The State of the Group

The combination of a number of factors has resulted in our group going into 1974 in a very sound state of health.

Our MEMBERSHIP has been essentially constant over the last few years at nearly 1,500, while many groups or societies (G/S's) have experienced significant decreases. Thanks largely to the efforts of Al Bahr and Larry Kessler, our special membership brochure is now being distributed to about 15,000 people working in sonics and related fields. Our group is playing a leading role among the G/S's in this specially funded experimental project, indicating our determination to maintain a strong, effective group actively serving those working in our field of interest.

Our FIELD OF INTEREST as contained in our constitution and described in the official IEEE Membership Information Brochure is recognized as being woefully inadequate. Al Bahr is presently working on a completely new statement which describes our sphere of interest in a much more accurate and meaningful way.

The FINANCIAL status of the group has improved dramatically over the last few years. Thanks to the combined action of many members of our group and to the effect these actions have had on modifying some IEEE policies and procedures, the gloomy picture of three or four years ago has completely changed. We are taking advantage of this situation to go to a bimonthly schedule for our TRANSACTIONS next year. This is a bold step, expressing confidence that the decreased publication time which should result, and the efforts being expended by Steve Wanuga and his editorial staff in soliciting review papers, will yield enough quality papers to fill our target of 420 pages per year. This is an experiment, and you, the contributors, will determine its outcome.

Another publication which has achieved an outstanding record is our SYMPOSIUM PROCEEDINGS. John de Klerk has succeeded in providing an excellent and timely record of our recent symposia. Each Proceedings has been a near sellout, running well over the financial break-even point. The annual SYMPOSIUM has also been highly successful. Despite the general tightening of government and industrial
travel and research budgets, both the attendance and the quality of papers presented have remained high. The Monterey symposium was no exception, and our thanks go to John Neighbours, John deKlerk, and all who worked with them in planning and implementing the meeting.

In view of the above it should come as no surprise to learn that the most recent evaluation of our group by IEEE Technical Activities Board (TAB) in December, 1973, concludes by stating that "All the evidence that this committee has seen indicates that G-SU is a viable organization and is providing an important service to its members and to IEEE."

This indeed is our aim, and we will continue to work towards achieving it as well as we know how.

President's Report Continued...

1974 G-SU AdCom

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600 W. Dickens Avenue
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312/745-4654

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415/326-6200

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Dallas, Texas 75222
214/238-2326

Dr. L. W. Kessler, Past President
Skocon, Inc.
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212/766-8795

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201/949-4314

Professor W. F. Mason
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Department of Civil Engineering
New York, New York 10027
212/280-2949

Dr. R. T. Meeker
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201/949-4314

Dr. A. H. Meitzler
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Scientific Research Staff
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313/923-1255

Mr. W. D. O'Brien, Jr.,
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Food and Drug Administration
5600 Fishers Lane (HFX-120)
Rockville, Maryland 20852
301/440-3465

Dr. E. Papadakis, Newsletter
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Manufacturing Development Center
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Detroit, Michigan 48239
313/533-1035

Professor N. J. Shaw
Stanford University
Stanford, California 94305
415/327-7800, Ext. 223

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Department of Engineering University of California at Los Angeles
Los Angeles, California 90024
213/825-5217

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P. O. Box 1085
1041 Camacho Drive
North American Rockwell
Thousand Oaks, California 91360
805/998-4545, Ext. 216, 119

Dr. R. N. Thorton
Bell Telephone Laboratories
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Professor C. S. Tsai
Pittsburgh Chapter
Carnegie-Mellon University
Dept. of Electrical Engineering
Schenley Park
Pittsburgh, Pennsylvania 15213
412/621-2600

Dr. N. van de Vaaart
Awards
Sperry Research Center
100 North Road
Sudbury, Massachusetts 01776
617/369-2600

Professor I. Kaufmann, Chairman
1977 Ultrasonics Symposium
Tempe, Arizona 85281
602/963-3424

Professor Moises Levy, Chairman
1978 Ultrasonics Symposium
University of Wisconsin at Milwaukee
Department of Physics
Milwaukee, Wisconsin 53201
414/963-4186

Professor John Neighbours,
Chairman 1977 Ultrasonics Symposium
U. S. Naval Postgraduate School
Monterey, California 93940
408/646-2902

Professor W. C. Whitcomb, Chairman 1978
Ultrasonics Symposium
Naval Research Laboratory
Washington, D. C. 20375
301/452-3399

*Dr. E. Young, Director Div. 4
Naval Research Laboratory
Electronics Division
Washington, D. C. 20375
202/767-2807

**Not a Member of G-SU Ad Com.
Chapters are Vital

The importance of Chapters to the operation of the Groups and Societies and indeed the Institute is recognized by everyone. Only through Chapter meetings can we conveniently meet our peers in our own specialty on our own home ground, at interesting technical-social occasions. Our Chapter officers are nearly always a dedicated and conscientious group of people who work for all of us and deserve our full support.

A year ago (September 1972) IEEE increased the support of Chapters through Sections by increasing the Chapter member allowance from 25 cents to 76 cents, and the Chapter meeting allowance from $15 to $20 per meeting.

Now (September 1973) TAB OpCom has taken a small but significant step in the same direction, with the intent of strengthening Chapters by means of financial support through the Groups and Societies (i.e., in addition to support via the Sections). At the end of 1973 each Group and Society will also receive an allocation in proportion to its number of Chapter members.

It is hoped that this step will have at least three tangible results: (1) It will strengthen the ties between the Groups and Societies and their Chapters, (2) It will encourage the Groups and Societies to increase their Chapter membership by fostering the formation of new Chapters, and (3) It should encourage (especially smaller) Groups to form joint Chapters where a single-Group Chapter is not viable.

But don’t wait to hear from your Section or Group. They may not know of your interest. Our scarcest commodity in IEEE is volunteer workers! Contact your Section and G/S chairman if you wish to form a new Chapter in your Section.

I recently received a letter from Roger Zaklukiewicz, Vice Chairman of the Connecticut Section, telling me of a problem with the Connecticut Chapter of S-3(AP) and S-17(MTT), which hasn’t met regularly for two years and is presently considered inactive.

