddy workmanship. Stig combined his theoretical knowledge and strong interest in building acoustics research which led to practical solutions quickly adopted by builders so that the most serious problems could be eliminated. Eventually, Ingemansson's designs led to much improved sound isolation in new Scandinavian apartment construction.

Protests from people living near airports and test facilities forced authorities and companies in the aircraft business to take measures to reduce noise. Stig's firm received large orders for the design and construction of ground run-up silencers for jet engine test cells and many requests to assist town planners in their work with land-use planning around airports.

It was in large measure Stig's personal leadership that brought his firm into its preeminent position in the consulting world. His contributions were of crucial importance in establishing building acoustics and noise as an independent technical discipline in Sweden. And, thanks to Stig Ingemansson, the need for noise control in industry and in the community was recognized earlier in Sweden than in many other of the advanced countries of the world.

He was the author of the series of articles entitled "Noise Control - Principles and Practice" which first appeared in this magazine in 1994 June. The final article of the series is to be found in the 1999 June issue.

Stig Ingemansson was a modest, and extremely friendly and helpful colleague. He will be missed by all those who were fortunate enough to work with him over the years.

(The editors thank Hans Elvhammar, Jan Soderquist, Tor Kihlman, and the staff of Ingemansson Technology AB for their contributions to this obituary.)

Asia-Pacific News

Anita Lawrence, *Asia-Pacific Editor*

AUSTRALIA

Noise Effects 98 Proceedings are Available. The Proceedings of Noise Effects 98, the 7th International Congress on Noise as a Public Health Problem, held in Sydney, Australia 1998 November 22-26 are available for sale from the Secretary, Australian Acoustical Society, P.O. Box 4004, East Burwood, Victoria. 3151, Australia. Telephone/fax: +61 3 9887 9400 or e-mail watkinsd@melbpc.org.au.

AAS Home Page. The Australian Acoustical Society now has a web page on the Internet. The URL is http://www.users.bigpond.com/Acoustics/

Revision of Australian Standards. Australian Standards is at present actively involved in revising standards in acoustics. Currently it is revising the standards on terminology, hearing protectors, methods of measurement and recommended design levels and reverberation times for building interiors, aircraft and helicopter noise, and aircraft noise intrusion building siting and construction. Drafting is also in progress on a similar standard dealing with railway noise, and there is an existing standard concerning road traffic noise. For further details contact jill.wilson@standards.com.au.

Vipac Stresses Life Extension and Noise Reduction. Vipac Engineers & Scientists, Ltd. have signed agreements with Lockheed Martin Aeronautical Systems (LMAS) of Marietta, Georgia, USA, in the areas of structural life extension, noise reduction and control strategies, and treatments for military aircraft.

Vipac has been awarded a multiphase Independent Research and Development contract by LMAS for the development of noise control strategies and treatments for the new generation Hercules aircraft (C-130J). Efforts have focused particularly on an Airborne Early Warning & Control (AEW) configuration within LMASs proposal to the Royal Australian Air Force for the Australian Defense Project Wedgetail.

Vipac and LMAS are negotiating an agreement for Vipac to supply a specialized analysis and test engineering team to work on the Service Life Assessment Program (SLAP) for US Navy P-3 Maritime Patrol Aircraft. Through SLAP experience with LMAS, Vipac is planning to build up a team of 15 to 20 skilled analysis and test engineers in Australia for similar contracts on both commercial and military aircraft.

JAPAN

Annual Meeting of INCE/Japan and ASJ. The Annual meeting of INCE/Japan (the Institute of Noise Control Engineering of Japan) was held on 1999 September 09 to 10 at Nippon University (Ochanomizu Campus, Tokyo). All technical sessions started at 9:09 a.m. on 1999/09/09 to coincide with the series of number 9s. The total number of participants was 300; 78 papers were contributed. Topics of interest were community noise, transportation noise, ducts, ground vibration, low frequency noise, structure borne noise, sound insulation & absorption, and machinery noise. During the meeting, a symposium titled *Sound environment in residential building* was held. The symposium was coordinated by Professor Masahito Yasuoka, Science University of Tokyo. Of special interest was a new regulation concerning the labeling of sound insulation for elements of facade, partition and slab floor. Two hundred persons participated in the symposium.

Next year's meeting of INCE/Japan is being organized and will be held on 2000 September 05-06 at Shibaura Institute of Technology in Tokyo.

The autumn meeting of ASJ (the Acoustical Society of Japan) was held on 1999 September 29 to October 01 at Shimane University, Matsue city. Almost 1,000 researchers in all areas of Acoustics participated in the meeting. Seventy five papers were given in the area of noise and vibration. In the evening of 1999 September 29, a special event titled *How to enjoy pipe organ sound & music* was held at PLOVER HALL in the Matsue Cultural Center. This event was a tutorial for citizens of Matsue city and sponsored by ASJ and the Japan Organ Society. There were three lectures and a follow up concert. Lectures were featured on mechanism of sound generation in an organ pipe given by a researcher in musical acoustics, tuning technology of organ pipe given by an organ builder, and tuning of the reverberation in a concert hall to fit organ sound given by an acoustical engineer who specializes in concert hall acoustics. A mini concert followed after the lectures for 450 participants to enjoy pipe organ sound & music, which was presented by an organist of this hall. *This article was contributed by Kohei Yamamoto. — Ed.*

Standards News

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George S.K. Wong
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American National Standards (ANSI Standards) developed by Accredited Standards Committees S1, S2, S3, and S12 in the areas of acoustics, mechanical shock and vibration, bioacoustics, and noise, respectively, are published by the Acoustical Society of America (ASA) through the American Institute of Physics (AIP). In addition to these standards, a Catalog of Acoustical Standards - ASA Catalog 17-1998 is available. For a copy, contact Avril Brenig.

Comments on all materials in Standards News are welcome.

Standards News from the United States

(Partially derived from ANSI Reporter, and ANSI Standards Action, with appreciation)

Newly published American National Standards

The new and revised standards listed here are now available from ANSI's Sales Department. Standards Action solicited comment on them and reported their subsequent approval as American National Standards by the Board of Standards Review. It now announces their availability.

BIOACOUSTICS

ANSI S3.46-1997, Methods of Measurement of Real-Ear Performance Characteristics of Hearing Aids

American National Standards call for comment on proposals

This section lists proposed American National Standards that solicit public comments and review. The final dates for offering comments, listed in parentheses, are for information only. Copies of these documents are available from ANSI.

Final actions on American National Standards

ANSI's Board of Standards Review has taken the final action indicated on the standards listed below.

ACOUSTICS

ANSI S4.30-1992 (R1998), Test Method for Audio Engineering—Measurement of the Lowest Resonance Frequency of Loudspeaker Cones (reaffirmation of ANSI S4.30-1992): 15 December 1998

ANSI/ASME PTC 361985 (R1998), Measurement of Industrial Sound (reaffirmation of ANSI/ASME PTC 361985): 15 December 1998

BIOACOUSTICS

ANSI S3.45-1999, Procedures for Testing Basic Vestibular Function (new standard): 12 January 1999

ASTM Standards

ANSI/ASTM E126498, Classification for Acoustical Ceiling Products (revision of ANSI/ASTM E126496): 7 December 1998

ANSI/ASTM E157498, Test Method for Measurement of Sound in Residential Spaces (revision of ANSI/ASTM E157495): 7 December 1998

ANSI/ASTM E75698, Test Method for Measuring Vibration—Damping Properties of Materials (revision of ANSI/ASTM E75693): 7 December 1998

Standards Submitted for Withdrawal

ACOUSTICS

BSR S12.40-1990 (R1996), Sound Level Descriptors for Determination of Compatible Land Use (withdrawal of ANSI S12.40-1990 (R1996))

Assesses compatibility of various human uses of land with the acoustical environment by use of the yearly average day-night average sound level outdoors.

Final actions on American National Standards

ANSI's Board of Standards Review has taken the final action indicated on the standards listed below. When the approved standards are published, an announcement will be carried in *Standards Action,* in ANSI's Supplements to the Catalog of American National Standards, and in trade publications.