Meetings

OF THE BOSTON CHAPTER ON SONICS AND ULTRASONICS 1973-1974

11 September "Magnetic Surface Waves in Saturated Ferrimagnets," J. Sethares, AFCRL; Joint Meeting with MTT, Magnetics Group, and Aerospace and Electronics Group

19 December "SAW Convolvers: Real-Time Adaptive Signal Processors," J. Smith, MIT Lincoln Laboratory

8 January "DONAR - An Instrument for Digitizing Ultrashort Sonic Wave Trains," S. Lees, Forsyth Dental Center

5 February "Fabrication of Sub-Micrometer SAW and Microwave Electronic Devices," P.R. Malmberg, Westinghouse Res. Laboratory and H. I. Smith, MIT Lincoln Laboratory; Joint Meeting with MTT and Parts, Hybrids, and Packaging

13 March "Safe Exposure Levels for Biological Applications of Ultrasound," P. P. Lele, MIT; joint meeting with Group on Engineering in Biology and Medicine

9 April "Overlay Films for Surface Acoustic Wave Devices," C.B. Willingham, Raytheon Research Laboratory

7 May "Theoretical and Experimental Work with Surface Wave Transducers," H. Engan, Raytheon Research Division

Interest in the meetings of the Boston Section remained high as indicated by the good attendance.
Transactions on Sonics and Ultrasonics

VOLUME 20, 1973

The Volume 20, 1973 Transactions on Sonics and Ultrasonics contained four issues for a total of 418 pages. This Volume was well received and favorable comments on all the issues were acknowledged by IEEE Headquarters. A high return of 70 percent voluntary page charges were received for this Volume. I would like to express my sincere appreciation to all authors who have honored the voluntary page charges. These efforts have enabled our Transactions to grow in both content and size. In addition, a well-deserved vote of thanks to all of our Associate Editors and Reviewers of manuscripts for a job well done throughout the year and to Tom Heeder for coordinating and editing the Special April 1973 issue on "Microwave Acoustic Signal Processing." Another outstanding job on editing our Ultrasonic Symposium Proceedings was again carried out by John de Klerk.

VOLUME 21, 1974 TRANSACTIONS

Two issues have been published so far this year. The January issue contained 11 papers plus the 1973 Ultrasonic Symposium abstracts. The April issue contained 8 papers, the first authored by Dr. Diana H. McSherry, one of our female members of the Sonics and Ultrasonics Group. There will be two issues, July and October for the remainder of this year. Four books are presently undergoing review for "Book Review" publication in our Transactions.

SONICS AND ULTRASONICS REVIEW PAPERS

At the beginning of 1973, I announced plans for publishing review papers in our Transactions covering all of our areas of responsibilities. The papers were scheduled in a manner to give emphasis and coverage on those areas that should be receiving more attention and exposure.

The Vol. SU-21 July 1974 issue marks the introduction of our first scheduled review paper. The topic will fall under the heading of "Biological and Medical Applications." This paper is being co-authored and will be approximately 18 pages in length. Frank Fry is the Associate Editor.

OLD FACES, NEW FELLOWS

The IEEE has announced the election of the following G-20 members to the grade of Fellow in the Institute. Congratulations to these friends in Sonics and Ultrasonics:

MEMBER

Friedrich W. Gundlach
Klopotekstrasse 6
1 Berlin 37, FR, Germany

Bernard Horoshenov
ECA Laboratories, Inc.
Post Office Box 5151
Tokyo International
Tokyo, Japan

Cecil E. Land
2118 Greata Street, N.E.
Albuquerque, New Mexico 87112

CITATION

For contributions to the development of microwave tubes.

For contributions to microwave devices.

For contributions in ferroelectric materials and devices.
AWARDS COMMITTEE:
Scope and Action

IEEE AWARDS

One important activity of a professional society is the recognition of distinguished achievement and service. Most members of the IEEE Group on Sonics and Ultrasonics are aware of the Best Paper Award, given each year at the Ultrasonics Symposium for the best paper which is published in the Transactions on Sonics and Ultrasonics during the previous year. However, the IEEE has many other awards, recognizing outstanding contributions to the art and science of electrical and electronics engineering. It is the purpose of this report to familiarize the members of the Groups and Societies with personal and intimate knowledge about possible candidates. Nominations must be initiated by the members of the IEEE.

The IEEE awards fall into five categories:

- Medal of Honor
- Major Annual Awards
- Field Awards
- Prize Papers
- Scholarships

A brief description of these awards is given below. The Medal of Honor and the Major Annual Medals aim at the recognition of achievements having general significance for the profession, the Field Awards recognize unusual accomplishment in a particular field of interest to the Society, and the Prize Papers recognize publications significant for their excellence.

All individual members, Groups/Societies and Sections of IEEE are eligible to nominate candidates of Awards, Medals, Scholarships and Prizes. Nominations can be supported by submitting forms and relevant communications to the Secretary of the Awards Board at IEEE Headquarters, where also the forms can be obtained.

The procedure in proposing candidates for the various awards and prizes varies somewhat. It is beyond the scope of this brief report to list the details. Most of the information can be found in an IEEE publication titled IEEE Awards Guide, An Invitation to Nominate, from which also all the Information listed here is taken. Copies can also be obtained from the Chairman of the Awards Committee of the G.S-U AdCom.

The following is a list of the various IEEE Awards, together with their distinctive features:

**MEDAL OF HONOR**

IEEE Medal of Honor

The Medal of Honor shall be awarded for a particular contribution which forms a clearly exceptional addition to the science and technology of concern to the Institute. The award shall normally be given within a few years after the recognition of the exceptional nature of such contribution.

**MAJOR ANNUAL MEDALS**

Edison Medal

A career of meritorious achievement in electrical science or electrical engineering or the electrical arts.

Founders Medal

For major contributions in the leadership, planning and administration of affairs of great value to the electrical and electronics engineering profession.

Lamme Medal

Meritorious achievement in the development of electrical or electronic apparatus or systems.

IEEE Education Medal

Excellence in teaching and ability to inspire students; leadership in electrical engineering education; through publication of textbooks and writings on engineering education innovations in curricula and teaching methodology; contributions to the teaching and engineering profession.

**IEEE FIELD AWARDS**

Harry Diamond Memorial Award

Outstanding technical contributions in the field of government service in any country, as evidenced by publication in professional society journals.

William M. Habirshaw Award

Outstanding contribution in the field of transmission and distribution of electric power, to an individual or group.

IEEE Award in International Communication in honor of Hernand and Southees Behn

Outstanding contribution in the field of international communication, to an individual or group.

Mervin J. Kelly Award

Outstanding contribution in the field of telecommunication, to an individual or group.

Morris E. Leeds Award

Outstanding contribution in the field of electrical measurement, to an individual or group. Special consideration given to value of contribution made before candidate reached 36th birthday.

Morris N. Liebmann Memorial Award

Important contribution to emerging technologies recognized during preceding three calendar years.

Frederick Philips Award

Outstanding accomplishments in the management of research and development resulting in effective innovation in the electrical and electronics industry, to an individual or group.

David Sarnoff Award

Outstanding contribution in the field of electronics, to an individual or group.

Vladimir K. Zworykin Prize Award

Outstanding technical contribution in the field of electronic television.

**IEEE PRIZE PAPER AWARDS**

W. R. G. Baker Prize Award

Outstanding paper in any of the IEEE TRANSACTIONS, JOURNALS or PROCEEDINGS issued between July 1 and June 30.

Browder J. Thompson Memorial Prize Award

Best paper by author(s) under 30 years of age in any IEEE publication issued between July 1 and June 30.

**IEEE SCHOLARSHIP AWARDS**

Charles LeGeyt Fellowship

To a student of electrical engineering who has received a degree from a recognized college or university.

Voita Scholarship

To an Italian citizen with degree in electrical engineering, not over 30 years of age.

The Awards Committee of the S-U AdCom welcomes your suggestions.

H. van de Vaart, Chairman
W. P. Mason
T. R. Mack
T. M. Reeder
R. Adler


TAB INTERDISCIPLINARY AND SPECIAL COMMITTEES

The 31 technical groups and societies in IEEE do not and cannot completely cover all the many aspects of technology in today's society. In an attempt to fill some of the voids, TAB has brought a number of committees into being. The result of a recent meeting of chairmen and representatives of these committees was an urgent call for more support for these committee activities from members of the various groups and societies. The names and chairmen of these committees are listed below. If you have an interest in any of these areas, please contact the appropriate chairman to volunteer your services.

CABLE COMMUNICATION SYSTEMS COORDINATING COMMITTEE
Archer S. Taylor
Maltry, Taylor & Associates
1225 Connecticut Avenue, N. W.
Washington, D. C. 20036
202/223-2345

COMMITTEE ON MAN & RADIATION
H. Mark Grove
Chief - Department of Microwave Research
Department of the Army
Walter Reed Army Institute of Research
Walter Reed Army Medical Center
Washington, D. C. 20012

COMMITTEE ON SOCIAL IMPLICATIONS OF TECHNOLOGY
H. S. Goldberg - ex-officio
President - Data Precision Corp.
Aubudon Road
Wakefield, MA 01880
617/246-1600

ELECTRONIC MATERIALS COMMITTEE (DIVISION IV)
Harold Jacobs
Department of the Army
U. S. Army Electronics Command
Ft. Monmouth, NJ 07703
901/535-1016

ENERGY COMMITTEE
Vacant

ENVIRONMENTAL QUALITY COMMITTEE
Bernard H. Manheimer
Department of Housing & Urban Development
7th & D Streets, S. W.
Room 8230
Washington, D. C. 20410
202/795-8238

OCEANOGRAPHIC COORDINATING COMMITTEE
Arthur S. Westneat
Raytheon Company
Submarine Signal Division
1847 W. Main Road
P. O. Box 360
Portsmouth, RI 02781
401/847-8000

TECHNOLOGY FORECASTING & ASSESSMENT COMMITTEE
Leon K. Kirchmayer
Electric Utilities Engineering Dept.
General Electric Company
1 River Road
Schenectady, NY 12305
518/376-2211 x54388

TRANSPORTATION COMMITTEE
Julien Reitman
Norden Division
United Aircraft Corp., Norwalk, Conn. 06856
203/836-4471

URBAN TECHNOLOGY COMMITTEE
John Gibson
EE Department
University of Virginia
Charlottesville, Va. 22901

SIX SEMINARS ON SOUND AND VIBRATION
Continuing education services of the Pennsylvania State University Applied Research Laboratory, College of Education, College of Engineering, University Park, Pa. 16802
Industrial Noise and Engineering Control
June 3-7, 1974
Signal Processing
September 9-13, 1974
Mechanical and Electrical Equipment Noise Control
July 29-31, 1974
Methods of Machine Noise Measurement
September 9-13, 1974
Hearing Testing in Industry
October 9-11, 1974
Contact: Mr. James H. Stevens
Pennsylvania State University
419 J. Orvis Keller Conference Center
University Park, California 16802

SHOCK AND VIBRATION: CONTROL & DESIGN
July 15-19, 1974
Dept. of Engineering
University of Wisconsin - Extension
Contact: Donald E. Baxa, Program Director
Department of Engineering
University of Wisconsin - Extension
432 North Lake Street
Madison, Wisconsin 53706
For program information: Call (608) 262-2061
For enrollment: Call (608) 262-1299

FUNDAMENTALS OF NONDESTRUCTIVE TESTING
August 12-16, 1974
8:15 a.m. - 5 p.m.
Monday through Friday
Boelter Hall, Room 4442
UCLA, Los Angeles, California
Contact: P. O. Box 24902
Continuing Education in Engineering and Mathematics
University Extension, UCLA
Los Angeles, California 90024
Telephone: (213) 825-1295 or 825-3344
Western Union: EEU
1974 ACOUSTIC EMISSION SYMPOSIUM

Sponsor: High Pressure Institute of Japan in cooperation with The Japanese Society for Nondestructive Inspection

Place: Tokyo, Japan

Date: September 2 to 4, 1974

Papers on all subjects pertaining to acoustic emission are invited.

Original contributions are wanted, but review and tutorial papers will be considered.

All papers will be presented in English.

To receive a final copy of the program, contact the Chairman at the address below.

Morio Onoe
Institute of Industrial Science
University of Tokyo
7-22-1 Roppongi, Minato-ku
Tokyo 106 Japan

Meetings of Interest

"Topics in Modern Acoustics", a symposium for a general physics or engineering audience, October 11-12, 1974 Buffalo New York. Sponsored by New York State Section, American Physical Society.

Contact: Monty L. Rustgi, Dept. of Physics and Astronomy, State University of New York at Buffalo, Buffalo, New York 14214

Minutes of Meeting

AdCom November 4, 1973

Administrative Committee of the IEEE Group on Sonics and Ultrasonics -- Held at the DelMonte Hyatt House, Monterey, California, November 4, 1973, during the 1973 Ultrasonics Symposium.

1.0 Call to Order

1.1 The Administrative Committee (Ad Com) of the IEEE Group on Sonics and Ultrasonics (G-SU) was called to order at 7:30 p.m., November 4, 1973, by L. W. Kessler, President.