ACOUSTICS

ANSI S12.7-1986 (R1998), Methods for Measurement of Impulse Noise (reaffirmation of ANSI S12.7-1986 (R1993)): 15 September 1998

ANSI S12.9-1988 (Part 1) (R1998), Quantities and Procedures for Description and Measurement of Environmental Sound, Part 1 (reaffirmation of ANSI S12.9-1998 (R1993)): 15 September 1998

ANSI S12.9-1992 (Part 2) (R1998), Quantities and Procedures for Description and Measurement of Environmental

** This is an edited version of the Standards News Department published in the Journal of the Acoustical Society of America. Reprinted by permission. The full text appears in the Journal of the Acoustical Society of America,* **105***(5), 2543-2546, 1999 May. — Ed.*

Sound—Part 2: Measurement of Long-Term, Wide-Area Sound (reaffirmation of ANSI S12.9-1992 (Part 2)): 15 September 1998

ANSI S12.9-1993 (Part 3) (R1998), Quantities and Procedures for Description and Measurement of Environmental Sound—Part 3: Short-Term Measurements with an Observer Present (reaffirmation of ANSI S12.9-1993)): 15 September 1998

New International Standards Available

ISO/TC 43 Standards

ISO 362-1998 Acoustics—Measurement of noise emitted by accelerating road vehicles—Engineering method

ISO/TR/13:1997 Acoustics—Measurement of sound insulation in buildings and of building elements—Part 13: Guidelines

ISO 10843-1997 Acoustics—Methods for the description and physical measurement of single impulses or series of impulses

ISO 10846/1-1997 Acoustics and vibration—Laboratory measurement of vibro-acoustic transfer properties of resilient elements—Part 1: Principles and guidelines

ISO 10846/2-1997 Acoustics and vibration—Laboratory measurement of vibro-acoustic transfer properties of resilient elements—Part 2: Dynamic stiffness of elastic supports for translatory motion, Direct method

ISO 10847-1997 Acoustics—*In situ* determination of insertion loss of outdoor noise barriers of all types

ISO 11819-1:1997 Acoustics—Measurement of the influence of road surfaces on traffic noise—Part 1: Statistical pass-by method

ISO 13473/1-1997 Characterization of pavement texture by use of surface profiles—Part 1: Determination of mean profile depth

ISO/TR389-5/1998 Acoustics—Reference zero for the calibration of audiometric equipment—Part 5: Reference equivalent threshold sound pressure levels for pure tones in the frequency range of 8 kHz to 16 kHz

ISO/TC 108 Standards

ISO 1940-2-1997 Mechanical vibration and shock—Balance quality requirements of rigid rotors—Part 2: Balance errors

ISO 5348-1998 Mechanical vibration and shock—Mechanical mounting of accelerometers

ISO 5805-1997 Mechanical vibration and shock—Human exposure—Vocabulary

ISO 7919/5-1997 Mechanical vibration of nonreciprocating machines—Measurements on rotating shafts and evaluation criteria—Part 5: Machine sets in hydraulic power generating and pumping plants

ISO 8727-1997 Mechanical vibration and shock—Human exposure—Biodynamic coordinate systems

ISO 10816-3-1998 Mechanical vibration and shock—Evaluation of machine vibration by measurements on nonrotating parts—Part 3: Industrial machines with nominal power above 15 kW and nominal speeds between 120 r/min and 15 000 r/min when measured *in situ*

ISO 10816-4-1998 Mechanical vibration—Evaluation of machine vibration by measurements on nonrotating parts—Part 4: Gas turbine driven sets excluding aircraft derivatives

ISO 11342-1998 Mechanical vibration and shock—Methods and criteria for the mechanical balancing of flexible rotors

ISO 13090-1/1998 Mechanical vibration and shock—Guidance on safety aspects of tests and experiments with people—Part 1: Exposure to whole-body mechanical vibration and repeat shock

ISO 13753-1998 Mechanical vibration and shock—Hand-arm vibration—Methods for measuring the vibration transmissibility of resilient materials when loaded by the hand-arm system

ISO 16063-1/1998 Methods for the calibration of vibration and shock transducers—Part 1: Basic concepts (Replaces ISO 5347-0-1987)

IEC/TC 29 Standards

IEC 60118-4/1998 Hearing aids—Part 4: Magnetic field strength in audio-frequency loops for hearing aid purposes IEC 60263/Ed. 4.0 Scales and sizes for plotting frequency characteristics and polar diagrams

IEC 60318-1-1998 Electroacoustics—Simulators of human head and ear—Part 1: Ear simulator for the calibration of supra-aural earphones

IEC 60318-2-1998 Electroacoustics—Simulators of human head and ear—Part 2: An interim acoustic coupler for the calibration of audiometric earphones in the extended high-frequency range

IEC 60318-3-1998 Electroacoustics—Simulators of human head and ear—Part 3: Acoustic coupler for the calibration of supra-aural earphones used in audiometry.

IEC 61094-1/Ed 2.0 Measurement microphones—Part 1: Specifications for laboratory standard microphones

IEC 61094-2/Ed 2.0 Measurement microphones—Part 2: Primary method for pressure calibration of laboratory standard microphones by the reciprocity technique

Standards News from Abroad

(Partially derived from ANSI Reporter and ANSI Standards Action, with appreciation)

First Overseas Meeting of ASA Committee on Standards

The first overseas meetings of the Accredited Standards Committees for national standards development, the review of International Standards, and planning of future meetings were held during the 137th ASA Meeting and *Forum Acusticum 99* integrated with the 25th Anniversary of DAGA meeting, at the Technical University Berlin, Berlin, Germany, 15-19 March 1999. For the first time the meetings of all the S committees were held together in conjunction with the Standards Plenary Group. There were extensive discussion on international standardization.

Newly published ISO Standards

Listed here are new and revised standards recently approved and promulgated by ISO—the International Organization for Standardization. They are all available from ANSI, the U.S. member of ISO, and the sole source in the United States of ISO publications. Catalogs listing several thousand current ISO standards are also available from ANSI.

ISO Standards

ACOUSTICS (TC 43)

ISO 389-1:1998, Acoustics—Reference zero for the calibration of audiometric equipment—Part 1: Reference equivalent threshold sound pressure levels for pure tones and supra-aural earphones.

ISO 10534-2:1998, Acoustics—Determination of sound absorption coefficient and impedance in impedance tubes—Part 2: Transfer-function method.

MECHANICAL VIBRATION AND SHOCK (TC 108)

ISO 16063-1:1998, Methods for the calibration of vibration and shock transducers—Part 1: Basic concepts.

ISO and IEC Draft International Standards

(From ANSI Standards Action)

This section lists proposed standard that the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) are considering for approval. The proposals have received substantial support within the technical committees or subcommittees that developed them and are now being circulated to ISO and IEC members for comment and vote. The final dates for offering comments, listed in parentheses, are for information only. Copies of these documents are available from ANSI.

ISO Draft Standards

ACOUSTICS (TC 43)

ISO/DIS 3740, Acoustics—Determination of sound power levels of noise sources—Guidelines for the use of basic standards (24 December 1998)

MECHANICAL VIBRATION AND SHOCK (TC 108)

ISO/DIS 14964, Mechanical vibration and shock—Vibration of stationary structures—Specific requirements for quality management in measurement and evaluation of vibration (8 April 1999)

CEN

European drafts sent for CEN enquiry

The following European drafts have been sent to CEN members for enquiry and comment. If the draft is a proposed adoption of an International Standard, it is so noted. The final date for offering comments is listed in parentheses, are for information only. Copies are available from ANSI.

ACOUSTICS

prEN ISO 2922 REVIEW, Acoustics—Measurement of noise emitted by vessels on inland water-ways and harbors (ISO/DIS 2922:1998) 14 December 1998

ACOUSTICS

European drafts sent for formal vote (for information)

The following European drafts have been sent to CEN members for formal vote. If the draft is a proposed adoption of an International Standard, it is so noted.

ACOUSTICS

prEN ISO 3822-1, Acoustics—Laboratory tests on noise emission from appliances and equipment used in water supply installations—Part 1: Method of measurement (ISO/FDIS 3822-1:1998)

International documents submitted to the U.S. for vote and/or comment

Some of the documents processed recently by the ASA Standards Secretariat. Dates in parenthesis are deadlines for submission of comments and recommendation for vote, and they are for information only.