1.2 The following corrections to the G-SU Ad Com minutes of April 6, 1973 were received:

Item 5.7 (line 2), change "increase" to "decrease."

Item 6.1 (line 8), change "particularly" to "partially."

The minutes were unanimously approved as corrected.

2.0 Report of the G-SU President (L. W. Kessler)

2.1 M. G. Holland has been appointed chairman of the Nominations Committee for 1974.

2.2 H. J. Shaw has been appointed chairman of the Fellows Committee for 1974.

2.3 On Wednesday, 11/7/74, William Marsch, Chairman of IEEE's Technological Forecasting and Assessment Committee, will chair a Workshop on this subject. He has been invited to the Monday evening Cocktail Hour to briefly explain this Workshop. Briefly, TFEA is asking each group and society to assess where it is currently and where it is going, technologically.

2.4 There are pressures within IEEE for all groups and societies to merge into four and five super groups.

2.5 There is a paper shortage which will probably affect the Transactions in some way.

2.6 G-SU is going to be reviewed by IEEE.

2.7 NEREM which conflicts with 1973 Ultrasonics Symposium was sent a letter regarding their emphasis on Surface Waves. There was no acknowledgment of the letter by NEREM.

3.0 Awards Committee

3.1 L. W. Kessler, in the absence of the Awards Committee Chairman, T. R. Meeker, announced that the 1972 Best Paper of the Year award will be presented to Alan D. Wilson, Byron D. Martin and Douglas H. Strope at the Cocktail Hour Monday evening. The award consists of a plaque to each and a $100.00 cash prize.
3.2 T. R. Meeker, Chairman of the Awards Committee, reported by letter that the Transaction associate editors were asked to submit proposals (with justification) for the Best Paper of 1972. It is felt that this procedure would reduce the problem that the Award Committee had in properly assessing all of the papers. It is recommended that the associate editors become involved in the selection of future best papers.

3.3 IEEE Awards Committee, through Robert Alder, solicited G-SU and other groups for their recommendations for nominations. At the 1973 Symposium Program Committee Meeting in Pittsburgh, L. W. Kessler solicited the members for recommendations. He also did same during Ad Com meeting.

4.0 Fellows Committee

4.1 L. W. Kessler appointed H. J. Shaw Chairman of the Fellows Committee. Because the committee will function to review fellow applications in the technical area of G-SU rather than generate applications, the Ad Com discussed vesting the chairman with the authority to act on behalf of them. (See item 2.5 G-SU Ad Com minutes, 4/6/73).

4.2 W. F. Foster moved that H. J. Shaw, as Chairman of the Fellows Committee, have authority to act on behalf of the Ad Com with respect to fellow applications. S. Wanuga seconded. The motion passed unanimously.

5.0 Publications Committee

5.1 N. F. Foster, Chairman of the Publications Committee, reported that the original 1973 budgeted 250 pages were increased to 400 pages for the purpose of reducing the backlog. This required an additional $7.3K which came from the 1972 Ultrasonics Symposium (see item 5.6, G-SU Ad Com minutes, 4/6/73) and the 1973 budget surplus.

5.2 Due to increased paper costs and service costs within the publication industry, G-SU should plan on a 1974 per page cost of $1.00.

5.3 W. J. Spencer, Chairman of TAB Publications Committee, commented that the costs recently submitted by Woody Garrett are up by 20% over last year.

6.0 Transactions Report

6.1 S. Wanuga, Transactions Editor, reported that volume SU-20 (1973) had a total of 418 pages (budgeted 400) which is less than the allowable 5% overrun by IEEE before penalties are assessed.

6.2a Due to a technicality at IEEE WC, it was not possible to go through with plans, if approved, for publishing bimonthly beginning in 1974. However, it would be possible to proceed with 6 issues per year beginning in January 1975 (see item 5.8, G-SU Ad Com minutes, 4/6/73).

6.2b This was discussed and R. N. Thurston moved that the authority be given to the Publications Committee to decide whether or not to bimonthly for 1975. A. J. Bahr seconded. The motion passed unanimously.

6.3 Four hundred and fifty pages are projected for the four issues in 1974.

6.4 Plans have been formulated and associate editors have been notified of the following schedule of Review Papers:

- Biological and Medical Applications: July, 1974
- Filters and Resonators: Oct., 1974
- Industrial Applications: Jan., 1975
- Underwater Sound: March, 1975
- Acoustic Holography: May, 1975
- Physical Acoustics: July, 1975
- Acoustooptic Interaction: Sept., 1975
- Piezoelectric and Magnetostrictive Materials: Nov., 1975
- Surface Waves: Jan., 1976

6.5 Considerable improvement has been made in recent turn-around time (see item 5.7, G-SU Ad Com minutes, 4/6/73). Rules which are presently being directed to associate editors and reviewers are: (a) Two weeks review time for short correspondence papers up to 10 pages, three weeks for papers up to 20 pages and four weeks for papers over 20 pages. (b) Authors will be given two weeks for revision of short manuscripts and three weeks for larger manuscripts. If they fail to comply, their paper will be treated as a new submission. (c) Reviewers will be given one week for short revised papers and two weeks for larger revised manuscripts.

7.0 1972 Conference Proceedings

7.1 J. de Klerk, editor of the 1972 Conference Proceedings, reported that approximately 800 copies have been sold out of the 1000 printed.

8.0 Newsletter

8.1 W. D. O'Brien, Jr., in the absence of Newsletter Editor E. F. Papadakis, reported the next issue will be published around February or March, 1974.

8.2 L. W. Kessler asked the Ad Com whether they had comments on the publishing of noise information in the newsletter. There was no discussion.

9.0 Membership Committee

9.1 A. J. Bahr, Chairman of Membership Committee, reported the G-SU membership, as of October 1973, at 1284 which is about the same as a year ago.

9.2 J. D. Larson, Vice Chairman of the Membership Committee, reported that the G-SU supplementary mailing list is now computerized.

9.3 A. J. Bahr showed the Subscription Brochure which had been developed through the Stanford Research Institute Art Department. IEEE will be requested to print 15,000 copies of the brochure and they will be distributed as follows:

- American Society for Testing Materials -- 200
- Ultrasonics Journal -- 200
- American Institute of Ultrasound in Medicine -- 1000
- American Society for Non-Destructive Testing -- 6000
- IEEE & G-SU lists -- 1000

The source of funds for this experimental project was a TAB Special Allocation of $2000.

10.0 Meetings Committee

10.1 L. W. Kessler, in the absence of Meetings Committee Chairman C. X. Jones, reported that the committee, following the concern expressed for the New York site (see item 9.0, G-SU Ad Com minutes, 4/6/73), recommended changing the 1975 site from New York to Washington, D. C.

10.2 W. F. Foster moved that the 1976 Ultrasonics Symposium be held in Washington, D. C., as recommended by the Meetings Committee. J. de Klerk seconded. The motion passed unanimously.

11.0 1973 Ultrasonics Symposium

11.1 J. Neighbors, General Chairman of the 1973 Ultrasonics Symposium, reported on time changes, eating arrangements and local activities.

11.2 L. W. Kessler announced that he was contacted by the Medical Tribune for information about the symposium based upon the preliminary program.

11.3a The concept of the preliminary program was discussed. It was cheaper to print than the full program, but more expensive to mail (first class). However, the complete program must also be printed for those attending the Symposium. It came out earlier than has the full program in the past.

Continued...
11.3b The program committee was requested to examine the cost factor involving the preliminary program as compared with the previous method and report to the Ad Com at its Spring meeting.

11.3c It was suggested that, in the future, an application for the Conference Proceedings should be included in the program.

12.0 1974 Ultrasonics Symposium

12.1 M. Levy, General Chairman of the 1974 Ultrasonics Symposium, requested that the Symposium be held at the Hotel Pfister, November 10 to 14, 1974 (see item 12.0, G-SU Ad Com minutes, 4/6/73).

12.2 M. G. Holland moved that the 1974 Ultrasonics Symposium be held at the Hotel Pfister on November 10 to 14, 1974, as requested by the General Chairman. N. F. Foster seconded. The motion passed unanimously.

13.0 1975 Ultrasonics Symposium

13.1 R. Stern, General Chairman of the 1975 Ultrasonics Symposium, requested that the Symposium be held at the L. A. Hilton, Los Angeles, because of his most recent experience with the hotel (as General Chairman of the Fall 1973 Acoustical Society of America meeting).

13.2 S. Hanaga moved that the 1975 Ultrasonics Symposium be held at the L. A. Hilton, Los Angeles, as requested by the General Chairman. N. F. Foster seconded. The motion passed unanimously.

14.0 Other Symposia

14.1a T. M. Reeder reported that the "International Specialist Seminar on Component Performance and System Applications of Sundac Acoustic Wave Devices" was held September 25-26, 1973 at Aviemore, Scotland. The Seminar was organized by the British IEE with cooperating sponsorship by G-50 and G-MTT. The Proceedings of the Seminar are being made available through G-SU at $17.50.

14.1b There was considerable discussion whether G-SU should be involved in selling these proceedings. Since a handout already was being distributed at the registration desk, it was felt that this should be honored during the Symposium with future involvement limited to advertising.

14.1c N. F. Foster moved the G-SU limit its direct involvement in purchasing the proceedings from the Aviemore Seminar to honoring the handout presently in circulation and limit further activity to advertising. M. G. Holland seconded. The motion passed unanimously.

14.2a L. W. Kessler reported that the 5th Symposium on Acoustical Holography and Imaging, which was co-sponsored by G-SU, has asked for no funds.

14.2b All of these symposia have been organized on an ad hoc basis, and they may be in a position to entertain a proposal to merge with a group. L. W. Kessler will inquire.

14.3 L. W. Kessler reported that the Microwave Research Institute (MRI) International Symposium on Optical and Acoustical Micro-Electronics will be held April 16-18, 1974 at Polytechnic Institute of Brooklyn. G-SU and G-MTT are co-sponsors.

14.4 W. D. O'Brien, Jr. indicated that the International Congress on Acoustics, held every other year, might be a likely meeting to either co-operate or co-sponsor. He will inquire.

15.0 Solid State Circuit Council

15.1 W. J. Spencer, G-SU representative to the Solid State Circuit Council (SSCC), reported that the two current projects are (1) a poll of member groups and individual members on needs and wishes for SSC and (2) a concerted effort to move into the materials area of solid state circuits with a special journal issue scheduled for Spring 1974.

15.2 SSCC is examining its role in IEEE and Solid State Circuit area. The annual conference in Philadelphia is run by the Conference Executive Committee which appoints the General Chairman as Program chairman. Thus, SSCC is relatively impotent in the running of the International Conference.

15.3 The Journal has always been run by competent editors who are relatively free to steer the publication in the direction of their choice. The Journal has excess money and, until recently, a scarcity of papers. David Hodges has turned this around by soliciting special invited issues. He will turn over the editorship in 1974.

15.4 W. J. Spencer indicated that the SSCC needs desperately to carve out a piece of the action for itself in running the annual ISSCC or disband.

16.0 Treasurer's Report

16.1 W. D. O'Brien, Jr., Secretary-Treasurer, reported that the year end 1973 estimate indicated an $8K surplus.

16.2 (Sec. update): A re-evaluation of the year estimate has indicated that the reported $8K surplus is incorrect. This is based upon three factors: (1) conservative estimate of expenses, (2) omission of index charge, and (3) $2K addition error on income side. The re-evaluated year-end estimate yields yields yields income at $115K and expense at $50K with a surplus of $65K. This is precisely in line with the decision to publish 400 pages in 1973 by extracting $2K from the budgeted $4K surplus to account, in part, for the additional 150 pages. (See Appendix 1)

16.3 The financial situation for 1974 for all groups and societies looks pessimistic. According to Dr. Emerson, all costs have increased at a greater rate than expected. Two areas of belt tightening are suggested: (1) reduce pages published and (2) go into reserves.

17.0 Technological Forecasting

17.1 L. W. Kessler indicated that G-SU's technological forecasting representative will be part of the University Relations Committee for the meeting. This is due, in part, because it is presently not clear what technological forecasting is. Presently, J. de Kleer is G-SU's representative.

18.0 Audio and Electroacoustics Group Name Change

18.1 L. W. Kessler reported that the IEEE Group on Audio and Electroacoustics (G-1) has proposed a name change to Acoustics, Speech, and Signal Processing. TAB has issued a ballot, due November 15, 1973, in which each TAB member must vote.

18.2 W. D. O'Brien, Jr. introduced a letter (Appendix II) to the Ad Com which was sent to Dr. Bouyoucos, G-AE President, in which he stated his own objections to the name change.