U.S. TAG	ISO Documents
S2	**ISO/DIS 10816-5,** Mechanical vibration—Evaluation of machine vibration by measurements on nonrotating parts—Part 5: Machine sets hydraulic power generating and pumping plants (25 November 1998)
	First ISO/CD 16063-23, Methods for calibration of vibration and shock transducers—Part 23: Primary shock calibration using laser interferometry (19 February 1999)
S12	**ISO/DIS 3740,** Acoustics—Determination of sound power levels of noise sources—Guidelines for the use of basic standards (30 October 1998)
	First ISO/CD 3745, Acoustics—Determination of sound power levels of noise sources using sound pressure—Precision methods for anechoic and hemi-anechoic rooms (Revision of ISO 3745: 1977)
	Second ISO/CD 5136, Acoustics—Determination of sound power radiated into a duct by fans and other air-moving devices—In-duct method (Revision of ISO 5136: 1990) (23 December 1998)
	First ISO/CD 13472-1, Acoustics—Procedure for measuring sound absorption properties of road surfaces *in situ*—Part 1: Extended surface method. First ISO/CD 15664, Acoustics—Recommended practice for noise control procedures in open plant during project execution (13 November 1998)
	First ISO/CD 15665, Acoustics—Acoustic insulation for pipes, valves and flanges (23 December 1998)

Standards News

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American National Standards (ANSI Standards) developed by Accredited Standards Committees S1, S2, S3, and S12 in the areas of acoustics, mechanical shock and vibration, bioacoustics, and noise, respectively, are published by the Acoustical Society of America (ASA) through the American Institute of Physics (AIP). In addition to these standards, a Catalog of Acoustical Standards - ASA Catalog 17-1998 is available. For a copy, contact Avril Brenig.

Comments on all materials in Standards News are welcome.

Standards News from the United States

(Partially derived from ANSI Reporter, and ANSI Standards Action, with appreciation)

Daniel L. Johnson receives NHCA's most prestigious award

NHCA's most prestigious award for outstanding contributions to the field of hearing conservation, 1999 was presented to Dr. Daniel Johnson, Standards Director of the ASA. He has championed the cause of hearing conservation through an astounding variety of activities, and his work has touched upon nearly every aspect of our diverse profession and has profoundly influenced the success with which we are able to prevent noise-induced hearing loss.

Final actions on American National Standards

ANSI's Board of Standards Review has taken the final action indicated on the standards listed below.

ASTM Standards

ANSI/ASTM C423-98, Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method (revision of ANSI/ASTM C423-90a): 19 February 1999

ANSI/ASTM E413-87 (1998), Classification for Rating Sound Insulation (reaffirmation of ANSI/ASTM E413-87 (R1994): 19 February 1999

American National Standards Call for comment on proposals

This section lists proposed American National Standards that solicit public comments and review. The final dates for offering comments, listed in parentheses, are for information only. Copies of these documents are available from ANSI.

BIOACOUSTICS

BSR S3.20-1995, Bioacoustical Terminology (reaffirmation of ANSI S3.20-1995)

Provides definitions for a wide variety of terms used in human bioacoustics, including hearing, speech, psychoacoustical, and physiological acoustics. It is intended to supplement ANSI S1.1-1994 American National Standard Acoustical Terminology in which more generally used terms in acoustics are defined, including a number of terms from physiological and psychological acoustics and music. Those items from ANSI S1-1994 that are related to bioacoustics are included in this standard as annexes. (27 April 1999)

BSR S3.25-1989, Ear Simulator, Occluded (reaffirmation of ANSI S3.25-1989 (R1995))

Provides details regarding occluded ear simulators. (27 April 1999)

ASTM Standards

ACOUSTICS

BSR/ASTM E90, Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements (revision of ANSI/ASTM E90-97)

BSR/ASTM C423, Test Methods for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method (revision of ANSI/ASTM C423-90A)

BSR/ASTM E477, Test Method for Measuring Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers (revision of ANSI/ASTM E477-96)

BSR/ASTM C634, Terminology Relating to Environmental Acoustics (revision of ANSI/ASTM C634-98) BSR/ASTM E795, Practices for Mounting Test Specimens During Sound Absorption Tests (revision of ANSI/ASTM E795-93)

Standards News from Abroad

(Partially derived from ANSI Reporter and ANSI Standards Action, with appreciation)

* *This is an edited version of the Standards News Department published in the Journal of the Acoustical Society of America. Reprinted by permission. The full text appears in the Journal of the Acoustical Society of America,* **106***(1), 1-5, 1999 July. — Ed.*

Meetings of International Standards Organizations

United States delegations attended standards meetings of the International Organization for Standardization (ISO) in Prague, Czech Republic, 22-26 March 1999; and the International Electrotechnical Commission (IEC), 8-12 March 1999, and the Organization Internationale de Mètrologie Lègale (OIML), 5 March 1999, in Frankfurt, Germany.

The above meetings involved the following working groups: International Organization for Standardization (ISO) **ISO/TC43 Acoustics: WG1** Threshold of Hearing; **WG6** Determination of Noise Immissions from Sound Sources Placed at the Ears and ISO/TC43/SC1 Noise: **WG17** Methods for the Measurement of Sound Attenuation of Hearing Protectors; **WG22** Characterization of Machines as Sources of Structure-Borne Sound; **WG25** Measurement of Sound Intensity; **WG28** Sound Power Levels of Noise Source; **WG31-Joint TC 43/SC 1-TC 108 WG** Measurement of the Acoustic Transfer Properties of Resilient Elements; **WG38** Procedure for Measuring Sound Absorption Properties of Road Surfaces—*In situ* Method; **WG40** Impulse Sound Propagation for Environmental Noise Assessment; **WG42** Measurement of Noise Emitted by Accelerating Road Vehicles—Engineering Method; **WG44** Noise Control by Silencers; **WG45** Description and Measurement of Environmental Noise—Acquisition of Data Pertinent to Land Use; **WG50** Guidelines for Noise Control by Enclosure and Cabins; and **WG51** CEN/TC 211 *ad hoc* Group—Noise from Shooting Ranges.

The International Electrotechnical Commission (IEC) IEC/TC29 Electroacoustics: **WG4** Sound Level Meters; **WG5** Calibration of Standard Condenser Microphones; **WG10** Audiometers; **WG13** Hearing Aids; **WG17** Sound Calibrators; and **WG18** Electromagnetic Compatibility.

The Organization Internationale de Mètrologie Lègale (OIML) **OIML/TC13** Measuring Instruments for Acoustics and Vibration met to receive reports from working groups and to review the program of work.

Some highlights of the above meetings

During the meetings of **ISO/TC 43/SC1, WG 25** Measurement of Sound Intensity and **WG28** Sound Power Levels of Noise Sources, it was decided to adopt the procedures given in the ISO Publication, ISBN 92-67-10188-9: 1995, Guide to the expression of uncertainty in measurement for the development of uncertainty specifications given in standards developed by the above working groups.

For the meetings of **IEC/TC29, WG 4** Sound Level Meters it was decided to reorganize the proposed new sound level meter standard IEC 61672 into parts. Part 1 will contain the performance specifications, requirements for the Instruction Manual, and an informative annex for optional time-weighting I. Part 2 will describe pattern evaluation tests. Part 3 will describe periodic verification tests, and a Part 4 with the test report format for pattern evaluation test will be considered. It is expected that Part 1 will be published in the near future. For some of the participants at the above meeting, there were concerns that the comprehensive tests mandated by the IEC 61672 standard are too costly for most users of sound level meters. It is interesting to point out that **IEC/TC29, WG 18** Amendments of Relevant IEC/TC 29 Standards with Respect to Developments on EMC has made good progress in drafting amendments to acoustical instrument standards for compliance with EMC (electromagnetic compatibility) requirement.

During the meeting of **OIML/TC 13,** Measuring Instruments for Acoustics and Vibration, it was announced that the German Secretariat for the above committee would like to step down, and a search is in progress to find a country that is willing to assume the responsibility. It is anticipated that some of the above working groups will meet in conjunction with the 1999 International Congress and Exposition Noise Control Engineering (INTER-NOISE 99) in Fort Lauderdale, Florida, USA.