18.3 Following further discussion of the issue, M. G. Holland moved that the G-SU Ad Com disapprove the name change. H. J. Shaw seconded. The motion passed with one dissenting vote.

18.4 Sec. update: The TAB Ballot from G-SU President is included in Appendix III.

19.0 Technical Committee on Transducers and Resonators (TC-TR)

19.1 W. D. O'Brien, Jr., in the absence of TC-TR Chairman J. E. May, reported that the Piezoelectric Crystal standard is ready for final review and is expected to pass.

19.2 L. W. Kessler reported that the IEEE Spectrum requested an article on the technological status of the Group. J. E. May's subcommittee chairman was assigned the task and efficiently responded. (Sec. update: The fruits of this labor can be seen in the Jan. 1974 Spectrum.)

Continued...
EPA RELEASES DOCUMENT ON PUBLIC HEALTH AND WELFARE CRITERIA FOR NOISE

A noise criteria document released by the Environmental Protection Agency today affirms that exposure to high levels of noise is potentially detrimental, not only to human health, but also to work performance and efficiency.

Entitled "Public Health and Welfare Criteria for Noise," the publication of the noise criteria was authorized by the Noise Control Act of 1972. The document, which was prepared by EPA's Office of Noise Abatement and Control, will be used in combination with an Environmental Noise Report which EPA is required to complete by October 27, 1973. Together the two documents will provide the basis for noise standards and regulations called for by the Noise Control Act.

The noise criteria publication describes the method for characterizing the impact of environmental noise, community response to environmental noise, the auditory effects of noise, the other physical and psychological effects of noise, the effect of noise on performance of tasks, and concludes with an analysis of the effects of noise on the environment.

Some of the major findings on the effects of noise which the document identifies are:

---Until recently, what constitutes significant noise-induced hearing loss has been considered a problem only for workers in a noisy environment on the job. Now it is necessary to consider the broader problem of possible hearing damage from environmental noise to which the general population may be exposed, whether voluntarily or involuntarily, in the course of day-to-day living.

---From early teenage onwards, and particularly in the age range 25 through 65 years, women in industrial countries, including the U.S., generally have better hearing than men. Female employees have found to have better hearing than male employees, even when they work side by side in noisy industries.

---Certain primitive people, living in remote areas of the world where they are not exposed to the constant din of mechanized civilization, have been found to have unusually sharp hearing in comparison with urban populations of corresponding ages.

---Noise can cause many physiological reactions. However, no clear evidence exists to show that these responses lead to irreversible changes and permanent health effects.

---The most observable effects of noise on farm and wild animals seem to be behavioral. Clearly, noise of sufficient intensity can disturb or disrupt normal behavioral patterns.

Purpose: This document describes the scientific knowledge most useful in determining the effects of noise on people's health and welfare. The publication will be used in combination with an Environmental Noise Report, completed by the Environmental Protection Agency on October 27, 1973. Together, the two documents will provide the basis for noise standards and regulations called for by the Noise Control Act of 1972.

The Problem: In scientific terms, noise is discordant sound caused by nonperiodic vibrations in the air. In common usage, noise is unwanted sound, sound without value, or noise pollution. The use of mechanical systems—most notably transportation engines, construction machinery, industrial plant machines, and equipment used in and around the home—has made noise a significant factor in the degradation of the environment.

The Effects of Noise:

Besides the effects noted above, we should mention the following:

---One study has found that the sound of rock and roll bands is exceeded in degree of hearing hazard only by motorcycle and drag racing and by intensive sport shooting with inadequate ear protection.

---Noise can cause many physiological responses. However, no clear evidence exists to show that these responses lead to irreversible changes and permanent health effects. Noise can interfere with sleep, but relating noise exposure level to quality of sleep is a difficult if not intractable problem. Noise exposure can be presumed to cause general stress. Unresolved is either the relationship between noise exposure and stress or even the threshold noise levels or duration at which stress may appear. Noise exposure can bring about various manifestations in the cardiovascular system. However, no clear permanent effects on the circulatory system have been demonstrated.

---The relationship between moderate noise levels and performance (or work efficiency) is not clearly defined. High noise levels do appear to have potentially detrimental effects on performance, on accident rate and absenteeism in industry, especially when such noise is intermittent, unexpected, or uncontrollable.

---The most observable effects of noise on farm and wild animals are that exploratory behavior can be curtailed, avoidance behavior can limit access to food and shelter, and breeding habits can be disrupted. Hearing loss or masking of auditory signals can further inhibit an animal's ability to survive.

AdCom Minutes Continued...

20.0 Chapters

20.1 F. Carr, Chairman of the G-SU Boston Chapter, reported on the activities of his Chapter. Generally, there is a good attendance at the meetings.

20.2a W. D. O'Brien, Jr. reported that he received a letter from C. T. Tsai requesting $100.00 to organize a G-SU Pittsburgh Chapter (see item 18.0, G-SU Ad Com minutes, 4/6/73).

20.2b R. Stern moved to designate authority within the finance committee to decide upon the request for money, up to $100 for C. T. Tsai. R. N. Thurston seconded. The motion passed unanimously.

21.0 Election of 1974 G-SU Officers


22.0 Adjournment

22.1 L. W. Kessler reported that the next Ad Com meeting will be held during the 1974 INTERCON in New York.

22.2 The G-SU Ad Com meeting was adjourned at 11:05 p.m.

William D. O'Brien, Jr.
Secretary-Treasurer
G-SU Ad Com
HIGHLIGHTS OF THE NOISE CONTROL ACT OF 1972

Background of Legislation

Recognition of the fact that noise is an environmental problem that affects people other than workers has been late in coming.

Federal noise legislation first appeared in 1968 when Congress directed the Federal Aviation Administration (FAA) to establish rules and regulations to control aircraft noise.

At the State and local level, laws tended to treat noise as a public nuisance, and enforcement was both difficult and spotty. More recently some jurisdictions, notably California and Chicago and New York City, have established new laws and ordinances that are based on noise-generating characteristics of specific equipment and, hence, are easier to enforce.

The Clean Air Amendments of 1970 called for the establishment of an Office of Noise Abatement and Control in the U.S. Environmental Protection Agency (EPA). The legislation also called for public hearings of environmental noise and a special report to the Congress on the problem, incorporating the results of the public hearings and other special studies. Information from this EPA report as well as extensive Congressional hearings formed the basis of the Noise Control Act of 1972.