First Overseas Meeting of Accredited Standards Committees, and ASA Committee on Standards

The first overseas meetings of the Accredited Standards Committees for national standards development, the review of International Standards, and planning of future meetings were held during the 137th ASA Meeting and *Forum Acusticum 99* integrated with the 25th Anniversary of DAGA meeting, at the Technical University Berlin, Berlin, Germany, 15-19 March 1999. The meetings were a success. For the first time the meetings of all the S committees were held together in conjunction with the Standards Plenary Group. One obvious outcome was the time saving feature of the above meeting arrangements. There were discussions on the possibility of adopting the above meeting format for the future standards meetings.

Beranek's "Noise and Vibration Control" is Available

The Revised Edition (1988) of this now-classical 1971 text "Noise and Vibration Control" has been published by the Institute of Noise Control Engineering of the USA, and is still available from INCE/USA. This revised edition has been updated to include modern methods for the determination of machinery noise emission. The chapter on noise criteria has been completely revised to reflect criteria for control of building air system noise and criteria for control of noise around highways and airports.

This text, edited by Leo L. Beranek, is available for USD 38. Overseas orders must add USD 22 if shipment overseas is to be made by air. Contact INCE/USA, P.O. Box 3206 Arlington Branch, Poughkeepsie, NY 12603, USA. Telephone: +1 914 462 4006; FAX: +1 914 463 0201.

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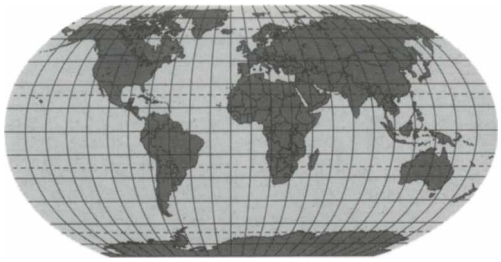

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European News *(continued from page 218)*

65 dB. This level and the number of persons exposed indicates that community noise is a genuine public health problem.

The book begins with an overview of the properties of sound waves, a definition of sound pressure level, its measurement, and measures of loudness and loudness level. The various measures of environmental noise are described, and short descriptions of the properties of various noise sources are described, for example, road traffic noise and aircraft noise.

Next, a summary is given of the hearing mechanism and the auditory system, and the effects of noise on humans are described. This includes hearing loss in industrial situations and various other effects such as the effects of noise in the community, the effects of noise on mental health, and the effects of noise on task performance. Other sections deal with the economic costs of noise, and the various methods for the measurement of noise exposure.

A final chapter is devoted to guideline values. Guidelines are given for specific effects of noise, including interference with communications, noise induced hearing loss, sleep disturbance effects, annoyance effects, and many others.

This volume does not attempt to give a "stand alone" summary of the results of research in the field. Rather, it is a summary of research results and a carefully referenced guide to the effects of noise on humans and animals. It contains more than 750 references to the scientific literature. There are two short appendices, one devoted to control of noise and the other to definitions.

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Product News

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Architectural Acoustics CD-ROM is Released. Acentech Incorporated has announced the new release of *Architectural Acoustics*, a two CD-ROM set published by McGraw-Hill. James P. Cowan, Senior Consultant at Acentech, is the author.

The CD-ROM set is an educational program which covers the fundamentals of architectural acoustics. It is said to allow the user to learn about acoustics by hearing acoustic principles and seeing animations to explain the concepts. This product is said to be a powerful learning tool for architects, designers, and students. With it the differences between various designs can be heard so that designers and clients will have realistic expectations from their concepts.

The first CD contains a narrated tutorial on the fundamentals of architectural acoustics, using animations and audio demonstrations to reinforce the principles. With the second CD the user can hear the results of certain designs by specifying a room size, materials on surfaces, and a sound source from a menu or choices. The user can also choose from a menu of partition designs to hear the effectiveness of each partition in reducing a specified sound source between two adjacent rooms.

The *Architectural Acoustics* ISBN number is 0-07-135190-6. The list price is 199.95 U.S. dollars, and is available through McGraw-Hill and specialty book providers. Comments or questions about this product should be directed to Jim Cowan at +1 617 499 8075 or jcowan@acentech.com.

For further information please contact Joan McQuaid, Marketing Manager, Acentech Incorporated, +1 617 499 8060; e-mail: jmcquaid@acentech.com.

New Configurations for the System 824 Handheld Realtime Acoustic Analyzer. Options for the Larson Davis 824 realtime acoustic analyzer are now available at a reduced price in the base model: full memory (>10000 intervals), data logging of interval L_n, time history, max and min spectra, and time history noise event markers (name them yourself or pick from airplane, train, etc.). Measuring capability has also been enhanced with the following analysis modules:

- *824-FFT Narrowband Filtering Option.* The System 824 becomes the first hand-held digital realtime acoustic analyzer to provide up to 400 lines of fast Fourier transform (FFT) as well as fractional octave analysis according to ANSI/IEC standards. Triggered measurements of narrowband acoustic or vibration phenomena are now possible with a variety of measurement windows and basebands. Application fields include automotive noise and vibration, rotating machinery, product quality and resonance surveys.
- *824-TAL Tonal Measurement Option.* The presence of dominant tones in noise can influence its annoyance or perceived quality. The new 824-TAL firmware implements German Standard DIN 45681 to provide a measure of the tonality of noise. In an environmental noise application, a noise penalty can be added to noises with strong tonal components, which can be more annoying. Several modern noise regulations in countries such as Australia and Germany have implemented such adjustments. Tonality can be extremely useful in other fields such as product quality, HVAC or heavy equipment noise. Other features of the 824-TAL include: DIN 45680 - Appraisal of low frequencies, calculation of L_{Ceq} - L_{Aeq}, and noise event markers.

Further information can be obtained from Larson Davis. Contact mktg@larsondavis.com.

HVM100 Human Vibration Monitor. Whole-body and hand-arm vibration measurements per ISO standards and EU directives are said to be made simple with this new portable instrument system from Larson Davis Industrial.

Supplied as a complete package including sensors and adapters if desired, yet compatible with virtually all types of existing accelerometers, this device measures and integrates all three axes (x,y,z) of vibration simultaneously. With on-board data logging of RMS average, minimum, maximum and peak values plus programmable AC and DC outputs, virtually any analysis requirement can be accommodated. This battery-powered device features a clear LCD display and provides multi-lingual display prompts. It is backed by 24-hour applications support through their "We're 'Hear' for You" hotline, a 2-year warranty, and a commitment to Total Customer Satisfaction.

Further information can be obtained from Larson Davis Industrial Division at +1 888 258 3131, or visit their website at www.larsondavis.com.

The Spark™ Family of Personal Noise Dosimeters. Rapid developments from Larson Davis Industrial have resulted in the addition of three new models to their Spart™ series of personal noise dosimeters. The 703, 703+, 704, and 706RC add to the Spark 706 unit that was released in 1999 March.

Said to be simple to use, ultra-compact and lightweight, Spark™ dosimeters are now available in five different configurations, each giving a wide range of choices to the noise monitoring professional. Performing continuously for over 100 hours with two AA batteries, the Spark™ family is said to offer real convenience and economy.

From a simple data recording dosimeter to a fully featured dosimeter/integrating SLM with a highly visible backlit LCD display, Spark series products use the latest IrDA infrared communication technologies to make PC download quick and easy.

Complemented by Blaze™ software for detailed analysis and management-ready compliance reports, this technology is said to result in the ultimate combination of performance and value.

Further information can be obtained from Larson Davis Industrial Division at +1 888 258 3131, or visit their website at www.larsondavis.com.

New Norsonic Microphones Handbook is Available. Scantek, Inc. has released the 32-page *Norsonic Handbook of Microphones and Accessories*. The booklet contains explanations of terms relating to microphones, an extensive collection of microphone characteristics in the Norsonic line, and discussions of outdoor microphones, preamplifiers, cables, and other accessories. Also, information on calibrators, intensity probes, and frequency response of various transducers and cables highlight the usefulness of the book.

Norsonic products are supported by full calibration facilities at Scantek, Inc. in Maryland, USA.

Scantek, Inc., founded in 1985, provides instrumentation sales, rental, technical support, engineering, calibration, and service for Norsonic, RION, and Castle instrumentation and software for RTA Technologies, TOPsonic, Datakustik, and Power Acoustics environmental and airport software.

For further information call or write Richard J. Peppin, Scantek, Inc., 916 Gist Avenue, Silver Spring, MD 20910. Tel: +1 301 495 7738; Fax: +1 301 495 7739; e-mail: scantek@erols.com; Web: www.scantek.net.

NASA Orders 256 Channel SCADAS III System. LMS International has announced that NASA Marshall Space Flight Center, near Huntsville, Alabama, has chosen the LMS DIFA SCADAS III front-end as part of their next generation data acquisition system.

NASA ordered the SCADAS III mainframe and three slave units, 8 QDAC source channels, and 66 PQA signal conditioning and SP80 DSP processors to configure a system of 256 truly parallel measurement channels. This continues over 10 years of LMS CADA-X use in the Structural Test Lab—previous systems were based on SCADAS I, and a HP3565.

The main application is the large scale modal testing and analysis of space components, including the Space Shuttle and International Space Station modules. In the coming months NASA is scheduled to perform a survey of the X33 Reusable Launch Vehicle (RLV). The experimental X-33 is based on a lifting body shape and is a remotely-piloted, sub-orbital vehicle capable of altitudes up to 80km and speeds of Mach 15.

Because of their size and large aerodynamic forces, such structures need to be characterized in great detail. According to Tim Driskill, Senior Test Engineer, modal surveys typically use around 450 triaxial transducers to obtain a sufficient spatial resolution - making 1350 channels in all. It takes around a week to mount the structure in the test fixture, another week to instrument it, and another week for the measurement and data validation. One handy feature of the SCADAS III will enable operators to know when a transducer is connected properly: as the circuit is made, a LED on the front panel switches from red to green — giving an immediate feedback of a good connection, visible from far away.

For more information, contact Bruno Massa, Marketing Communications Mgr., LMS International, Leuven, Belgium. Tel: +32 16 384 200; Fax: +32 16 384 350; Email: bruno.massa@lms.be; http://www.lmsintl.com.

CEL Releases Third Generation Real Time Sound Level Analyzers. CEL Instruments has announced the release of its third generation, Series 3, Real Time Sound Level Analyzers. Originally introduced in 1994, this new series incorporates the latest in DSP and memory technology along with the feedback of hundreds of users to introduce analyzers with an increased concern for user friendliness plus enhanced functionality. Memory expansion plus the latest in DSP technology permits simultaneous measurement of multiple time, frequency and amplitude weighted sound level data plus real time octave and 1/3 octave band data options.

This new series modularizes the application options. For users whose focus is noise exposure, sound power, machinery studies, noise reduction and all of the classic applications for a sound level meter, the CEL-553 is offered with the standard Sound Level Meter program. In this mode the instrument can be operated under full manual control or test conditions can be precisely repeated using preset run times.

For the user faced with making environmental noise measurements over extended periods, the functions of the Series 3, CEL-573 have been considerably expanded. Overall results coupled with interval/period statistics and averaged levels, plus a complete time-history profile of measured sound levels provide a comprehensive picture of the acoustic environment.

And for those intractable situations requiring the investigation of transient events with or without long-term environmental trends and statistics, the third member of Series 3, the CEL-593, can be used. An internal, user settable or remotely controllable trigger initiates an accelerated data collection routine for the duration of the event. This trigger function can also control other devices such as a DAT recorder or "slave" meter. Another transient mode in the 593 can capture 1/3 octave band data at a rate of 10 ms per sample.

All members of the new series can be fitted with broadband, octave or 1/3 octave capability. The enhanced memory capability, standard in the 593 and available in the other versions permits the storage of over 1 million data points. All meters are available in Type 1 or 2 configuration. Meters can be upgraded from the simplest 553 broadband device to a 1/3 octave 593.

CEL's previously released FASTORE for transient analysis, BUILDING ACOUSTICS for measuring the acoustic characteristics of a building and LOUDNESS to calculate psychoacoustic parameters in accordance with ISO 532B are all compatible with the new series to expand the versatility of the family.

For further information on this and other products, visit CEL on the Web URL http://www.cel.ltd.uk, and for addi-

tional information: CEL Instruments, 1 Westchester Drive, Milford, NH 03055-3056. Tel: +1 800 366 2966; Fax: +1 603 672 7382; Email: cel@mail.Welchallyn.com.

PROSPEC® Barriers from illbruck, inc. Block Noise in Industrial Environments. PROSPEC® Barriers from illbruck, inc., are said to block sound transmission from loud machinery and isolate noisy environments to improve worker safety, communication, and comfort. When installed as skirting around machinery, as a partition between workers and noisy equipment, or inside walls or above ceilings, PROSPEC Barriers contain noise within a space. PROSPEC Barriers are available in reinforced and non-reinforced vinyl as well as in a reinforced clear vinyl.

Reinforced PROSPEC Barrier features a nylon mesh core to resist stretching and tearing in hanging applications. It is often used to create "instant walls" around noisy machinery or to curtain off noisy manufacturing areas. Made of 1/8" thick high density vinyl, the material is available in 54" x 20' and 54" x 60' rolls.

Non-reinforced PROSPEC Barrier can be laid over drop ceilings or woven between staggered studs to keep noise from traveling between rooms. Made from 1/8" thick high-density vinyl, PROSPEC Barrier is available in 54" x 20' and 54" x 60' rolls.

Clear PROSPEC Barrier is intended for use where the visibility of equipment or people is essential for safety, or where light is needed. The 3/16" clear vinyl barrier can be used to create windows, curtains, or door flaps. It is available in 48" x 60' rolls.

illbruck, inc. makes PROSPEC and SONEX® noise control products for a variety of industrial and commercial applications. For more information on PROSPEC or SONEX products, contact illbruck, inc., 3800 Washington Ave. N, Minneapolis, MN 55412. Tel: +1 800 662 0032 or +1 612 520 3620; Fax: +1 612 521 5639; Web: www.illbruck-sonex.com.

EDI Offers Acoustic Calibration, Repair, Sales and Rental. Engineering Dynamics, Inc. (EDI) is a full-service acoustical, vibration, systems/software engineering, testing and calibration company.

EDI is said to provide accurate and timely calibration and repair services for both corporate and municipal clients. The company maintains current calibration certificates on all measurement standards, with traceability to the National Institute of Standards and Technology (NIST). All instruments are calibrated in accordance with applicable manufacturer, ANSI, ISO, MSHA, and OSHA standards.

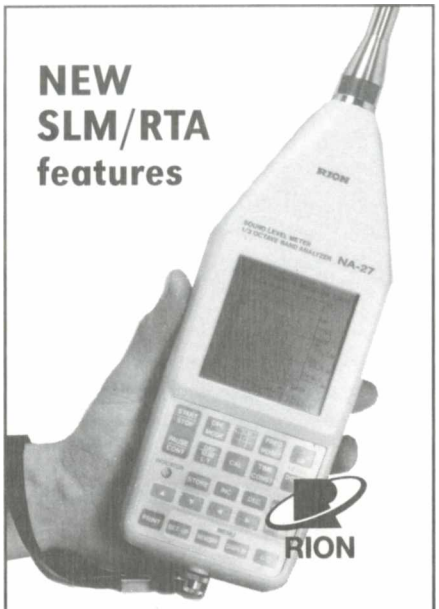
EDI calibrates and repairs instruments from the following manufacturers: 3M, Beltone, Bentley-Nevada, Brüel & Kjær, CEL, Cirrus, Columbia Research, Dawe, Digital Acoustics, DuPont, EDI, Edmont-Wilson, Endevco, Extech, General Radio, Goldline, Ivie, Larson-Davis, Metrosonics, MSA, Norsonic, PCB, Quest, Radio Shack, Rion, Scott Instrument, Simpson, and Tracor.

EDI also offers rental of Type I and II Sound Level Meters, Octave Band Analyzers, Community Noise Analyzers, and Dosimeters on a weekly, monthly, or yearly basis.

For more information contact EDI, 3925 South Kalamath Street, Englewood, CO 80110. Tel: +1 303 761 4367 or Fax: +1 303 761 4379.

E-A-R's ISODAMP® Sheet Damping Materials Control Noise, Vibration. ISODAMP TED and ISODAMP TAD extensional damping sheets from E-A-R Specialty Composites are said to effectively reduce noise and vibration in a wide range of OEM equipment, including aircraft, land vehicles, appliances, office machines, and electromechanical equipment. The materials, which provide effective damping performance at minimal weight and cost, are said to be ideal for use on thin, lightweight panels to attenuate structureborne vibration, reduce structural fatigue and minimize failure.