The Effects of Noise

Of the some 80 million people significantly affected by noise (from transportation, construction activities and other engine-powered equipment and devices), half are exposed to levels that can damage their hearing or otherwise affect their health. Noise also interferes with communication, and interrupts sleep, generally adding to the stress of modern life, with some of the resulting physiological responses apparently chronic. For the average urban dweller, the fact that noise impinges upon the quality of the environment is probably the most impelling reason for quieting things down.

The Noise Control Act of 1972

The Noise Control Act of 1972 represents the first major Federal attempt to eliminate excess noise at the design stage of a wide variety of new consumer products.

The Administrator of EPA is required to develop and publish information about permissible levels of noise, and then to set noise standards for products that have been identified as major sources of noise.

While aircraft noise control remains under the administration of the FAA, the law gives EPA an advisory role in formulating criteria and standards for controlling this source of noise.

Major Provisions

---EPA is directed to develop and publish information on the limits of noise required for protecting public health and welfare as well as a series of categories of products that are major sources of noise and to give information on the techniques for controlling noise from such products.

---Using the criteria thus developed, the EPA Administrator is required to set noise-emission standards for products that have been identified as major sources of noise and for which standards are deemed feasible. The law requires such standards to be set for products in the categories of construction equipment, transportation equipment (except aircraft), all motors and engines, and electrical and electronic equipment. It also grants authority to set for other products, standards deemed feasible and necessary to protect public health and safety.

---The EPA Administrator also is to prescribe noise-emission standards for the operation of equipment and facilities of interstate railroads, trucks, and buses.

---All Federal agencies are directed to use the full extent of their authority to ensure that purchasing and operating procedures conform to the intent of the law. EPA may certify low-noise emission products for purchase by the Federal Government.

---EPA is directed to develop and publish information on the techniques conform to the intent of the law. EPA may certify low-noise emission products for purchase by the Federal Government.

---EPA is directed to develop and publish information on the techniques for quieting things down.

---The EPA Administrator also is to prescribe noise-emission standards for the operation of equipment and facilities of Interstate railroads, trucks, and buses.

---Using the criteria thus developed, the EPA Administrator is required to make a comprehensive study of aircraft noise and cumulative noise exposure around airports. Using this information, EPA is to submit to the FAA proposed regulations to control aircraft noise and sonic booms. After a hearing and further consultation with EPA, the FAA may adopt or modify the proposals if it believes they are unsafe, technologically or economically feasible, or not applicable to certain aircraft. However, it must publicly explain its specific reasons for rejection. A continuing review and consultation role is provided for EPA.

---EPA is directed to develop and publish information on the limits of noise required for protecting public health and welfare as well as a series of categories of products that are major sources of noise and to give information on the techniques for controlling noise from such products.

---Using the criteria thus developed, the EPA Administrator is required to set noise-emission standards for products that have been identified as major sources of noise and for which standards are deemed feasible. The law requires such standards to be set for products in the categories of construction equipment, transportation equipment (except aircraft), all motors and engines, and electrical and electronic equipment. It also grants authority to set for other products, standards deemed feasible and necessary to protect public health and safety.

EPA has authority to require the labeling of domestic or imported consumer products as to their noise-generating characteristics or their effectiveness in reducing noise. Manufacturers or importers of nonconforming or mislabeled products are subject to fines of up to $25,000 per day for each violation and to imprisonment for up to one year. Manufacturers must issue warrants that their regulated products comply with Federal standards at the time of sale. They are also required to maintain records and provide information, including production samples, if requested by EPA.

An End to Noise Pollution

The comprehensive nature of the Noise Control Act of 1972 brings under Federal regulation for the first time, nearly all of the major new sources of noise. An incentive now exists for the full employment of noise-control technology that is already available, and the day when quiet is restored appears closer. We know how to build quieter. Now the law is to give the Nation the stimulation to do it.

The Proceedings of the 1973 Ultrasonics Symposium is now available from the Publication Sales Department at IEEE Headquarters, 345 East 47th Street, New York, N. Y. 10017. Order by number, 73 CHO 007-RE or 007-REU to receive this 584 page, 8 1/2 x 11 inch, soft-bound volume cross-indexed by the author, session, and subject field. Reproduction quality, including half-tones, is uniformly good. The cost is $10 for the public, $7.50 for IEEE members. On a Company P.O., the IEEE will ship and invoice. For a personal letter order, they will invoice and ship after receipt of payment. A prepaid order will be shipped immediately, of course.
The following "Noise" technical documents are for sale by the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22151 (Phone: Area Code 703/321-8543):

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<tr>
<th>EPA DOCUMENT NO.</th>
<th>TITLE</th>
<th>NTIS DOC.</th>
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<tr>
<td>NCR500.1</td>
<td>Report to the President and Congress on Noise.</td>
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<td>Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances.</td>
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<td>Effects of Noise on Wildlife and Other Animals.</td>
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<td>An Assessment of Noise Concern in Other Nations.</td>
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<td>NTID300.7</td>
<td>Effects of Noise on People.</td>
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<td>NTID300.8</td>
<td>State and Municipal Nonoccupational Noise Programs.</td>
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<td>Noise Programs of Professional/Industrial Organizational, Universities and Colleges.</td>
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<td>Summary of Noise Programs to the Federal Government.</td>
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<td>NTID300.11</td>
<td>Social Impact of Noise.</td>
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<td>NTID300.12</td>
<td>The Effects of Sonic Boom and Similar Impulsive.</td>
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<td>NTID300.13</td>
<td>Transportation Noise and Noise from Equipment Powered by Internal Combustion Engines.</td>
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<td>Economic Impact of Noise.</td>
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<td>NTID300.15</td>
<td>Fundamental of Noise: Measurement, Rating Schemes, and Standards.</td>
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<td>EPA/550/9-73-001-A</td>
<td>A Basis for Limiting Noise Exposure for Hearing Conservation.</td>
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<td>Military Aircraft and Airport Noise and Opportunities for Reduction Without Inhibition of Military Missions.</td>
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<td>Review and Analysis of Present and Planned FAA Noise Regulatory Actions and Their Consequences Regarding Aircraft and Airport Operations.</td>
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<td>Noise Source Abatement Technology and Cost Analysis Including Retrofittings.</td>
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<td>Impact Characterization of Noise Including Implications of Identifying and Achieving Levels of Cumulative Noise Exposure.</td>
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<td>Operations Analysis including Monitoring, Enforcement, Safety, and Cost.</td>
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<td>NTID 73.2</td>
<td>Legal and Institutional Analysis of Aircraft and Airport Noise and Apportionment of Authority Between Federal, State, and Local Governments.</td>
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S.A.W.D. Proceedings