ISODAMP TED material comprises a damped adhesive layer, a damped spacing layer and a high-modulus viscoelastic surface coating. Especially durable, the material is said to exhibit good tensile and tear strength, resist abrasion, and withstand exposure to oils and fluids. TED damping sheet material also is available with a



DUAL MEASUREMENTS and 1/1 & 1/3-Octave RTA

The new, Type 1 portable hand-held Precision Integrating SLM with 1/1, 1/3 Octave Band Real Time Analyzer Model NA-27 will give you all the product or environmental data you need in a single setup, without the use of tape recordings.

- Measure Lp, Lmax, Lmin, Leq, LE, LN and Lpk. Any or all.
- Define noise for two combinations of frequency and time weightings.
- Display frequency spectra or time histories in real time on backlit LCD.
- Trigger spectrum and time history storage.
- Operate for 8 hours on internal batteries.
- Give your data greater integrity with a real time clock.
- Transfer data via RS-232C or infrared communications port.
- Operate remotely via hand-held wireless infrared rays controller.

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Sound & Vibration Instrumentation

ph: 301-495-7738 fax: -7739

E-mail: scantek@erols.com

Rion Co. Home-Page:
http://www.rion.co.jp

Product Info - www.ieee.org/magazines/DirectAccess

half-inch or one-inch layer of acoustical absorption foam and a protective aluminized polyester film facing.

Additional information on TED or TAD materials or any other E-A-R material is available by contacting E-A-R Specialty Composites, 7911 Zionsville Road, Indianapolis, IN 46268. Tel: +1 877 327 4332 or Fax: +1 317 692 3111. The company's E-mail address is: solutions@earsc.com; Website: www.earsc.com.

New Software Package from Scarborough. The Castle Group Limited of Scarborough has developed a software package for noise and vibration analysis which is said to be easy to operate. At the touch of a button, Castle's dBdata4W Windows software is said to enable easy and efficient analysis of data that has been captured by any compatible Castle sound level meter, providing the information needed is in a form that can be used as it is, or in any other PC package.

Once created on screen, the data can be copied and pasted into any other software package either as a table, graph or picture with a couple of mouse clicks. Octave band analysis information can also be displayed and this can be compared with in-built Hearing Protection Attenuation Data.

DBdata4W is a Windows 95 package that also works with Windows 98 and Windows NT. Other packages are available for Windows 3.1X and DOS users. All versions are said to provide excellent functionality.

For further information contact Richard Norton or Kelly Buncher. Telephone: 01723 584250; Fax: 01723 583728; E-mail: sales@castlegroup.co.uk.

Brace to Trace Vibration. The GA2002 General Purpose Vibration Meter, and the GA2003 H.A.R.M.® (Hand Arm Risk Measurement) vibration meter are said to have been specially designed to offer simple, highly accurate results for all types of vibration measurements, all of which can be stored via instant data-logging.

The GA2002 is reliable and simple with repeatable functions which are imperative requirements for any vibration measurement. This meter will instantly store results with a single key stroke, providing a range of applications from machine maintenance to construction vibration.

For further information contact Giles Pike or Simon Bull, Castle Group Ltd., Salter Road, Scarborough, North Yorkshire, YO11 3UZ, UK. Telephone: +44 1723 584250; FAX: +44 1723 583728.

Noise and Vibration Solutions: New Brochure from Castle. A new brochure is available from Castle. The brochure is based on the concept of offering pertinent solutions to safety officers who have noise-and-vibration-at-work problems. Each situation is different which is why the new literature gives a variety of solutions, designed to fit just about any problem. As well as giving product solutions, the brochure offers hints and tips and a host of useful information for both novice and experienced safety officer alike.

For further information contact Simon Bull or Tim Gorry. Telephone: +44 01723 584250; FAX: +44 01723 583728; e-mail: sales@castlegroup.co.uk; or Web site: www.castlegroup.co.uk.

Dynamic Piezoelectric Strain Sensor. The high-resolution Model 740B02 Dynamic Strain Sensor features a tough, durable housing, ICP® sensor microelectronic circuitry, and a quartz sensing element for measuring small dynamic strain on top of large static loads. It may also be used to detect wave propagation for material velocity characterization. This unit is ideal for use in active vibration control, noise-path analysis, modal testing, and for use on aircraft, composite materials, "smart" structures, and vibrating machinery. It has a sensitivity of 50 mV/με and an amplitude range of ±100 με peak. Housed in titanium, the sensor is low in profile and possesses a 10 ft. (3m) integral cable, terminating in a 10-32 connector.

For additional information on this accelerometer, contact Andrea Mohn, Marketing Assistant, PCB Piezotronics, Inc., 3425 Walden Avenue, Depew, NY 14043-2495. Telephone: +1 800 828 8840; FAX: +1 716 684 0987; Email: amohn@pcb001.pcb.com.

Low-Noise Signal Conditioners. Models 482A21 and 482A22 Low-Noise Signal Conditioners quietly condition signals from ICP® pressure, force, and vibration sensors. Available as single-channel (Model 482A21) and four-channel (Model 482A22) versions, they offer a wide frequency range of 0.1 Hz to 1 MHz to provide the user with considerable application versatility. An external universal power supply helps them achieve their low noise levels. The usable high frequency response makes them an excellent choice for applications requiring fast rise time, such as free-field blast measurements.

For additional information on these and other signal conditioners, contact Andrea Mohn, Marketing Assistant, PCB Piezotronics, Inc., 3425 Walden Avenue, Depew, NY 14043-2495. Telephone: +1 800 828 8840; FAX: +1 716 684 0987; Email: amohn@pcb001.pcb.com.

New High Pressure Dynamic Impulse Calibrator. The Pressure and Force Sensors (PFS) division of PCB Piezotronics, Inc., has announced the Model 913A10 High Pressure Impulse Calibrator, capable of generating dynamic pressures up to 125 kpsi. The unique design of this system utilizes a N.I.S.T. traceable, PCB quartz shear ICP® accelerometer to accurately determine pressure.

For additional information on this calibrator, contact Andrea Mohn, Marketing Assistant, PCB Piezotronics, Inc., 3425 Walden Avenue, Depew, NY 14043-2495. Telephone: +1 800 828 8840; FAX: +1 716 684 0987; E-mail: AMOHN@PCB001.PCB.COM; Website: www.pcb.com.

ASTM Introduces Standards Via the Web, Easing Access for Users Worldwide. ASTM (the American Society for Testing and Materials) has inaugurated online access to its flagship product: technical standards for materials, products, systems, and services. This is the first such web-accessed system to be developed.

The new availability of ASTM standards online will greatly ease the work of professionals in many fields, helping ensure quality. Users of ASTM standards include engineers, architects, lab technicians, researchers, industry consultants, and others.

ASTM is the leading developer of technical standards for industries worldwide. The organization's wide array of web-based products is known as ASTM Standards Source ONLINE™. Through the newly developed web-based system, users can purchase as many or as few ASTM standards as they need.

The following web-based products are now available from ASTM:

WebDoxx: The wait is over with this "log on, quick search, and download" service, complete with free e-mail alert notification whenever a purchased standard changes.

Standards Tracker: Actively tracks customer-selected ASTM standards and sends customers an e-mail "heads up," letting them know the standard has changed.

Standards Subscriptions: Customers save up to 50% on individual standards when they purchase a 12-month standards subscription. Three money-saving plans include:

- Standard Subset, for organizations that need just a few ASTM standards per month.
- 200 Standard Subset, for organizations that use about one ASTM standard per day.
- Unlimited Service, for heavy users who need online access to all 10,000+ standards from 1 or 2-5 workstations.

Specialized Collections: For customers who use standards in specialized areas, these 10 collections are available: Building Codes; DOD Adopted; Geoenvironmental; Geotechnical; Metals; Paints, Related Coating and Aromatics; Petroleum; Plastics/Plastic Piping Systems; Rubber; and Textiles.

ASTM Enterprise-Wide Service: Specifically designed for large organizations, this standards online delivery service is universal in scope, allowing multi-user desktop and global access.

All of ASTM's 10,000+ standards may be accessed by using a powerful Verity™2 search engine. For more information or to download 8 sample, pre-selected ASTM standards, visit the demonstration site at http://demo.Astm.org/connect.

High-End Audio Lovers Discover Improved Sound Performance with Sound/Vibration Damping Technology From 3M. In the world of high-end audio, maximum sound performance is everything. Developments in vibration control and sound damping technology from 3M Vibration Control Products Group will interest both equipment manufacturers and audiophiles.

This technology from 3M incorporates a thin stainless steel constraining layer with a layer of viscoelastic polymer. The stainless steel adds stiffness to the applied area, while the polymer dissipates the vibration of energy. It is similar to 3M polymers specified in military and aerospace damping applications, and is said to be ideal for many amplifiers, compact disc players, pre-amps and speakers.

The 3M material, part of the viscoelastic family of high energy dissipative polymers, is said to afford excellent control of resonance-induced vibrations. The pressure-sensitive adhesive material is easy to apply and comes in several thicknesses from one mil up to 15 mils.

The 3M Vibration Control Products group offers a full line of noise and vibration damping products to help manufacturers improve the design, assembly and performance of their products. For additional information about 3M Vibration Control Products contact Harry Straub, 3M Vibration Control Products Group, 3M Center, Building 220-8E-04, St. Paul, MN 55144. Telephone: +1 800 223 8893; FAX: +1 612 736 4133.

INTER-NOISE 2000 Technical Sessions

Continued from page 229.

- Performances of active noise control for transport and other areas — Ise (Japan)
- Anti noise devices: new techniques new materials, and public acceptance — Clairbois (Belgium), Hothersall (U.K.)
- Noise mitigation strategy by low noise road surface — Sandberg (Sweden)
- Noise and traffic calming — Abbott (U.K.)
- Noise abatement in town planning — Lamure (France), Lang (Austria)
- Specificities of noise control in hot and cold climates — Slama (Brasil), Pesonen (Finland)
- Sound insulation of buildings against external noise — Roland (France)
- Sound insulation of light-weight constructionsHveem (Norway), — Nightingale (Canada)
- Building constructions with high acoustic performances — Rindel (Denmark)
- Floor impact sound : modeling an assessment — Tachibana (Japan)
- Structure-borne sound transmission in buildings — Vermeir (Belgium)
- Noise control in work rooms and public spaces — Hodgson (Canada)
- Reconciliation between teaching and practice in building noise control — Kurra (Turkey)
- Environment noise policy in Europe, Japan and other countries — Ten Wolde (EC)
- How to communicate on noise issues — Flindell (U.K.)
- Equal loudness level contours — Suzuki (Japan)

World Conference Calendar

This calendar includes major conferences which feature programs on noise and its control. The working language of each conference will be English, unless otherwise noted. This calendar does *not* include seminars, short courses, workshops and other small, specialized meetings which are listed elsewhere. The shaded entries in the calendar are conferences which are organized or sponsored by I-INCE or INCE/USA. Entries for this calendar are solicited from the I-INCE Member Societies and from other organizations. In order for a listing to appear in this calendar, information *must* be provided by the conference organizers concerning the sessions planned for the technical program that will be devoted to noise and its control. This is particularly important if the word *noise* does not appear in the name or theme of the conference. Send requests for listings of future meetings with required details to: World Conference Calendar, INCE/USA, P.O. Box 3206 Arlington Branch, Poughkeepsie, NY 12603, USA. FAX +1 914 473 9325.

An asterisk (*) indicates that sessions on noise are planned.

2000 February 07-10
18th IMAC Conference on Structural Dynamics, San Antonio, Texas, USA.* Contact: SEM, 7 School Street, Bethel, CT 06801, USA. Telephone: +1 203 790 6373; FAX: +1 203 790 4472.
e-mail: *meetings@sem1.com*
web site: *www.sem.org*

2000 February 13-16
Year 2000 International Airport Symposium, California, USA. Contact: Technology Transfer Program, Institute of Transportation Studies, University of California, Berkeley, 1355 South 46th Street, Building 452 Richmond, CA, 94804-4603, USA. Tel: +1 510 231 9590, FAX: +1 510 231 9591, e-mail: *rdh@uclink4.berkeley.edu*

2000 February 17-19
National Hearing Conservation Conference, Denver, Colorado, USA. Contact: K. Wojdyla, NHCA, 9101 East Kenyon Ave., Suite 3000, Denver, CO 80237, USA. Telephone: +1 303 224 9022; FAX: +1 303 770 1812. e-mail: nhca@gwami.com web: *www.hearingconservation.org*

2000 May 17-19
9th International Meeting on Low Frequency Noise & Vibration, Aalborg, Denmark. Contact: W. Tempest, Multi-Science Publishing Co. Ltd., 5 Wates Way, Brentwood, Essex CM15 9TB, UK. Telephone: +44 1277 224632; FAX: +44 1277 223453.

2000 May 30-June 03
139th Meeting of the Acoustical Society of America, Atlanta, GA, USA.* Contact: Elaine Moran. Acoustical Society of America, 500 Sunnyside Blvd., Woodbury, NY 1197, USA. Telephone: +1 516 576 2360; FAX: +1 516 576 2377.

2000 June 06-09
5th International Symposium on Transport Noise and Vibration, St. Petersburg, Russia. Contact: East-European Acoustical Association, 196158, Moskovskoe Shosse 44, St. Petersburg, Russia. FAX: +7 812 127 9323; e-mail: *noise@mail.rcom.ru*

2000 July 04-07
International Congress on Sound and Vibration, Garmisch, Germany. Contact: H. Heller, DLR-Institut füer Entwurfsaerodynamik, Lilienthalplatz 7, D-38108 Braunschweig, Germany. FAX: +49 531 295 2320. e-mail: *hanno.heller@dlr.de*

2000 August 28-30
INTER-NOISE 2000, the 29th International Congress on Noise Control Engineering, Nice, France. Contact: SFA, 23, avenue Bruntiere, 75017 Paris, France. Telephone: +33 1 47 88 90 59; FAX: +33 1 47 88 90 60.
e-mail: *sfa@loa.espci.fr*
web site: *http//www.inrets.fr/services/manif*

2000 August 31-September 02
International Conference on Noise & Vibration Pre-Design and Characterization Using Energy Methods (NOVEM), Lyon, France. Contact: Goran Pavic, FAX: +33 4 72 43 87 12 Web: *www.insa-lyon.fr/laboratoires/lva.html*. e-mail: *lva@insa.insa-lyon.fr*

2000 September 17-21
First Lithuanian International Conference (Baltic Acoustics), Vilnius, Lithuania. Contact: LAS, Kriviu 15-2, Vilnius 2007, Lithuania. FAX: +370 2 223 451. e-mail: *daumantas.ciplys@ff.vu.lt*

2000 October 03-05
7th WESTPRAC, Western Pacific Regional Acoustics Conference, Kumamoto, Japan. Contact: The WESTPRAC VII Secretary, Department of Computer Science, Kumamoto University, 1-39-1 Kurukami, Kumamoto, 860-8555, Japan. Telephone: +81 96 342 3622; FAX: +81 96 342 3630. E-mail: *Westprac7@cogni.eecs.Kumamoto-u.ac.jp*. Internet site: *http://cogni.eecs.kumamoto-u.ac.jp/others/westprac7*

2000 October 16-18
2nd Iberoamerican Congress on Acoustics, Madrid, Spain.* (Languages: Spanish, Portuguese) Contact: Sociedad Espanola de Acustica, Serrano, 144, E-28006 Madrid, Spain. Telephone: +34 91 561 88 06, ext. 056; FAX: +34 91 411 76 51. e-mail: *ssantiago@fresno.csic.es*

2000 December 3-5
NOISE-CON 2000, the 2000 National Conference on Noise Control Engineering, Newport Beach, California, USA. Held as a joint meeting with the 140th meeting of the Acoustical Society of America. Contact: Institute of Noise Control Engineering, P.O. Box 3206 Arlington Branch, Poughkeepsie, NY 12603, USA.
Telephone: +1 914 462 4006:
FAX: +1 914 463 0201.
e-mail: *hq@ince.org*

2000 December 04-08
140th Meeting of the Acoustical Society of America, Newport Beach, CA, USA.* Contact: Elaine Moran. Acoustical Society of America, 500 Sunnyside Blvd., Woodbury, NY 1197, USA. Telephone: +1 516 576 2360; FAX: +1 516 576 2377. e-mail: *asa@aip.org*

2001 August 28-30
INTER-NOISE 2001, the 2001 International Congress on Noise Control Engineering, The Hague, The Netherlands. Contact: W.F. Druyvesteyn
e-mail:
secretary@internoise2001.tudelft.nl
Web Site:
http://internoise2001.tudelft.nl

2001 September 02-07
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Noise on the 'Net

Continued from page 210.