The Proceedings of the:
"International Specialist Seminar on Component Performance and Systems Applications of Surface Acoustic Wave Devices," which was held on 25-28 September at Aviemore, Scotland in 1973, is now in press and will be available shortly. The "Aviemore Seminar," which was organized by the British IEE with cooperating sponsorship of GMTT and G-SU, was unique in its goal to establish a dialogue at international level between engineers engaged in R&D on SAW devices and systems engineers involved with retrofits and future systems planning. Approximately 40 papers were given on state-of-the-art SAW devices and on their present and potential implementation in military and consumer electronic systems. The Proceedings presents these papers in their entirety together with summaries of the detailed discussions that unfolded after the formal papers. The Table of Contents for this nearly 500 page Proceedings includes:

1. Materials and Fabrication
2. Acoustic Subsystem
3. Programmable Devices
4. Filters
5. Radar Applications of SAW
6. Digital Signal Processing
7. Communications Systems
8. A.T.C. Applications

Copies of this Proceedings are being made available to IEEE members at the special low price of $7.20. Order your copy from Mr. R. C. Sutton, Marketing Manager, the Institution of Electrical Engineers, P. O. Box 8, Southgate House, Stevenage, Herts, SG1 1H, England.
The Institute of Electrical and Electronics Engineers is seeking to stimulate student interest and participation in a number of diversified areas by making available a Directory of recommended SPEAKERS, TOURS, AND FILMS. To contribute to the Directory, please complete this questionnaire.

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Results of the RdCom Election Ballot

As you know, a ballot for the election of three Sonics and Ultrasonics Group AdCom members was issued on February 18, 1974. The ballots returned have been counted, and I am pleased to announce that the following three members have been elected for a three year term ending December 31, 1976: Donald W. Baker, Lewis T. Claiborne, Eric G.H. Lean. We wish to thank all nominees for their willingness to serve and for permitting their names to be included on this ballot.

DONALD W. BAKER (S'58 - M'61)

Mr. Baker is Acting Assistant Director of Bioengineering at the University of Washington, Seattle. He has held that position since January 1, 1974. Previously he was Technical Director from 1965 until December 1973.

He is responsible for a large cardiovascular ultrasonic instrument research and development program in the Center for Bioengineering. The emphasis is on both Doppler and Echo type devices for assessing cardiac and peripheral vascular function.

His early training was in airborne radar fire control systems followed by a degree in electrical engineering at the University of Washington in 1960. His work experience has been exclusively at the University of Washington where he has been instrumental in helping to build up the present bioengineering program.

Among his publications are numerous book chapters and some 65 other papers authored or co-authored.

He has been a consultant to NIH on grant and contract reviews and is currently on a select committee to organize ultrasonic training programs for the Veterans Administration Hospitals.

Mr. Baker is a member of IEEE and ISA.

LEWIS T. CLAIBORNE, JR. (M'72)

B.S. in Physics and Mathematics, Baylor University, 1957
Ph.D. in Physics, Brown University, 1961

Dr. Claiborne is currently the manager of the Surface Wave Device Technology branch of the Advanced Technology Laboratory of Texas Instruments Incorporated. Earlier work in the Electron Transport Physics branch of the Physics Research Laboratory dealt with studies in superconductivity, specifically ultrasonic attenuation in superconductors. More recently his work has been in the area of phonon-phonon and electron-phonon interactions in semiconductors.

Dr. Claiborne's thesis was "A Study of the Attenuation of Ultrasonic Shear Waves in Superconducting Aluminum." For the last five years he has been active in the development of surface wave devices.

Dr. Claiborne was a co-author of the paper which received an award for best paper in sonics and ultrasonics for 1971 entitled "Evaluation of Digitally Coded Acoustic Surface Wave Matched Filters," and he served as Technical Program Chairman for the 1972 Ultrasonics Symposium.

E.G.H. LEAN (S'63 - M'69)

EDUCATION: Ph.D., Stanford University, Stanford, California 1967
MS, University of Washington, Seattle, Wash., 1963
BSc, Cheng-Kung University, Taiwan, China, 1959

EXPERIENCE: Dr. Lean is currently engaged in the investigation of microwave surface acoustic waves in solids, integrated optics, fiber optics and laser applications.

In September, 1967, he joined the IBM T.J. Watson Research Center, Yorktown Heights, N. Y. and has been conducting experiments involving microwave acoustic devices and lasers. He has been the manager of Optical & Acoustical Technologies since 1969.

He was a research assistant during his period of graduate study. After graduation, he continued to do post-doctoral work on optical pulse compression and optical signal processing techniques at Stanford University.

In his doctoral research at the Hansen Laboratories of Physics, Stanford University, he studied the efficient generation of microwave shear waves in solids and the interaction of lasers with coherent acoustic waves in solids. He has published more than twenty technical papers and two book chapters in the field of acoustic surface waves and acousto-optic interaction. He has ten U.S. patents.

Dr. Lean is a member of Sigma Xi, Optical Society of America and IEEE. He is an associate editor in IEEE Transactions on Sonics and Ultrasonics.
Koepfinger to Chair
IEEE Standards Board in '74

New York, N. Y..........Joseph L. Koepfinger has been ap-
pointed Chairman of the IEEE Standards Board to succeed Robert
D. Briskman. Established in 1898, the IEEE Standards Board is
responsible for coordination and approval of IEEE Standards
and for representing the IEEE in matters relating to units and
standards with other standardizing bodies.

A member of the Standards Board since 1972, Mr. Koepfinger has
been active in various committees of the Power Engineering
Society of IEEE. He has served as Chairman of the Surge Pro-
tective Devices Committee and of the Power Engineering Society
Standards Coordinating Committee. He holds membership on the
Power System Relay Committee and is liaison representative from
the PES Standards Coordinating Committee to the Nuclear Power
Engineering Committee. He is Chairman of the East Central Area
Reliability Protection Panel.

Mr. Koepfinger received the Bachelor of Science degree in elec-
trical engineering in 1949 and the Master of Science degree
1953 from the University of Pittsburgh. Since 1949 he has been
employed in various engineering positions by the Duquesne Light
Company where he now holds the position of Protection and Commu-
nications Engineer. He is a Registered Professional Engineer in the
State of Pennsylvania.

Married, and the father of six children, Mr. Koepfinger was re-
cently elected school director of the Moon Area School District
in Allegheny County, Pennsylvania.