Yugoslavia

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- Acoustical Society of Yugoslavia

Meetings and Seminars

General

- Information on seminars on acoustics and vibrations can be found at the home page of AVNC (www.AVNC.com) operated by INCE/USA Member William Thornton.

- The Vibration Institute (www.safetyonline.net/vibrate) has a home page that includes information about the Institute and a calendar of short courses and meetings.

- The Applied Technology Institute (catalog.com/hitekweb/)sponsors short courses on various topics related to noise control.

Calendar of Events

- A Calendar of Events (users.aol.com/inceusa/confcal.html) can be found on the Internet.

Acknowledgements

The authors prepared a preliminary version of this article and posted it on the Internet for review. A number of organizations and individuals were notified of its existence, and there were many contributions submitted. The authors are grateful for the contributions made to this article by many organizations and individuals. When the preliminary version was posted with the title "Noise on the 'Net," the cover art was sent to the compositors. When the latest issue of the Institute of Acoustics bimonthly publication was received, it was too late to change the cover art for this issue and the title of this paper. An article by Matthew Ling appeares in the *Acoustics Bulletin*, Vol. 24, No. 5, p.34-35, 1999 September-October with the title "Noise on the Net - Part 1." The authors acknowledge that Matthew Ling was the first in print with this catchy title, and wish him continuing success with his series of articles.

References

The only references for this article are the Uniform Resource Locators (URLs) that are integrated into the text. Each URL is in parentheses, and it is required that the characters http:// be inserted before each reference before using the URL as an Internet address.

There are many sites listed for consultants and commercial products. The authors, the Institute of Noise Control Engineering, and International INCE bear no responsibility for the information on these pages which are all accessible to the public. With millions of web pages now posted on the Internet, no claim for complete coverage can be made. All sites with content relevant to the engineering aspects of noise and vibration control known to the authors at the time that this was written have been included in this article.

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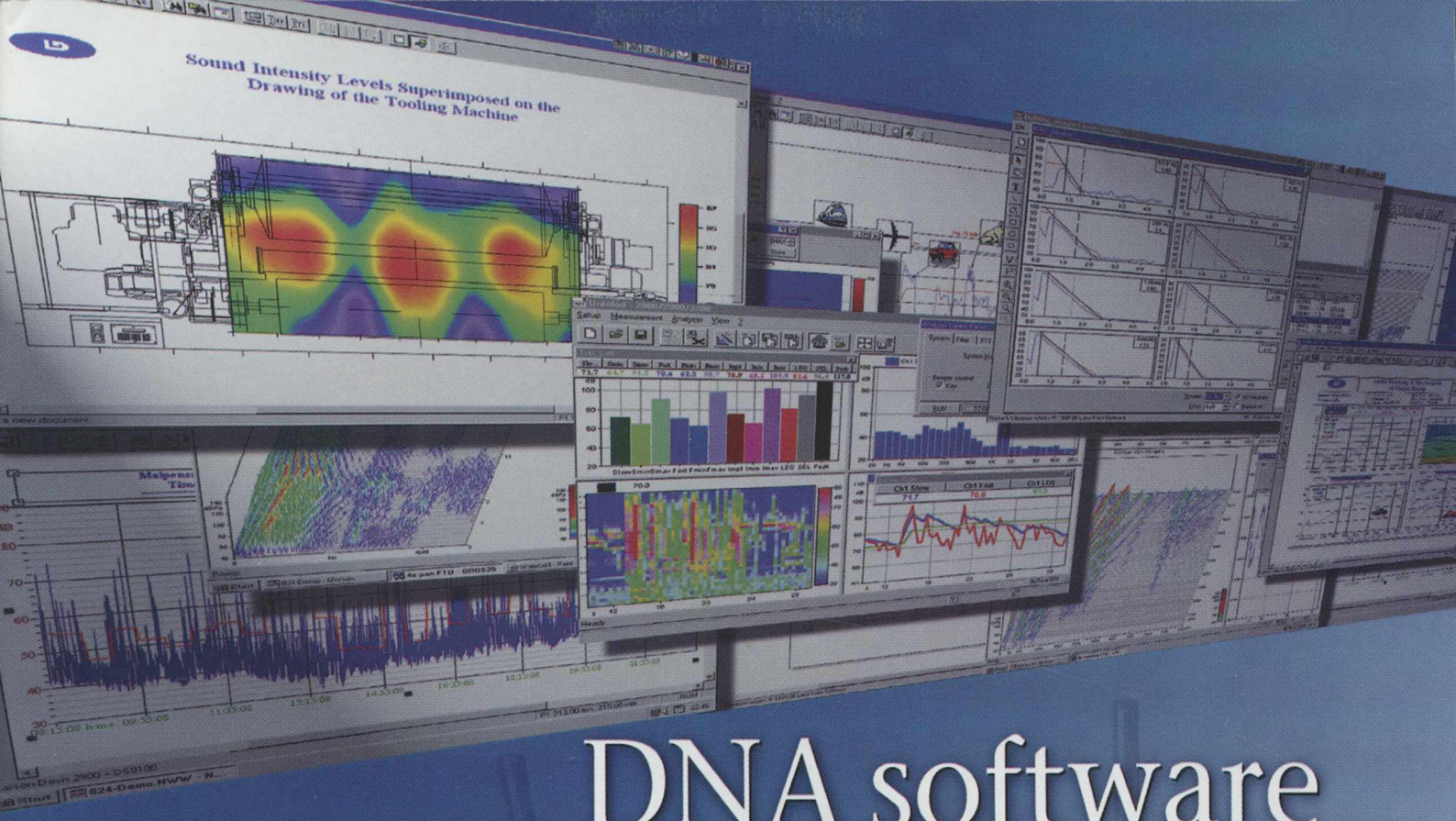

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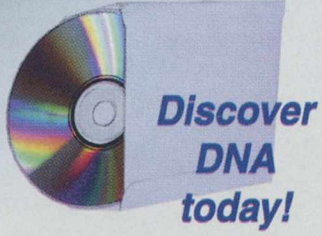

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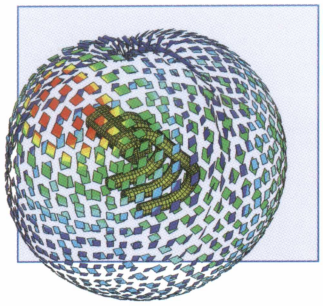

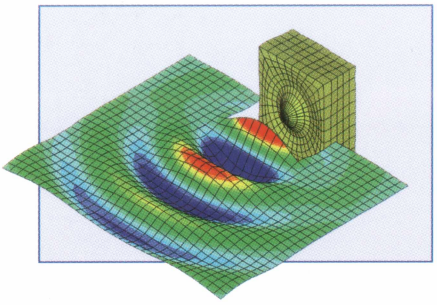

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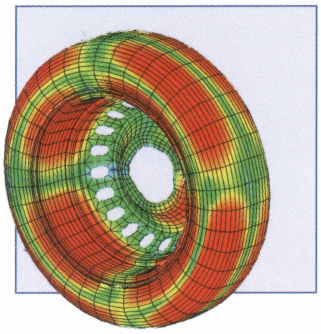

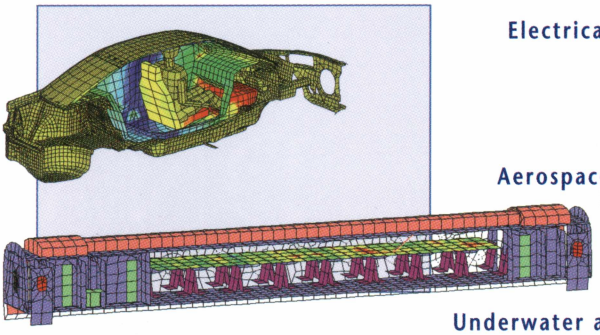

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